

โครงการจัดตั้งวิทยาศาสตร์ภูมิภาค
ภาคเหนือ

Regional Science Square

- CONTENT REPORT -

Jul. 11. 2018





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01 Overview

— Summary

- Location : อุทยานดาราศาสตร์สิรินธร สถาบันวิจัยดาราศาสตร์แห่งชาติ (องค์การมหาชน) (สดร.) จ.เชียงใหม่
- Available Areas : 2,000 m²
- Client: National Science Museum, Thailand

| Object

- To study visitor's behaviors prior to the Job World in Innovation Museum
- To maintain inner-city visitors, which the majority is family-type

| Target Group

- 70 % elementary school : 30% Middle school

| Contents

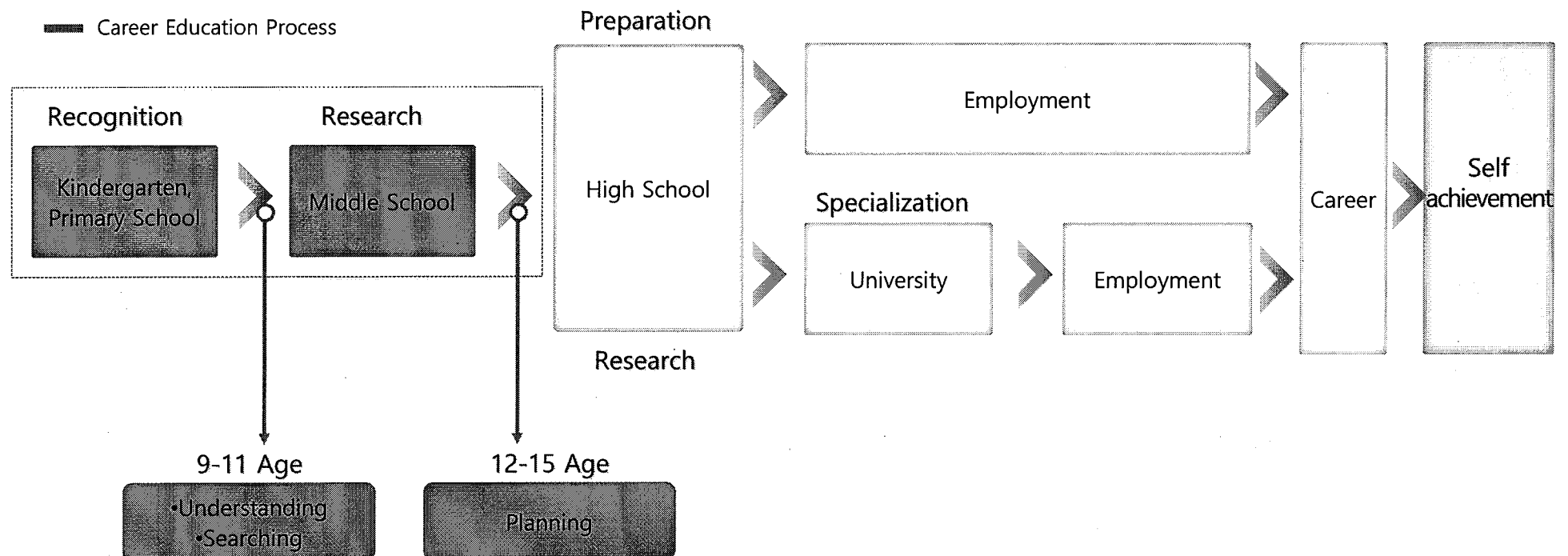
- Selected 4 clusters with 2-3 jobs (based on Job World in IM)

02 Basic Intention

— Concept

JOB SIMULATION

Job experience includes indirect experience of various forms as well as directly experience of the jobs.
Each visitors well understands the jobs through direct/indirect experience and is satisfied through related activities



02 Basic Intention

— Program Strategy

Suggesting job experience program considering visitors' age-specific development feature

★ Age-specific developmental features

Age	Method
18M-24M	Practice play
24M – 4Y	Symbol play
4Y- 8Y	Imitation/Rules/Cooperation
9Y -11Y	Hands-on / Observation
12Y -15Y	Observation / Interactive

★ Contents Plan for each target group

Area	Jobs	Focus	
		elementary school	Middle school
Bio Medical Canter	Biomedical engineer		✓
	Pharmaceutical scientist	✓	
	Cosmetic scientist	✓	
Handicraft workshop	3D- designer	✓	
	Metal crafter		✓
	Wood crafter		✓
Disaster Management Institute	Climate change analyst	✓	
	Disaster planner		✓
	Emergency medical technician	✓	
Aerospace Research Institute	Aerospace engineer	✓	
	Info-communication technician		✓
	Pilot	✓	

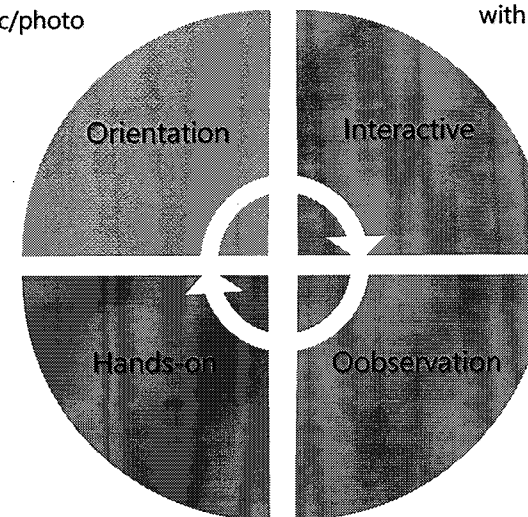
★ Type of Experience in Development Features

Orientation

-Intro with video/graphic/photo

Interactive

-Indirect Experience with Interaction Media



Hands-on

-Direct experience with equipment
-Presentation & Discussion

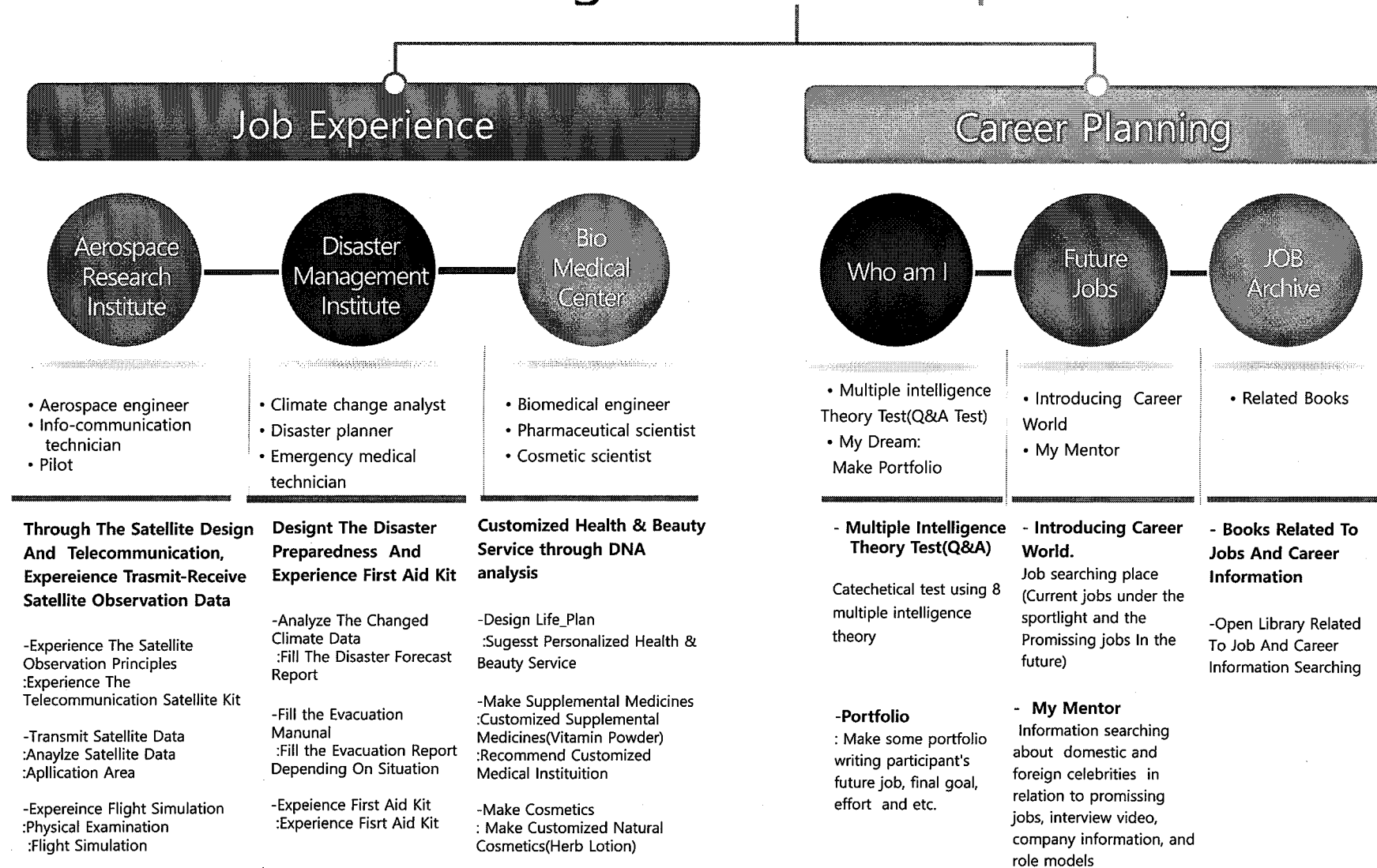
Observation

- Learning with Exhibitions
-Review, Q&A and Quiz

03 Contents Framework

—Exhibition Story

Regional Science Square



03 Contents Framework

Exhibition Scenario

Cluster	Corner	Item	CODE	Mission	Exhibition Contents	MEDIA				
						Model	AV	IA	SY	Graphic
Job Experience	Aerospace Research Institute	Aerospace Engineer	MJ1-2	<Send the high-tech artificial satellite into the orbit and transmit the data observed by the satellite necessary for each fields>	-Learn the types and the principles of artificial satellite and experience the communication with the Earth station through the Satellite and Antenna model.	Satellite & Antenna Working Model(Scale Down) (1SET) /Changeable Antenna Board Kit (4SET)				Graphic Scasi (1EA) /Graphic Sheet (1EA) /Stand Panel (3EA) /Stand Panel (1EA) /Sample Paper (1EA)
		Info-Communication Technician	MJ1-3		-Analyze satellite observation data(marine/ agriculture / Soil / Disaster) transmitting the data which could be utilized and required in each field.			Information Searching SW (1EA)	24"PC (4SET) /55"DID Monitor (4EA) /55" Monitor (2EA) (For Display)	Graphic Scasi (1EA) Cutting Sheet(1SET) Lighting Sign (4EA) Still Images (6Cuts/2SET)
		Pilot	MJ1-4		-Experience the physical test and flight simulation to become a veteran pilot	Height/Weight (1SET) /Eye Sight (1SET) /Hearing Ability (1SET) /Spirometry (1SET) /Blood Pressure (1SET) /Sit-up Equipment (2EA) /Uniform-Staff (1SET) Participants (4SET)			Flight Simulation (including SW) pc (2SET) /Simulation Monitor (3EA) * (2SET)	Graphic Scasi (1EA) /Graphic Sheet(3EA) /Graphic Sheet(6EA)/Stand Panel (1EA) /Graphic Sheet(2EA) /Graphic Cutting Sheet (1SET) :Floor Type /Work Paper(A4/1EA)
	Disaster Management Institute	Climate Change Analyst	MJ2-2	<Prepare for future disaster through the past domestic cases and cultivate the capacity that respond the emergency situation>	-Presenting the Thai map to a media table, through the annually changed climate image graphic panel, participants analyze the actual case which was occurred in Thailand and then forecast the time(when flood will happen) ,region and so on.		Video (2EA)		42" Monitor (1EA) 32" Monitor (1EA)	Graphic Scasi(1EA) /Lighting Sign (1EA) /Stand panel (1EA) /Graphic Cutting Sheet (1EA) /Sample Paper (1EA) /Work Paper (1EA)
		Disaster Planner	MJ2-3		- After experience the simulation(emergency exit route), fill the evacuation manual	Topography Simulation Model /Experience Block Model /Magnetic Pieces Model				Graphic Scasi (1EA) /Graphic Sheet (1EA) /Text Scasi (1EA) /Lighting Sign (3EA) /Graphic Sheet (1EA) /Text Scasi (1EA) /Sample Paper (1EA) /Work Paper (1EA)
		Emergency Medical Technician	MJ2-4		-Reenact scene of fire, experience the evacuation route, first aid kit personally.	Cardiac Defibrillator(3EA) /CPR Dummy ,Mat(3SET) /First Aid Kit (1SET) /Fire Extinguisher(1SET) /reenact Fire Scene(1SET)				Graphic Scasi (2EA) /Graphic Sheet (1EA) /Graphic Sheet (3EA) /Text Cutting Sheet (1EA) /Graphic Scasi (1SET)

03 Contents Framework

Exhibition Scenario

Cluster	Corner	Item	CODE	Mission	Exhibition Contents	MEDIA				
						Model	AV	IA	SY	Graphic
5F Job Experience	Bio medical Center	Biomedical Engineer	MJ4-2	<Provide customized health & Beauty service through DNA analysis >	-After analyze DNA Data, give some comprehensive consulting such as customized bio plan offer and medical devices offer.					Text Scasi(1EA) /Graphic Cutting Sheet(1EA) /DNA analysis data image (4Cuts/ 3SET) /Sample Paper(1EA)/ Work Paper(1EA)
		Pharmaceutical Scientist	MJ4-3		-After analyze DNA data at first, and then recommend some medical institution through the manufacture of pharmaceuticals and customized medical counseling	Medicine Making Kit (2SET) -Disposable Expendables /Experiment Equipment (2SET)				Text Scasi(1EA)/ Graphic Sheet(1EA)/ Graphic Cutting Sheet(1EA)/ Sample Paper(1EA)
		Cosmetic Scientist	MJ4-4		-After analyze DNA data, and then manufacture cosmetics using natural materials and offer customized beauty counseling	Cosmetic Making Kit/(2SET)/Experiment Equipment Set (2SET)				Graphic Cutting Sheet(1EA)/ Sample Paper(1EA)

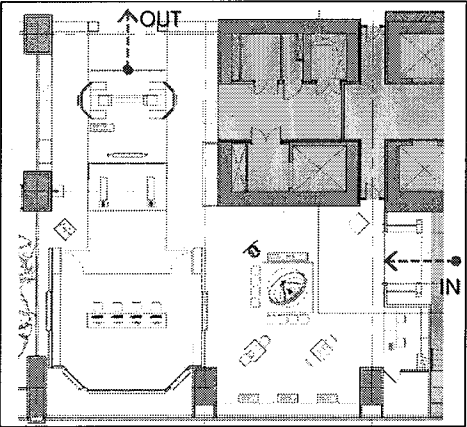
03 Contents Framework

Exhibition Scenario

Cluster	Item	CODE	Exhibition Contents		MEDIA				
					Model	AV	IA	SY	Graphic
Career Planning	Who Am I	Multiple Intelligence Theory Test	MJ5-1	- Catechetical test using 8 multiple intelligence theory	Writing Supplies(4SET)				Channel Letter Sign (1EA) /Graphic Cutting Sheet (2EA) /Sample Paper (1EA) /Work Paper (1EA)
		Portfolio	MJ5-2	- Make some portfolio writing participant's future job, final goal, effort and etc.	Writing Supplies(4SET)				Graphic Cutting Sheet (2EA) /Sample Paper (1EA) /Work Paper (1EA)
	Future Jobs	Introducing Career World	MJ6-1	- Job searching place (Current jobs under the spotlight and the Promising jobs In the future)				27" Digital Frame (3EA)	Text Scasi (7EA) /Still Images (6Cuts/3SET) / Graphic Sheet (6EA) /Text Scasi (4EA) /Lighting Sign (4EA)
		My Mentor	MJ6-2	-Information searching about (Thailand) domestic and foreign celebrities in relation to promising jobs, interview video, company information, and role models			Information Searching Software(1EA)	24" Monitor/PC(2EA)	
	JOB Archive	Job Information	MJ7-1	-Books related to jobs and career information					Text Scasi (3EA) /Text Cutting Sheet (3EA) /Graphic Cutting Sheet (1EA)

— Aerospace Research Institute

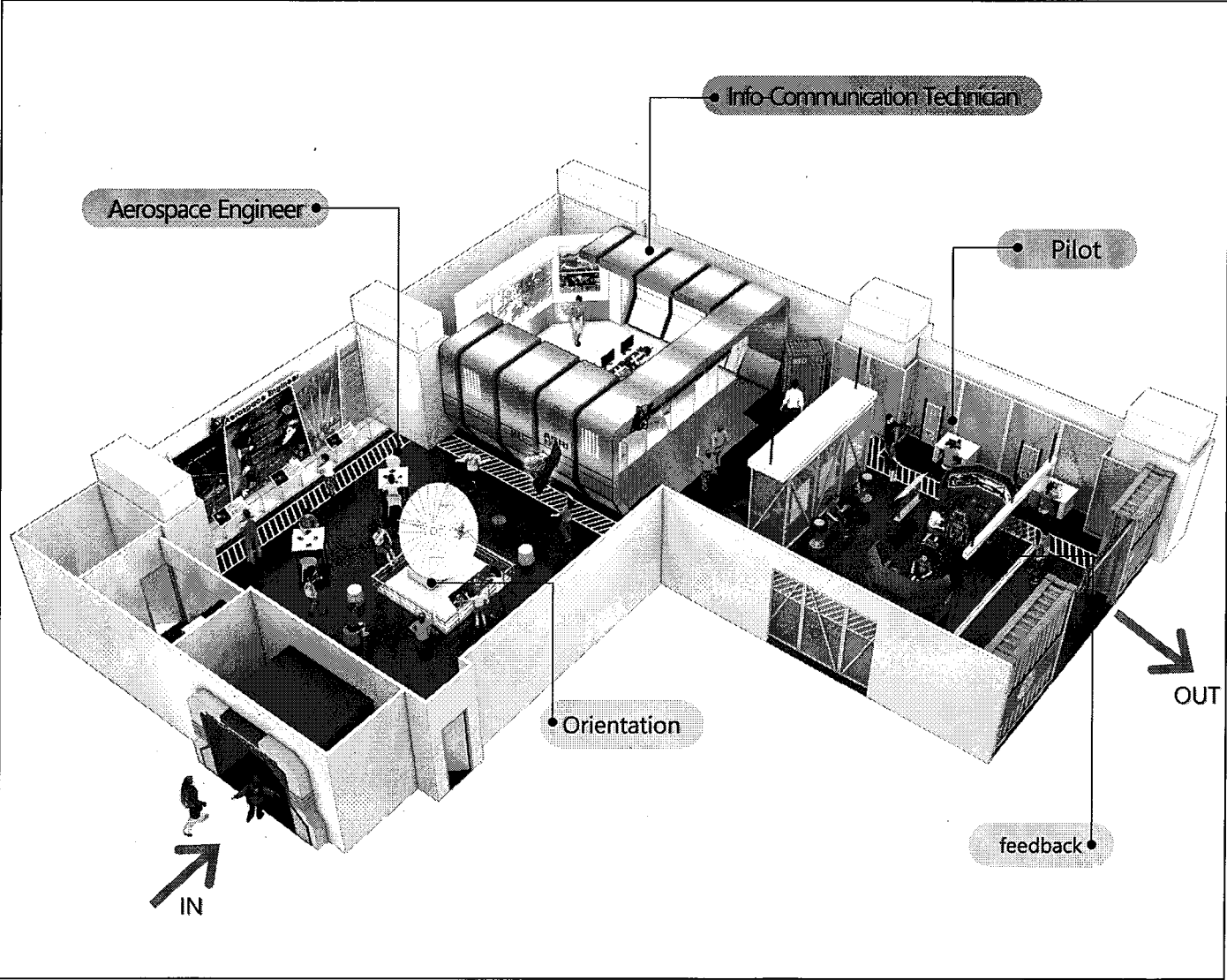
| Floor Plan



■ Action Summary

Mission	Send the high-tech artificial satellite into the orbit and transmit the data observed by the satellite necessary for each fields	
	Time	60min
Operation Plan	Participants	12p
	Staff	3p
	Area	287.04m² (86.8py)
Main Acting	Aerospace Engineer	Experience telecommunication artificial satellite transmission kit
	Info-Communication Technician	Analyze and transmission the Satellite observation data
	Pilot	Flight simulation

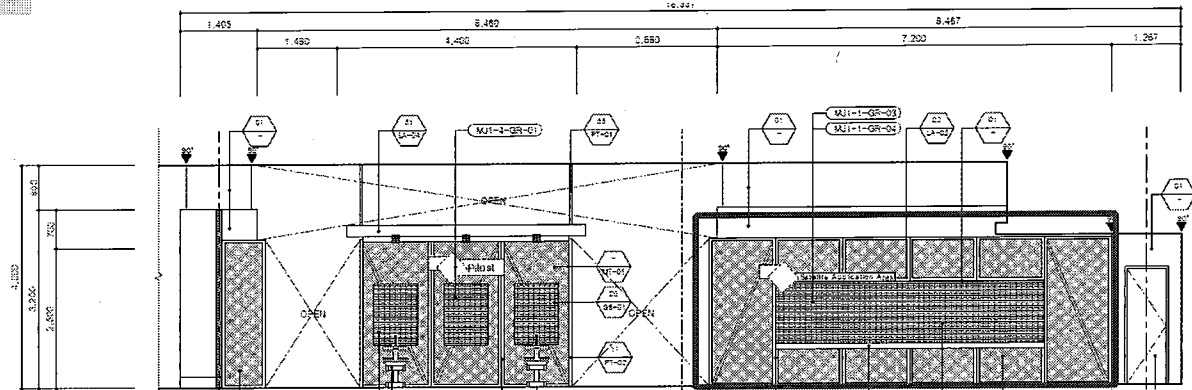
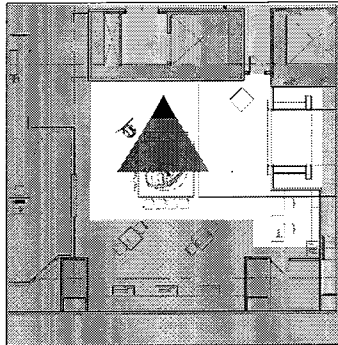
| Isometric



04 Cluster1 Job Experience

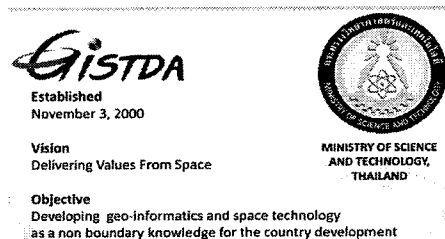
Aerospace Research Institute | Orientation

> SPACE _ ELEVATION

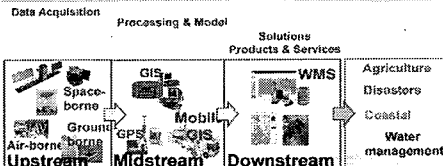


> CONTENTS _ Thai Aerospace Exploration project

GiSTDA



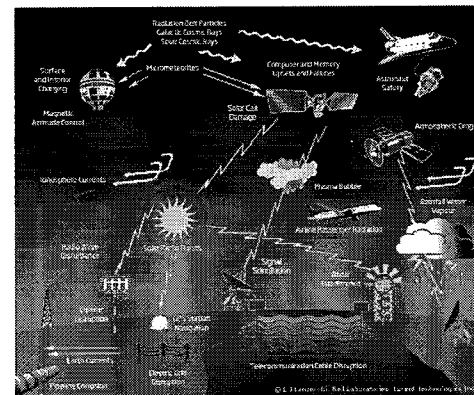
Role



- Multi-platform Data Acquisition System: Space, Air, ground
- Integrated Value Delivery: Upstream, Midstream, Downstream

> SIGN_Artificial Satellite Application Area

GNSS(Global Navigation Satellite System)



Classification	Description
Navigation (land, sea, air)	<ul style="list-style-type: none"> - Automated vehicle navigation (telematics), intelligent transportation systems (ITS) - Automated sea navigation and automatic alarm for danger zones - Automated air navigation and precise landing/take-off
National defense	-Advanced weapons systems incl. combat planes, battleships, etc.
Administration	<ul style="list-style-type: none"> - Geodetic, surveying and geographic information system - Emergency land, sea or air search and rescue - Positioning of and finding missing children
Information & Communications	<ul style="list-style-type: none"> - Time synchronization of communications networks - Location-based service (LBS)
Other	- Space geodetic, meteorological observation, resource exploration, leisure services, etc.

04 Cluster1 Job Experience

— Aerospace Research Institute | Aerospace Engineer

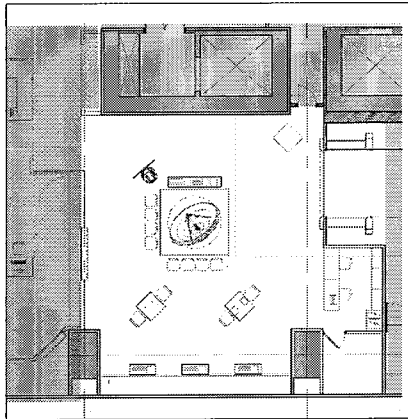
| Perspective



04 Cluster1 Job Experience

Aerospace Research Institute | Aerospace Engineer

| Partial Floor Plan



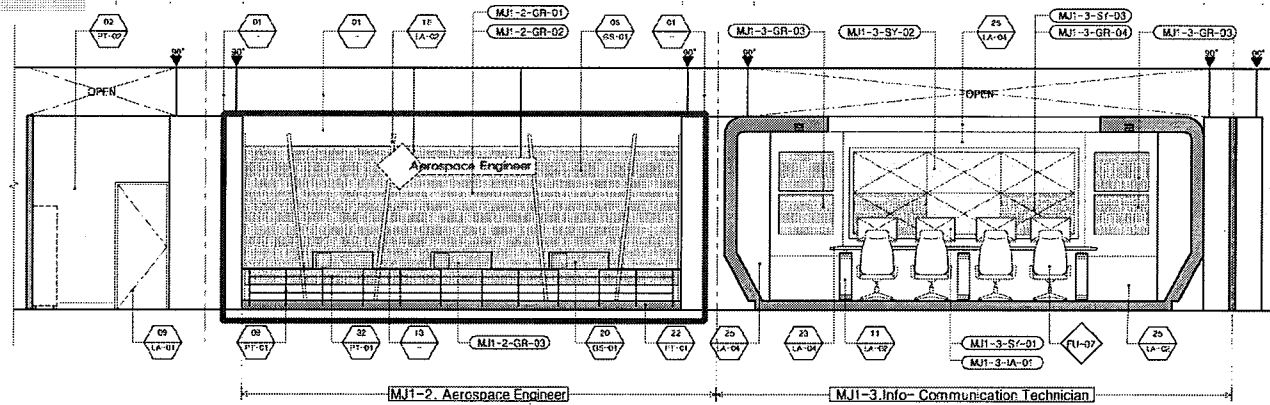
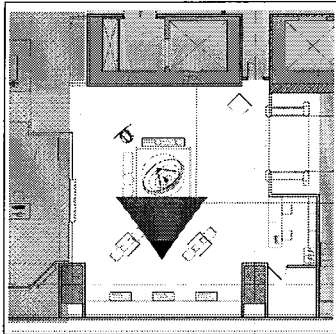
■ Main Item

ITEM	QTY	IMAGE
Antenna And Satellite model	1 SET	
Changeable antenna board kit	4 SET	

■ Experience Scenario

Time (min)	Aerospace Engineer		
	Operating	Job Experience	Media
15	1. Introducing Thai Aerospace industry and main technology 2. Introducing artificial satellite application area and TEHOS (Thai artificial satellite) 3. Guide the jobs and their choice and then check the participant's uniform 4. Introducing Mission and move to each job's experience room	1. Orientation (15min) 1) take a class which is about Aerospace job information and various field which is related to Thai space Exploration project. 2) Mission!! "Send the high-tech artificial satellite into the orbit and transmit the data observed by the satellite necessary for each field" → Reference the Thai artificial satellite THEOS, Understand that the Aerospace industry is the aggregation of whole science technology and the convergence industry. So we can understand that is really closely related to our practical life. 3) Take the basic information of Aerospace Industry's job (Aerospace Engineer, Info-Communication Technician, Pilot) and make a choice which job the participant going to choose. → Choose what each participants want or randomly assign 4) Get each job's uniform (except for pilot) and move to experience room	Uniform/ Laptop/ Image Graphic Graphic sheet (Artificial satellite application area)
45	1. Guide the participants move to Aerospace Engineer corner 2. Explain about the types and observation principles of artificial satellite 3. Introducing experience contents and process → Introducing how to use experience kit → Distribute the kits and guide the safety rules. 4. Direct how to replace Antenna Control Box PCB	→ Move to Aerospace Engineer corner - Learn the types and the principles of artificial satellite and experience the communication with the Earth station through the Satellite and Antenna model. 1. Understand the types and the principles of artificial satellite (10min) 1) Take a description about the types and application area of artificial satellite which is used for military, space exploration, telecommunication, weather observation and then find out actual cases. 2) Through the remote sensing which calculate the distance between GPS (Global Positioning System) satellite and GPS receiver, understand the satellite observation principles 2. Experience Artificial Satellite Telecommunication Kit (20min) 1) Take a description about the telecommunication principles between the artificial satellite and Earth station. 2) For performing the mission process, take some equipment and experience it. → Deliver the EMERGENCY that there have some problem for transmission between the Artificial satellite and Earth station. → Check the control box's malfunction → Practice replacing Antenna Control Box PCB ★ Replace Antenna Control Box PCB 1) Check the manual about How to replace PCB and contents 2) Disassemble Antenna Control Box 3) Practice the radio kit chip and Control Box chip Pairing 4) Check weather the pairing works well or not through the instrument 5) Reassemble the control box and mounting mini antenna for testing 6) Send the signal from the radio communication equipment to control box with mini antenna, check the telecommunication work well.	Satellite & Antenna working model (scale down) / Changeable Antenna board kit / Stand panel (Types of satellite) / Graphic Scasi (GPS Observation Principles) / Directions
60	1. Guide the participant's experience comment presentation 2. Exhibit and introduce the Future Aerospace industry technology 3. Guide the career information and university information 4. Take a commemorate photo and give some notices. ※ Arrangement the experience equipment and reset the system	1. Present experience comment (5min) 1) Wrap-up the experience and gather the feedback room, present the each experience comment 2. Introduce future Aerospace industry (5min) 1) Reference future Aerospace industry (Space food, Space material technology), listen the description about future development direction 3. Job Information \$ Commemorate photo 1) Take some information about jobs and university which is related to Aerospace industry 2) Take a commemorate photo with colleague	Cutting Sheet (About the future Aerospace industry) / Job info-guide PAPER / Camera

> SPACE _ ELEVATION



> Sign Types of satellites

Classification according to the usage purpose



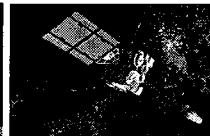
Military satellite



Space exploration satellite



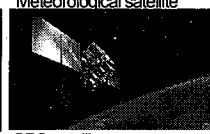
Communication Satellite



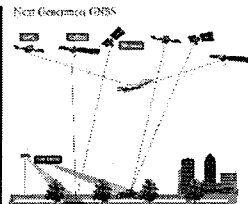
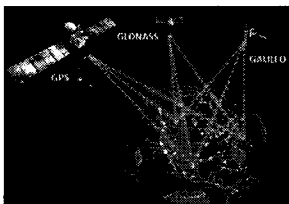
Meteorological satellite



Remote-sensing Satellite



GPS satellite

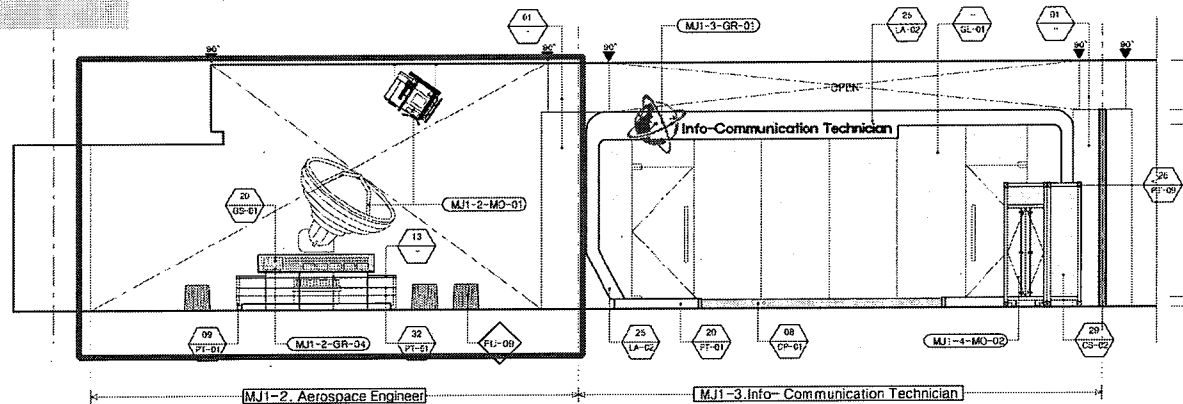
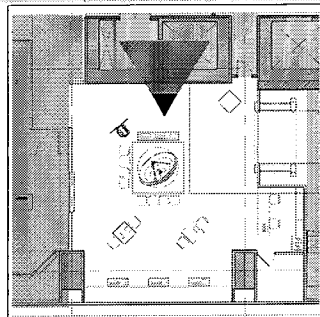


Classification		Description
Practical satellites	Communications-broadcasting satellites	Information transmission (satellite broadcasting and phone, etc.)
	GPS satellites	Positioning on earth
	Earth observation satellites	Determining the conditions on earth
	Meteorological satellites	Observations of cloud movements and meteorological conditions
Scientific research satellites	Astronomy-planet observation satellites	Observation of space and research on specific planets
Military satellites		Acquisition of military and security information

04 Cluster1 Job Experience

— Aerospace Research Institute | Aerospace Engineer

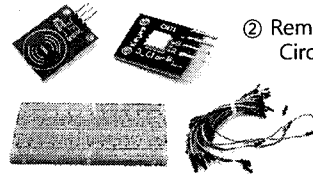
> SPACE ELEVATION



> Model Antenna board kit

Artificial satellite+ Antenna model Assemble Direction

1. Disassemble Antenna control box
2. Practice paring Control Box chip and Raid Kit Chip
3. Check
4. check weather the pairing works well or not through the instrument
5. Reassemble the control box and mounting mini antenna for testing
6. Send the signal from the radio communication equipment to control box with mini antenna, check the telecommunication work well

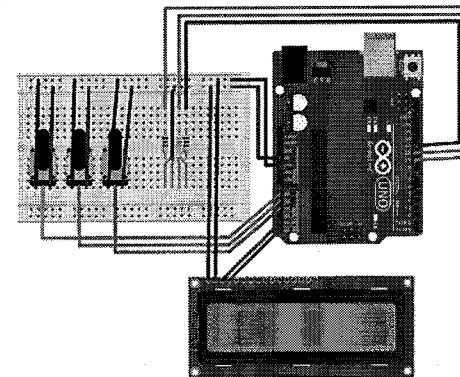


③ Instrument

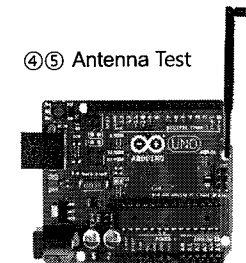


② Remote controller control kit/
Circuit board

<①② Pairing Test>



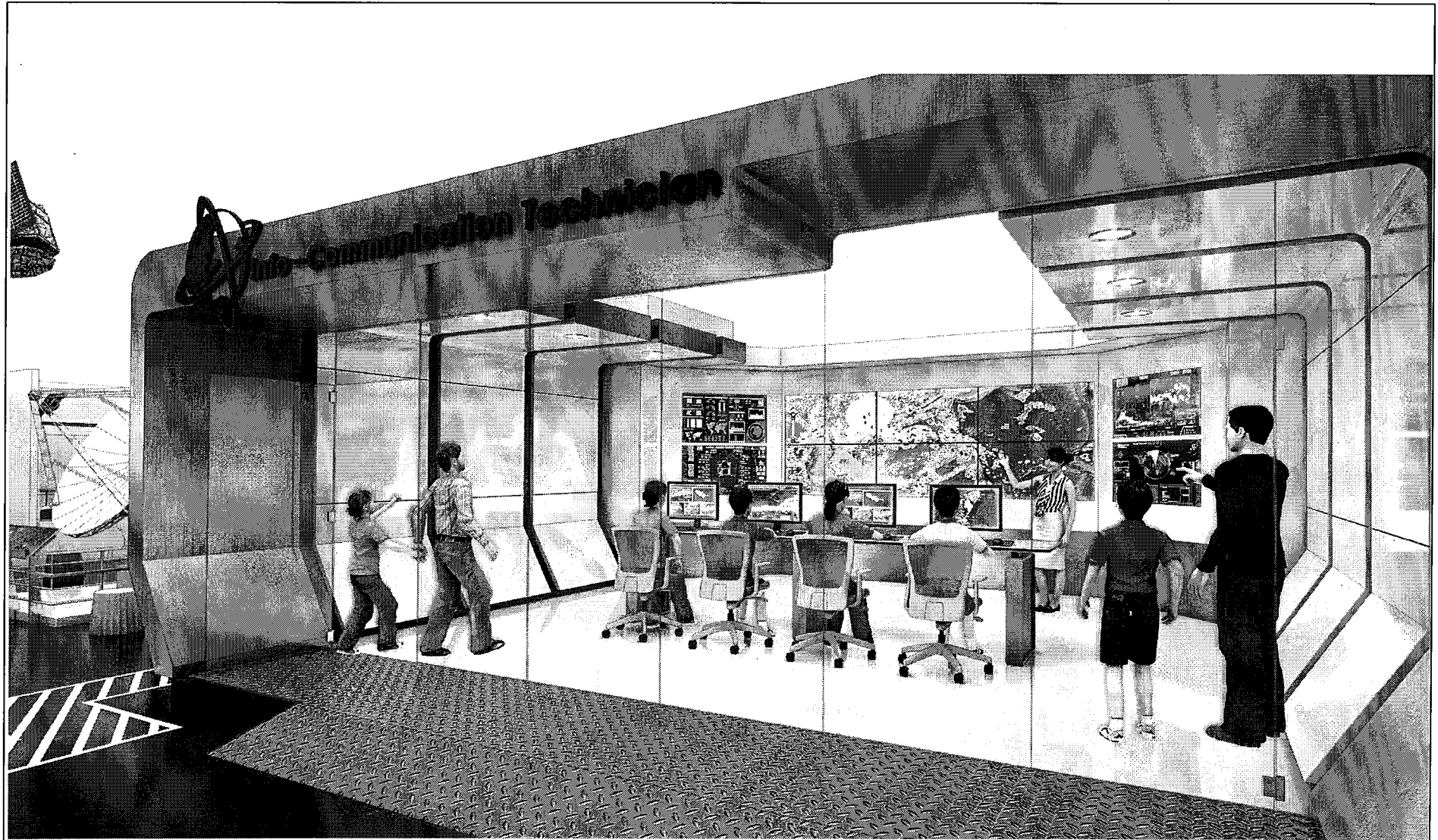
④⑤ Antenna Test



04 Cluster1 Job Experience

— Aerospace Research Institute | Info-Communication Technician

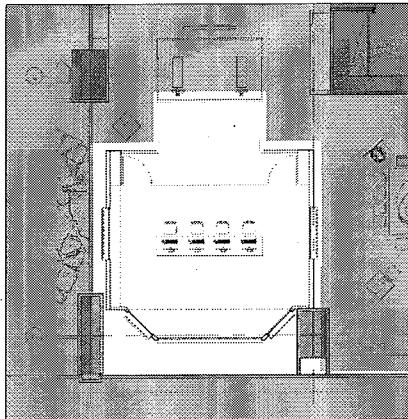
| Perspective



04 Cluster1 Job Experience

Aerospace Research Institute | Info-Communication Technician

| Partial Floor Plan



■ Main Item

ITEM	QTY	Image
DID monitor (interlocked with PC) +Lighting Sign	1 SET	

ITEM	QTY	IMAGE
Interactive PC(For information searching)	4 SET	

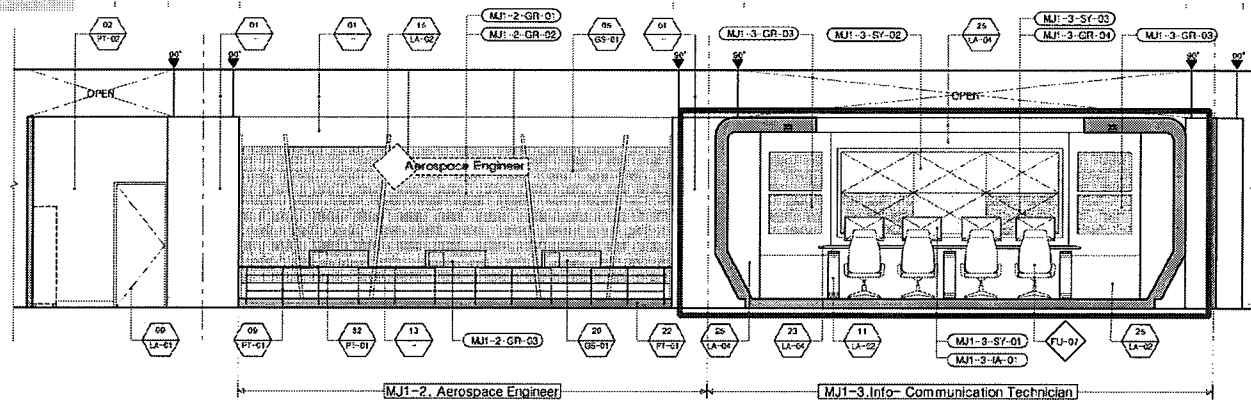
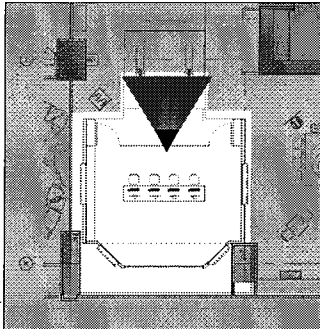
■ Experience Scenario

Time (min)	Info- Communication Technician		
	Operating	Job Experience	Media
15	<ol style="list-style-type: none"> 1. Introducing Thai Aerospace industry and main technology 2. Introducing artificial satellite application area and TEHOS(Thai artificial satellite) 3. Guide the jobs and their choice and then check the participant's uniform 4. Introducing Mission and move to each job's experience room 	<ol style="list-style-type: none"> 1. Orientation (15min) <ol style="list-style-type: none"> 1) take a class which is about Aerospace job information and various field which is related to Thai space Exploration project. 2) Mission!! 'Send the high-tech artificial satellite into the orbit and transmit the data observed by the satellite necessary for each field' <ul style="list-style-type: none"> →Reference the Thai artificial satellite THEOS, Understand that the Aerospace industry is the aggregation of whole science technology and the convergence industry. So we can understand that is really closely related to our practical life. 3) Take the basic information of Aerospace Industry's job(Aerospace Engineer, Info-Communication Technician, Pilot) and make a choice which job the participant going to choose . -> Choose what each participants want or randomly assign 4) Get each job's uniform(except for pilot) and move to experience room 	Uniform/ Laptop/ ImageGraphic Graphic sheet (Artificial satellite application area)
45	<ol style="list-style-type: none"> 1. Introducing GISTDA_DATA which is related to future Aerospace industry and artificial satellite <ul style="list-style-type: none"> →Introducing Thaichote(THEOS) Artificial satellite which can observe various sectors information and can monitor them →Explain how to read the satellite observation data of Each field's (Marine/Agriculture/ Soil / Disaster) and explain how to analyze it →Guide which data they going to choose for experience 2. Guide to Analyze and synthesize each field's data and transmit to applicable agency. 	<p>→Move to Info-Communication Technician Corner</p> <p>Analyze satellite observation data(marine/ agriculture / Soil / Disaster) transmitting the data which could be utilized and required in each field.</p> <ol style="list-style-type: none"> 1. Undersatnd and analyze the observation data(15min) <ol style="list-style-type: none"> 1) Introducing GISTAD_DATA COLLECTION CENTER which have some responsible for future Aerospace industry after launching THEOS(Thailand Earth Observation System) at 2008. 2) Take a description about the technology and monitoring system which is related to THEOS 3) Take a description about Each field(marine/ agriculture/ Soil / Disaster)'s observation data manual. 4) Check each field's data analyzing way, and choice 1field of 4. 2. Transmit and classify sectorally utilized data(15min) <ol style="list-style-type: none"> 1) Downloading each satellite observation data, check the satellite observation video image per cycle 2) Analyze and synthesize each satellite observation video image, transmitting each agency for utilizing them. <ul style="list-style-type: none"> →Marine: Sea water temperature / Salinity / River inflow / Sea level / Chlorophyll concentration / Viewing distance underwater / Marine water quality / Red Tide Index Check → Ministry of Land, Transport and Maritime Affairs →Agriculture: Identify Areas and Yield forecast /Monitoring the crops / Check the natural disaster and pest damage ⇒Ministry of Agriculture Forestry and Fisheries →Soil: Management city planning area / Large infrastructure Planning / Management Land use and Boarder / Monitoring forestry and logging / Pollution control →City planning organization →Disaster: surveillance the Flood, drought, forest fires and other disaster / surveillance Geo-hazard /Response to Earthquake, landslide and tsunami /Oil spill prevention →NDWC 3) After transmitting Observation data, deliver the message about data transmission. 	Interactive SW Interactive PC/Monitor (for interactive and exhibition) / Graphic scasi/ Graphic sheet/ Lighting sign (exhibit control center)/ Still Image (satellite observation images)
60	<ol style="list-style-type: none"> 1. Guide the participant's experience comment presentation 2. Exhibit and introduce the Future Aerospace industry technology 3. Guide the career information and university information 4. Take a commemorate photo and give some notices. <p>※Arrangement the experience equipment and reset the system</p>	<ol style="list-style-type: none"> 1. Present experience comment (5min) <ol style="list-style-type: none"> 1) Wrap-up the experience and gather the feedback room , present the each experience comment 2. Introduce future Aerospace industry(5min) <ol style="list-style-type: none"> 1) Reference future Aerospace industry(Space food, Space material technology), listen the description about future development direction 3. Job Information\$ Commemorate photo <ol style="list-style-type: none"> 1) Take some information about jobs and university which is related to Aerospace industry 2) Take a commemorate photo with colleague 	Cutting Sheet (About the future Aerospace industry) /Job info-guide PAPER/ Camera

04 Cluster1 Job Experience

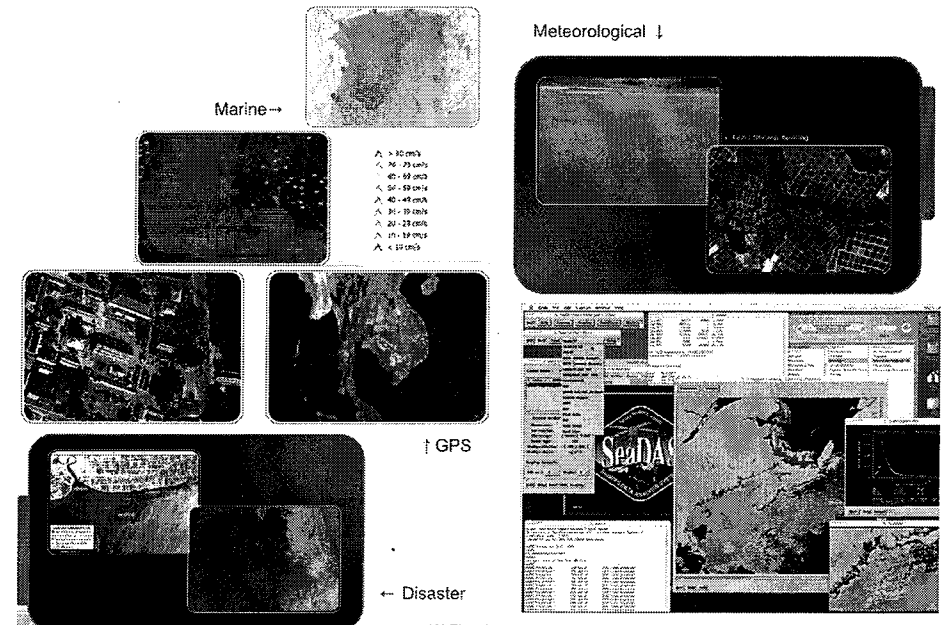
— Aerospace Research Institute | Info-Communication Technician

> SPACE _ ELEVATION



> Interactive Satellite observing data

Item	Satellite observing data		Time	within 3 minutes
Production Formats	PC monitor data output + keyboard insert transmission			
H/W	PC/22"monitor/keyboard/mouse/ speaker *4set			
Summary of Direction	> Experience transmitting data necessary for business fields by using the satellite observation data (Weather, geography, disaster, marine etc.)			
Contents of Direction	Screen Display			
	STEP 1	Understand the various types of artificial satellite and select the artificial intelligence of interest		
	STEP 2-1	Transmit the observation data of the artificial satellite chosen by the visitor necessary for business fields	Transmit the marine observation satellite data to the marine organization >Sea water temperature, salinity, stream inflow quantity, sea surface level, chlorophyll concentration, water visibility, sea water quality grade, red tide index etc.	
	STEP 2-2		Transmit the navigation satellite (GPS satellite) data to the traffic organization	
	STEP 2-3		Transmit the meteorological satellite data to the meteorology observation post >Transmit the infrared video data and the radar video data	
	STEP 2-4		Transmit the remote-sensing satellite data to the disaster countermeasure organization >Countermeasure on climate change and disaster through disaster observation of the Earth and post monitoring	
	STEP 3	Check the transmission result		

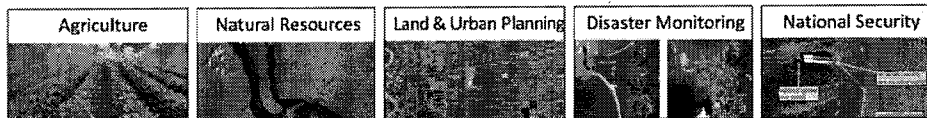
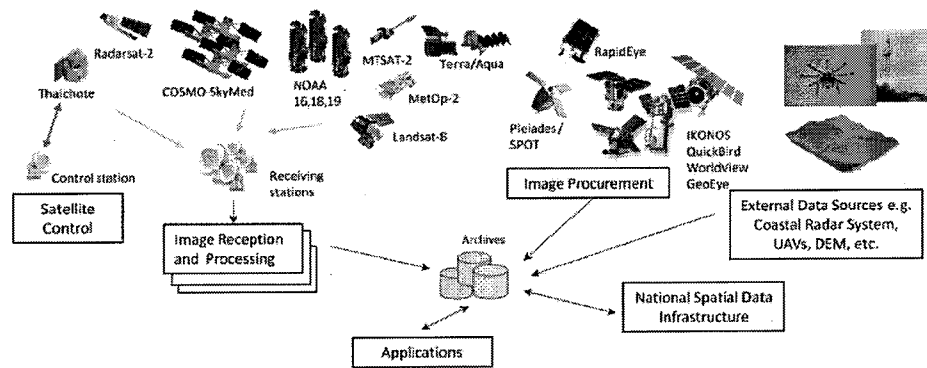


※ The above contents are planned and can be changed during the design process

— Aerospace Research Institute | Info-Communication Technician

> CONTENTS _GIS System

(GPS : Geographic Positioning Information System)



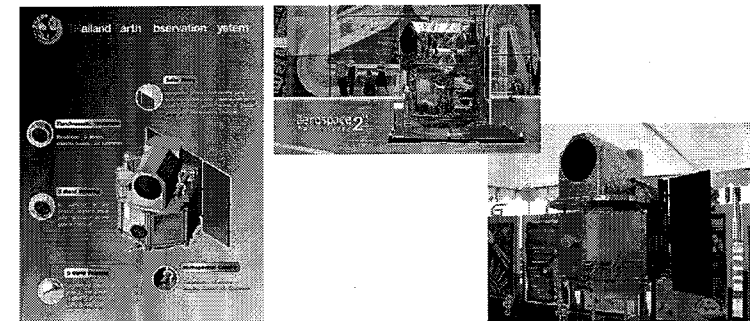
Geography Information System (GIS)

A complex geography information system capable of gathering relevant information such as underground facilities along with geography information such as general maps using the artificial satellite, recording them using computers for search and analysis. Its necessity in the fields of territory planning, city planning, water resource management, communication and transportation network hypothesis, land management, underground utilities and others is being emphasized.

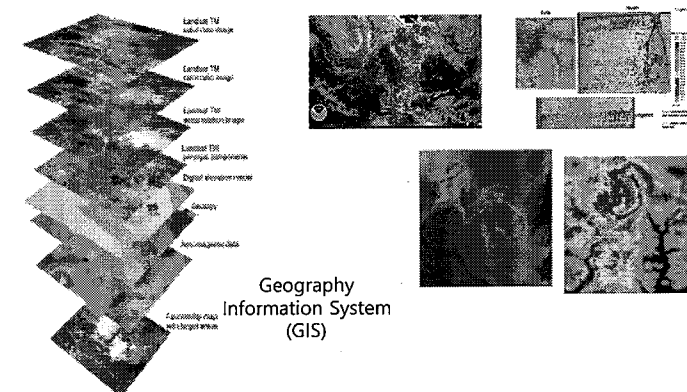
Fields applied with GIS include aeronautical meteorological information analysis, water and sewage network, communication network, power network, city gas network, installation and management of ground and underground facilities, plant site, crop cultivation region, assigning industrial complexes and others in detail.

'Thaichote' (THEOS)

From early 1980s, Propelled the Artificial satellite information and GIS utilize
After 1982 with the U.S.A's help, establish LANDSAT satellite data receiving station,
Utilize it receiving USA, Canada, Europe, Japan and other country's satellite
observation data.
At 2008, Thai ordered to Europe company Astium and launch the satellite No.1
through THEOS-1(Thailand Earth observation system) program



Satellite Observing Data



Analyzes data observed by the satellite (weather/agriculture/territory/geology/military) and sends data to be utilized in each field

04 Cluster1 Job Experience

— Aerospace Research Institute | Pilot

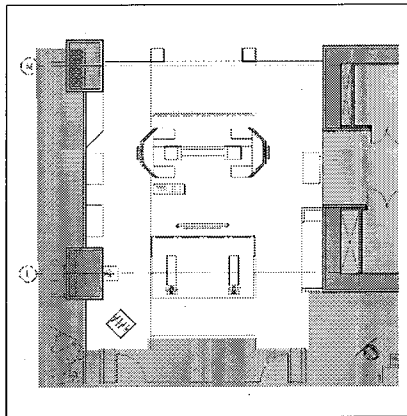
| Perspective



04 Cluster1 Job Experience

Aerospace Research Institute | Pilot

Partial Floor Plan



Main Item

ITEM	QTY	Image
Physical test equipment	1 SET	
Flight simulation (including sw)	2 SET	
Pilot Uniform (Hat/Tie/Jacket)	4 SET	

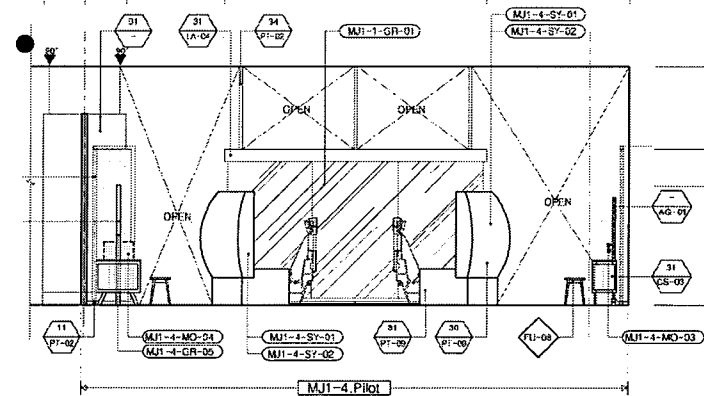
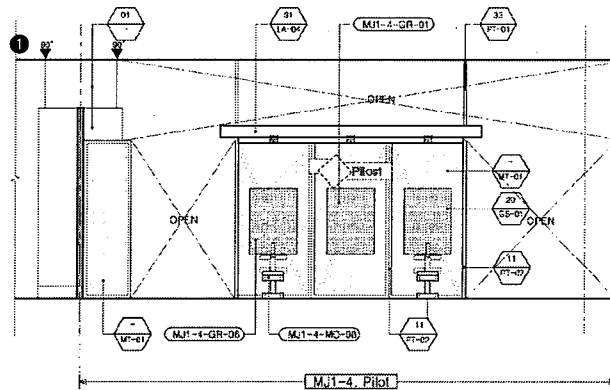
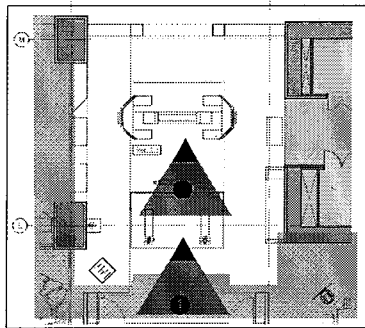
Experience Scenario

Time (min)	Operating	Pilot Job Experience	Media
15	<ol style="list-style-type: none"> 1. Introducing Thai Aerospace industry and main technology 2. Introducing artificial satellite application area and TEHOS (Thai artificial satellite) 3. Guide the jobs and their choice and then check the participant's uniform 4. Introducing Mission and move to each job's experience room 	<ol style="list-style-type: none"> 1. Orientation (15min) <ol style="list-style-type: none"> 1) take a class which is about Aerospace job information and various field which is related to Thai space Exploration project. 2) Mission!! 'Send the high-tech artificial satellite into the orbit and transmit the data observed by the satellite necessary for each field' <ul style="list-style-type: none"> → Reference the Thai artificial satellite THEOS, Understand that the Aerospace industry is the aggregation of whole science technology and the convergence industry. So we can understand that is really closely related to our practical life. 3) Take the basic information of Aerospace Industry's job (Aerospace Engineer, Info-Communication Technician, Pilot) and make a choice which job the participant going to choose. → Choose what each participants want or randomly assign 4) Get each job's uniform (except for pilot) and move to experience room 	<p>Uniform/ Laptop/ ImageGraphic Graphic sheet (Artificial satellite application area)</p>
45	<ol style="list-style-type: none"> 1. Introduce about Pilot and explain experience process Physical test- Put on the uniform → Introduce the flight simulation → Explain the physical criteria of pilot, distribute the physical test record paper and explain how to record it → Checking the physical test process, explain safety rule → After physical test, move to uniform corner. 2. Explain uniform standardization policies, take on and check the uniform → After take on uniform, Guide the participants move to simulator 3. Explain the simulation manual, dashboard direction, flight safety rules. → Explain the precautions when A/B team rotate. → Explain the process [Take Off → Flight → Landing] 	<p>→ Move to Pilot corner Experience the physical test and flight simulation to become a veteran pilot</p> <ol style="list-style-type: none"> 1. Pilot Physical Test (10min) <ol style="list-style-type: none"> 1) Move to pilot corner, take a description about pilot and experience contents → buddy system 2) Reference the criteria of physical test explanation panel and get a physical test record paper 3) Singing each owns paper, record the whole 6 test results <ul style="list-style-type: none"> → Height/Weight → Blood pressure → Spirometry → Eyesight → Hearing ability → Sit-up 2. Take on Pilot Uniform (5min): <ol style="list-style-type: none"> 1) Receive the Pilot uniform (hat, jacket, tie) and listen how to wear the uniform 2) Check owns uniform looking at the mirror 3. Flight simulation (5/5/5min) <ol style="list-style-type: none"> 1) Listen how to use the simulation → A/B team (buddy system) Alternately experience 2) A Team: Sit on the simulator → Put on the headset → Start the simulation B Team: Observation and learning through A Team's experience (5min) and then rotate with B Team <p>※ Check the physical test result, move to uniform corner ※ Wearing the uniform, wait in front of the simulation corner</p>	<p>Physical test Equipment (height & weight/ eyesight/hearing ability/ blood pressure/ sit-up/spirometry/ Graphic sheet (how to use the Equipment)/ Physical test record paper</p> <p>Pilot uniform / mirror Flight simulation (sw)/</p> <p>Direct the cockpit (dashboard / joystick/ monitor)</p> <p>Graphic sheet (criteria of physical test)</p>
60	<ol style="list-style-type: none"> 1. Guide the participant's experience comment presentation 2. Exhibit and introduce the Future Aerospace industry technology 3. Guide the career information and university information 4. Take a commemorate photo and give some notices. ※ Arrangement the experience equipment and reset the system 	<ol style="list-style-type: none"> 1. Present experience comment (5min) <ol style="list-style-type: none"> 1) Wrap-up the experience and gather the feedback room, present the each experience comment 2. Introduce future Aerospace industry (5min) <ol style="list-style-type: none"> 1) Reference future Aerospace industry (Space food, Space material technology), listen the description about future development direction 3. Job Information \$ Commemorate photo <ol style="list-style-type: none"> 1) Take some information about jobs and university which is related to Aerospace industry 2) Take a commemorate photo with colleague 	<p>Cutting Sheet (About the future Aerospace industry)/ Job info-guide Paper/ Camera</p>

04 Cluster1 Job Experience

Aerospace Research Institute | Pilot

> SPACE_ELEVATION



> SIGN_Criteria Of Physical Requirements Of Pilot

Age Requirements

The U.S. and Canadian governments have established minimum and maximum ages for airline pilots. A private pilot must be at least 17 years of age, a commercial pilot at least 18, and an applicant for an air/airline transport pilot certificate at least 21 in Canada and 23 in the United States. Federal law in the United States requires airline pilots to retire at age 65; there is no such limit in Canada, but the retirement age on scheduled airlines changed in December 2007 from age 60 to age 65.

Education

The commercial airline pilot profession increasingly becomes more complex and technical. Meeting the constant demands of continuously changing technology requires a high degree of mental dexterity. Airline pilots never stop learning—new systems, new aircraft configurations, new procedures, etc. Because of the ever-changing aviation technology and the requirements for mastery of new systems, pilots must attend and pass ground school courses regularly, as well as passing flight checks in simulators and aircraft. If you want to work in this technically complex environment, with navigation systems and communications equipment, you need a thorough grasp of mathematics, aeronautics, navigation, and meteorology.

You must also think clearly even in times of stress, and communicate accurately, understandably, and concisely while performing other duties. The acquisition of these skills begins at the secondary level of education with an emphasis on the basic sciences, particularly math and physics. At the college/university level, preferred courses in preparation for an airline pilot career would include advanced math, English, sciences, aeronautical engineering, and other aviation-related studies.

Physical/Health Requirements

Because of the unique physical demands of a pilot's daily duties, regulatory agencies require that pilots meet strict health standards, primarily concerning the heart, lungs, physical dexterity, and eyesight (although now, most airlines will allow applicants to wear glasses to correct vision to 20/20 in each eye). Dependence on drugs—even prescription drugs—may be disqualifying. The Federal Aviation Administration requires medical certificates, classified as First, Second, or Third Class, while Transport Canada requires Category 1 or Category 3 certificates. (Category 2 is for air traffic controllers and flight engineers, although the physical requirements for a flight engineer are similar to those of Category 1 to account for prolonged or difficult flights). Each class or category includes specific physical requirements.

The First Class and Category 1 certificates have the highest standards and are required for an air/airline transport pilot certificate. The First Class Certificate is valid for six months, while the Category 1 Certificate is valid for one year for pilots under age 40, and six months for those aged 40 and older.

Before you begin training for any airline position, schedule a First Class or Category 1 physical from a designated FAA or Transport Canada examiner. You can obtain the names of such examiners from the FAA or Transport Canada regional headquarters nearest you or you can ask the operator of any approved flight training school in your area.

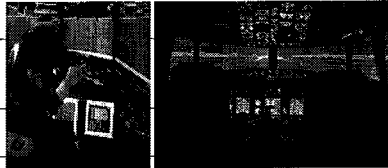
> SIGN_Work Paper

PHYSICAL EXAMINATION FOR PILOTS		
FULL NAME	DATE OF BIRTH	SEX
<input type="checkbox"/> Male <input type="checkbox"/> Female		
HEIGHT	WT	WG
VISIONS	Right eye	COLOR SENSE
	Left eye	
HEARING	Right ear	BLOOD PRESSURE
	Left ear	
LUNG CAPACITY		
NUMBER OF SUTURES		
COMMENTS		
DATE OF EXAMINATION	EXAMINER'S SIGNATURE	PILOT'S SIGNATURE

※ The above contents are planned and can be changed during the design process

> Interactive

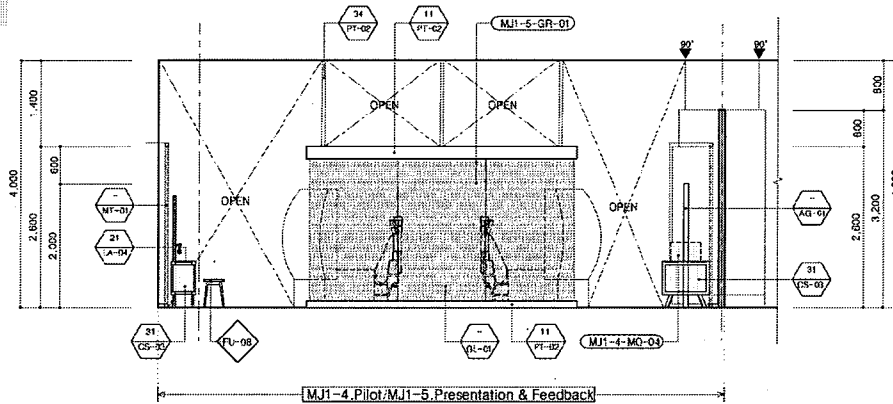
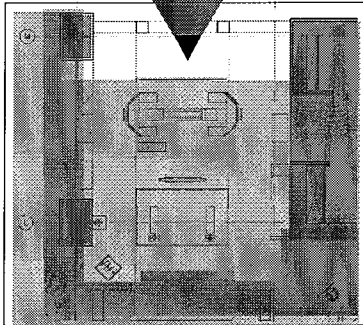
Flight simulation Scenario

Item	Flight simulation		Time	within 10 minutes	
Production Formats	Multi vision and joystick connection method				
H/W	multi vision 46"monitor * 3ea + 2 ea of joysticks				
Summary of Direction	> To utilize the joystick in a flight simulation for take-off, overcoming obstacles, bad weather, traffic and emergency situations				
Contents of Direction	Screen Display		Screen composition		
	STEP 1	Select aircraft-airport-mission >Display the region's climate and natural environment of the current aircraft position	SW : 1 interactive video (experience joystick maneuver) (*Language ver – 1 THAI) TST HW : 1 set of (3 ea of 46" monitor+2 ea of Logitech wingman extreme flight joystick) 1set * Fly the aircraft by moving the joystick(Up, down, left, right maneuver & button selection) : usb type * Produce 3D graphic / within 10 minutes (3D production of approximately 5~7 minutes)		
	STEP 2	Take-off after sign by utilizing the joystick >Depart after receiving the control tower's sign for take-off→accelerate→runway→take-off	► Things to check ① Start : 2.5D (20")		
	STEP 3	Event 1. Overcome obstacles such as a flock of birds after a peaceful natural environment	② Prepare flight : 2.5D (60") ▷ Main pilot/co-pilot's mission accomplishment (Check maneuver button etc.) ③ Start→accelerate→runway→take off : 2.5D (60") ▷ Interactive such as main pilot/co-pilot's take off button maneuver etc.		
	STEP 4	Event 2. Realize traffic by AI aircraft >Receive the control of the ATC (Air Traffic Control) for flying and changing altitude	④ Flight mode : 3D (180") ▷ Fly by changing direction ⑤ Event : 3D (90") ▷ Events occurring such as climate changes like cloudy weather, hail and others		
	STEP 5	Event 3. Experience emergency situation such as bad weather like wind-rainstorm +fuel leak-engine failure and others	⑥ Prepare landing : 2.5D (60") ▷ Main pilot/co-pilot's mission accomplishment ⑦ Land : 2.5D (60") ▷ Interactive such as main pilot/co-pilot's take off button maneuver etc.		
	STEP 6	Message on the result of executing landing + mission	⑧ End experience : 2.5D (20")		

04 Cluster1 Job Experience

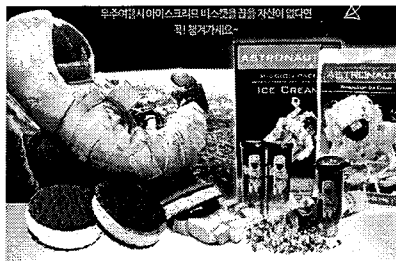
Aerospace Research Institute | Presentation And Feedback

> SPACE_ELEVATION

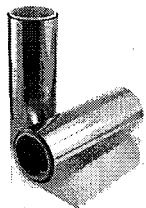


> SIGN_Space food/ material

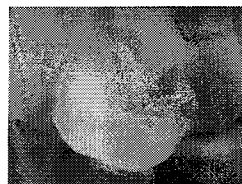
Space food



Space material

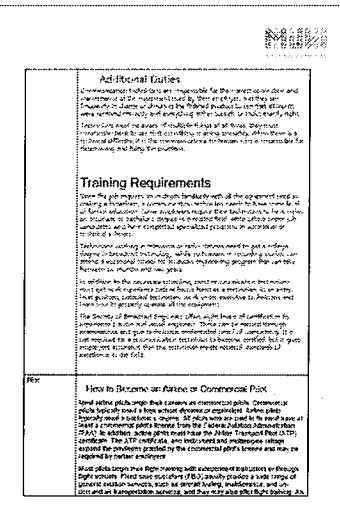
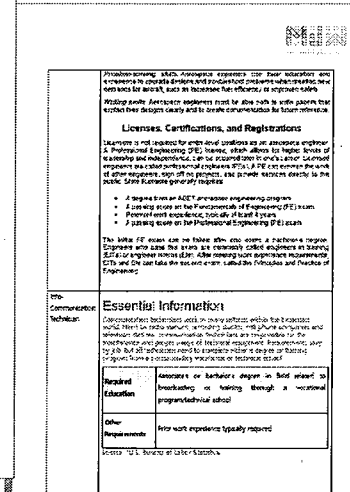
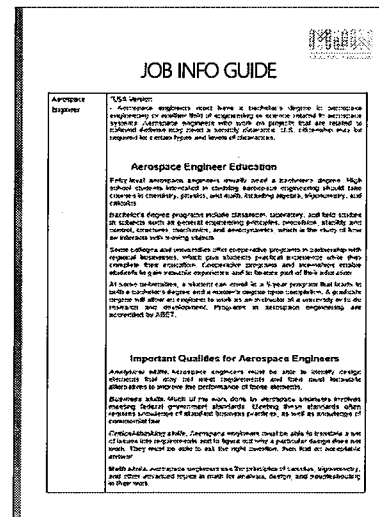


KAPTON
- (Polyimide Film)



Nylon 66

> SIGN_Job Info-guide Paper

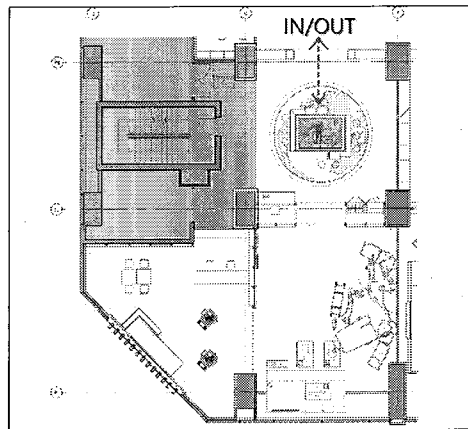


※ The above contents are planned and can be changed during the design process

05 Cluster1 Job Experience

— Disaster Management Institute

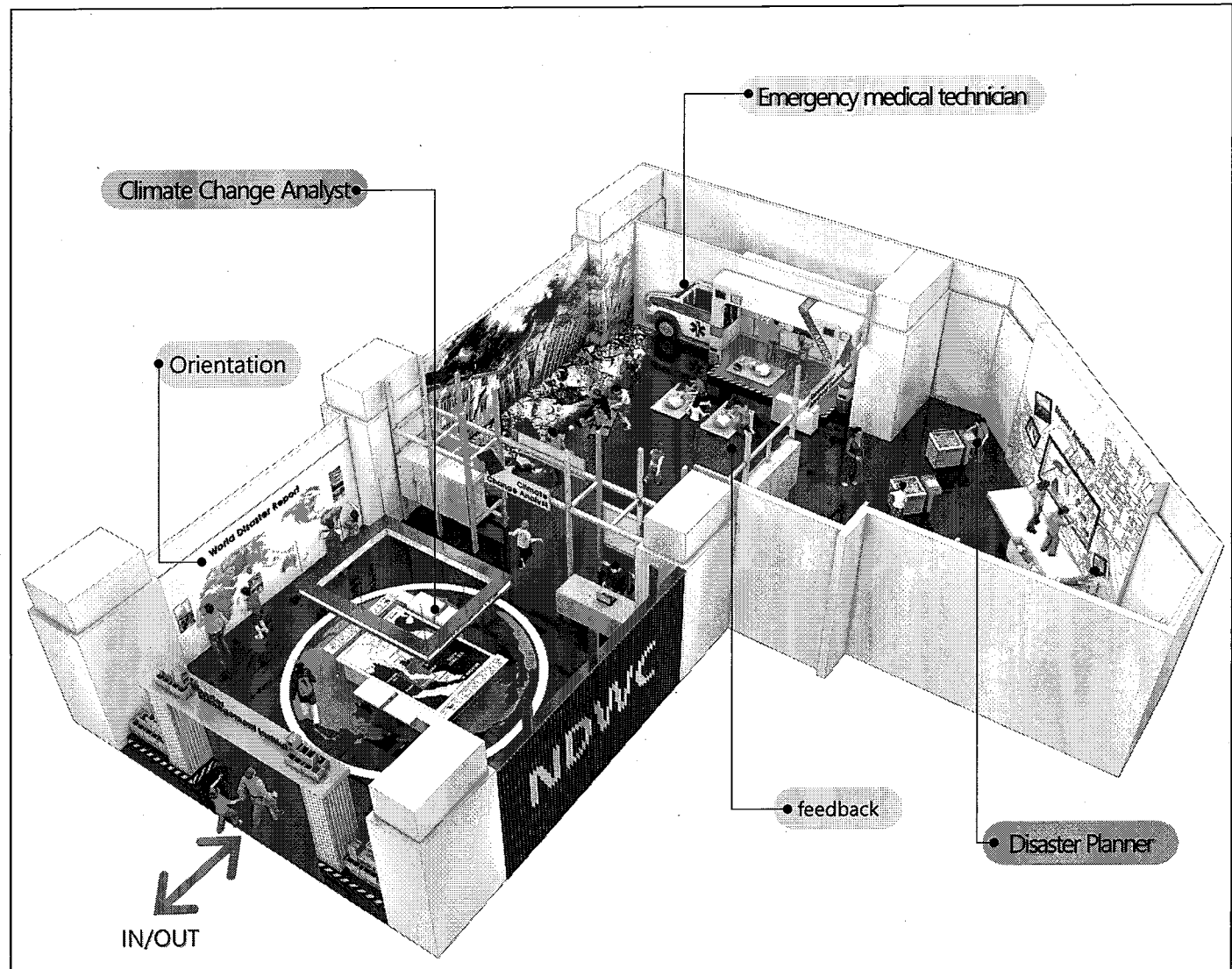
| Floor Plan



■ Action Summary

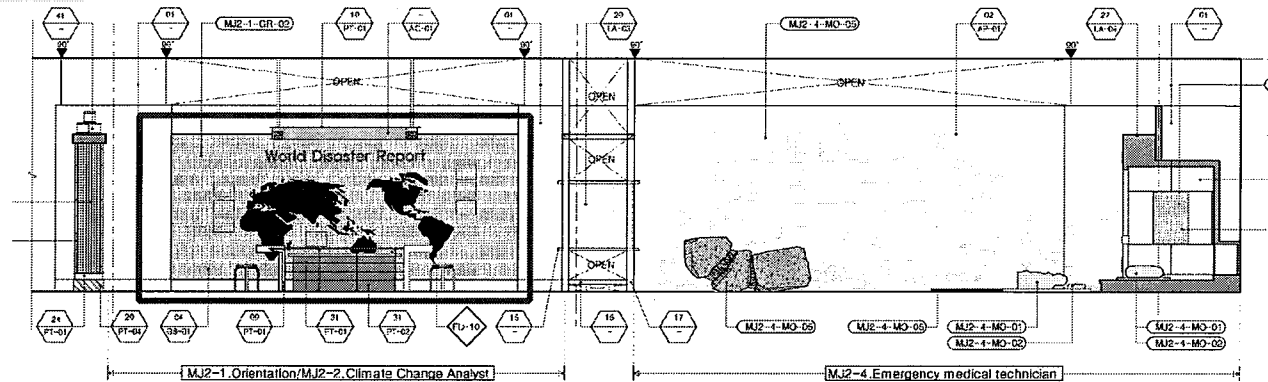
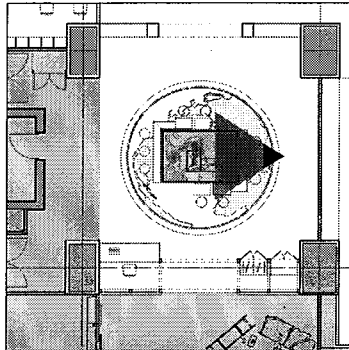
Mission	Prepare for future disaster and , cultivate the capacity that respond to the EMERGENCY situation	
Operation Plan	Time	60min
	Participants	12p
	Staff	3p
Main Action	Area	245.17m ² (74.2py)
	Climate Change Analyst	Analyze the annually changed climate, fill the disaster forecast report
	Disaster Planner	Fill the evacuation manual depending on Each specific situation
	Emergency medical technician	Experience First Aid Kit

| Isometric



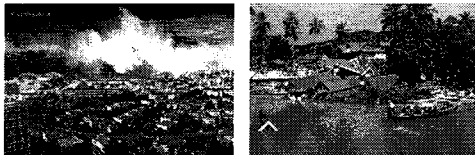
Disaster Management Institute | Orientation

> SPACE _ ELEVATION



> SIGN_World Map Graphic / Domestic and foreign disaster cases

<Domestic>



< 2004 Tsunami In Thailand >



< 2011 Bangkok Flood >

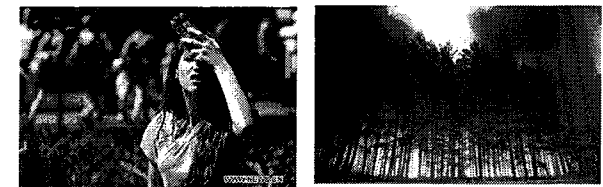
<Foreign>



< 2011 Earthquake in East Japan >



< 2008 Earthquake In China >



< 2010 Russia Heatwave and Wildfire >

> CONTENTS NDWC (National Disaster Warning Center)

→

6.2 태국

6.2.1 태국의 재난관리시스템

가. DDPM

태국의 재난관리시스템은 내각부 소속의 DDPM(Department of Disaster Prevention and Mitigation)에서 주관하고 있다.

나. 주요 업무

- 1) 재난의 발생을 조기발견, 피해 예측, 재난 예방, 재난 복구 업무 수행
- 2) 산악지역 화재 예방, 화재 예방, 화재 예방, 화재 예방
- 3) 재난 예방, 재난 예방, 재난 예방, 재난 예방
- 4) 재난 예방, 재난 예방, 재난 예방, 재난 예방
- 5) 재난 예방, 재난 예방, 재난 예방, 재난 예방

다. 운영체계

- NDWC(National Disaster Warning Center)는 태국의 재난 관리 시스템

라. 지역협력

- 태국의 재난관리시스템은 내각부 소속의 DDPM(Department of Disaster Prevention and Mitigation)에서 주관하고 있다.

6.2.2 태국의 조기경보시스템

태국의 조기경보시스템은 태국의 재난 관리 시스템

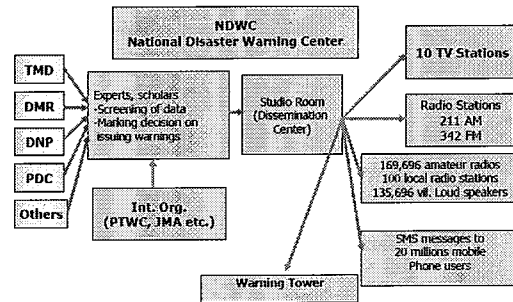


그림 6.9 태국의 조기경보시스템 체계도

여기서

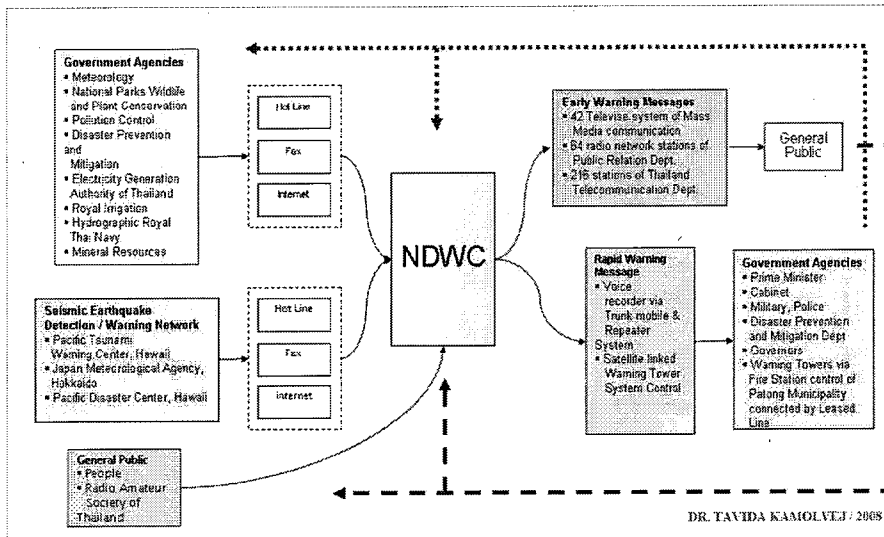
TMD: Thai Meteorological Department (태국 기상부)

DMR: Department of Mineral Resources (자원부)

DNP: Department of National Park (국립공원부)

PCD: Pollution Control Department (환경부)

→Thailand National Disaster Warning Center



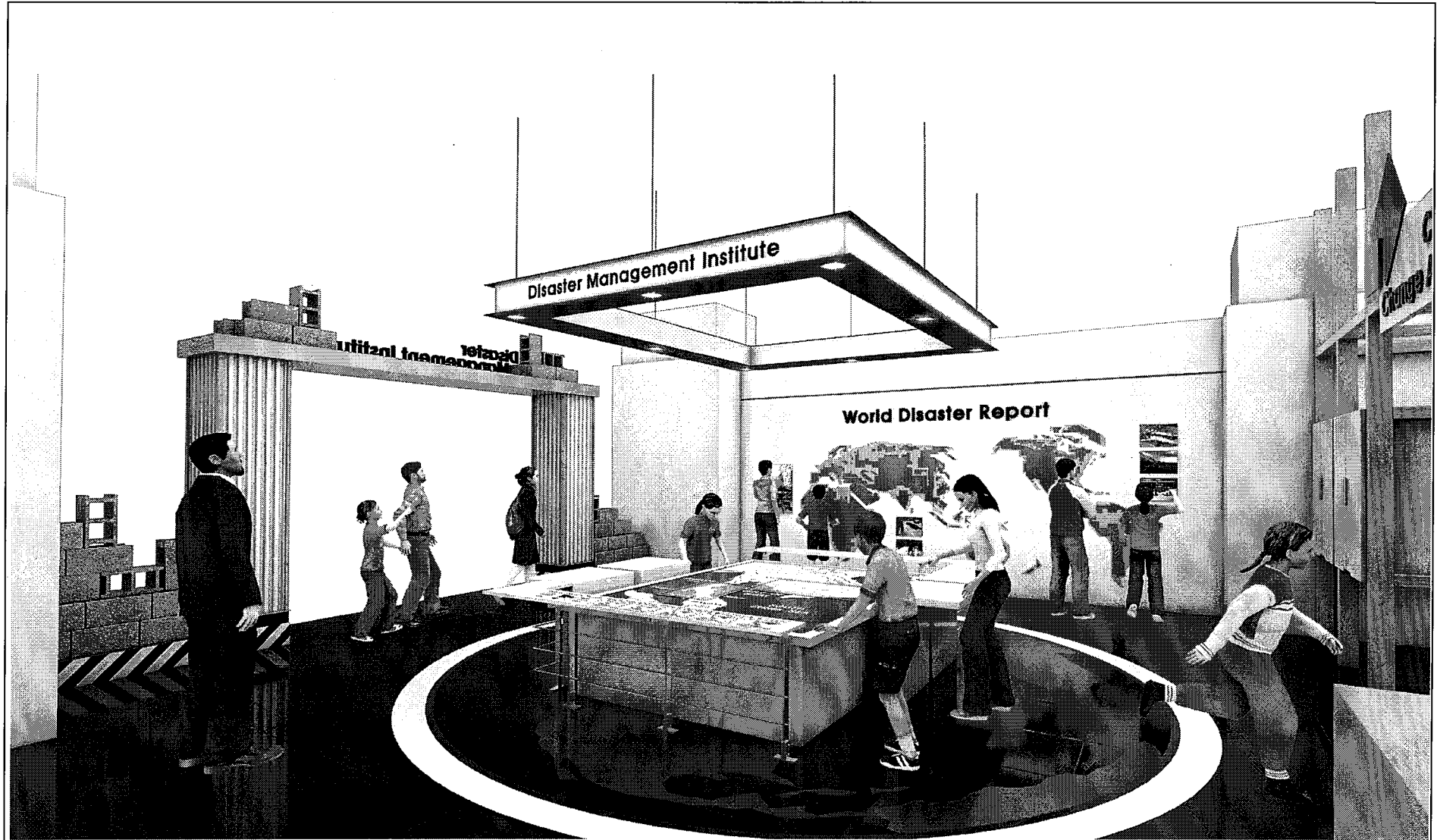
DR. TAVIDA KAMOLVEJ / 2008



05 Cluster1 Job Experience

— Disaster Management Institute | Climate Change Analyst

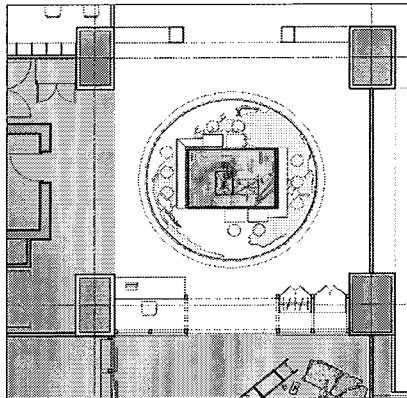
| Perspective



05 Cluster1 Job Experience

Disaster Management Institute | Climate Change Analyst

| Partial Floor Plan



■ Main ITEM

ITEM	QTY	IMAGE
Thai Map (Lighting Panel)	1 SET	

ITEM	QTY	IMAGE
Monitor/Video (climate change image)	2EA	

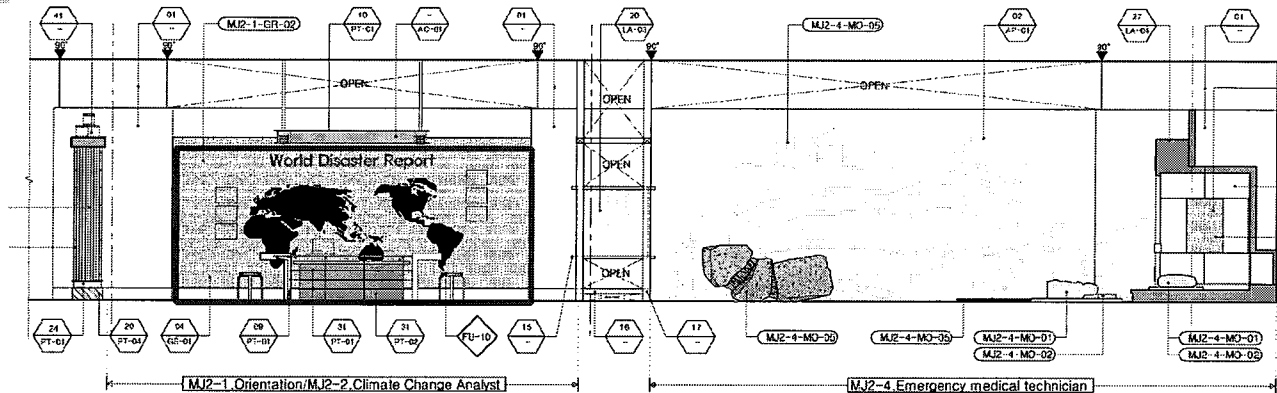
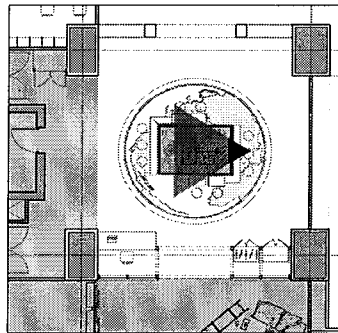
■ Experience Scenario

Climate Change Analyst			
Time (min)	Operating	Job Experience	Media
15	<ol style="list-style-type: none"> 1. Explain the necessity of the preparation of disaster, NDWC which is warning system and Disaster Management Institute 2. Introduce the domestic and foreign disaster cases, explain the mission → Guide the debate about how to reinforce the disaster preparedness capacity 3. Explain experience contents and guide to which job the participants going to choose 4. Get each job's uniform and move to experience room 	<ol style="list-style-type: none"> 1. Orientation (15min) 1) Listen the explanation about the necessity of preparedness for disaster, the NDWC(National Disaster Warning Center) and Disaster countermeasure research field. 2) Mission!! "Prepare for the future disaster and cultivate the capacity that respond to the EMERGENCY situation" → Reference the disaster case images on the World map graphic wall, talk about How to deal with the big disaster as soon as possible. 3) Make a basic introduction of disaster management institute jobs(Climate Change Analyst, Disaster Planner, Emergency medical technician) and make a choice which job the participants going to choose → Choose what each participants want or randomly assign 4) Get each job's uniform and move to experience room 	Uniform/ Laptop/ Image graphic (World map)/ Graphic Sheet (Actual disaster case image)
45	<ol style="list-style-type: none"> 1. Move to Climate Change Analyst experience room, make a buddy system. 2. Guide how to check the Lighting Panel Map 3. Through the 2011 Bangkok flood case, explain the reason with climate change factor and geographic factors 4. Explain how to analyze the Map monitor video 5. Guide how to predict the flood 6. Guide how to fill the forecast paper 	<p>⇒ Move to Climate Change Analyst Corner → Analyzing annually changed climate data; Predict the future disaster's occurrence and region.</p> <ol style="list-style-type: none"> 1. Analyze annual climate change image (10min) 1) Making a buddy system, check the lighting panel map focusing on Thailand. 2) Take an explanation about the cases; characteristic, area and related status through the actual case. → Analyze and understand through annually changed climate graphic image pre and post 2011 Bangkok flood 2. Predict the time and region of future flood(Sea-level rise) (15min) 1) reference the image video on the Map monitor, Listen how to analyze that information 2) Predict future flood time and region according to the sea-level rising and land loss reference the Map monitor 3. Fill the forecast report (5min) 1) Fill the forecast report using the data that the participants analyzing 	Video SW (Annually changed climate image video)/ monitor(built-in the table)/ Lighting Panel (Thai Map)/ Image graphic (floor)/ Work Paper (Forecast report)
60	<ol style="list-style-type: none"> 1. Guide the participant's experience comment presentation 2. Explain the disaster relief equipment and direction 3. Guide the career and university information 4. Take a commemorate photo and give some notices. ※ Arrangement the experience equipment and reset the system 	<ol style="list-style-type: none"> 1. Present Experience comment(5min) 1) Wrap-up the experience and make some presentation about how the participants overcome the disaster 2. Explain disaster relief tools and testing them (5min) 1) Display disaster relief tools, explain how to use them and experience the equipment 3. Job Information & Commemorate photo (5min) 1) Take some information about jobs and university information which is related to disaster management field 2) Take a commemorate photo with colleague 	Disaster relief tools / Graphic panel + moving panel / Job Info-guide Paper/ Camera

05 Cluster1 Job Experience

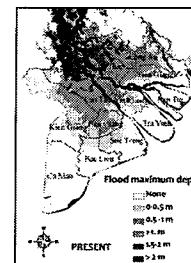
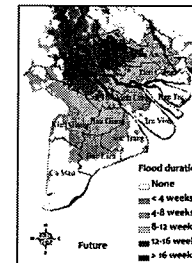
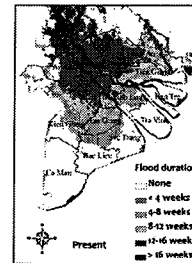
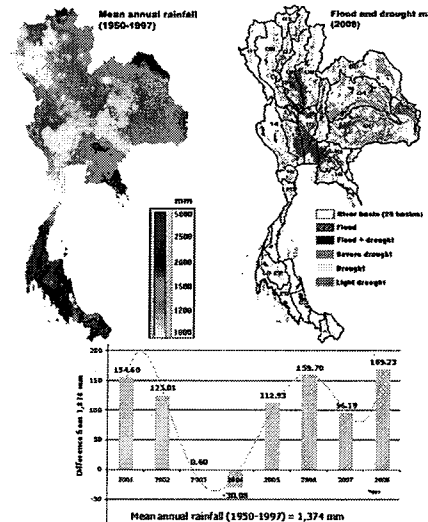
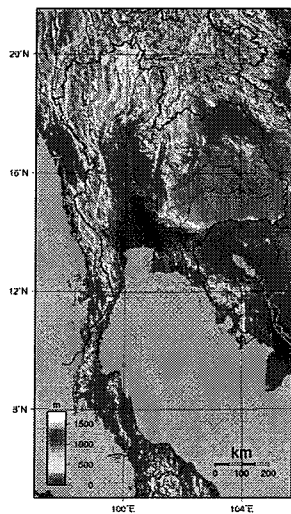
Disaster Management Institute | Climate Change Analyst

> SPACE _ ELEVATION

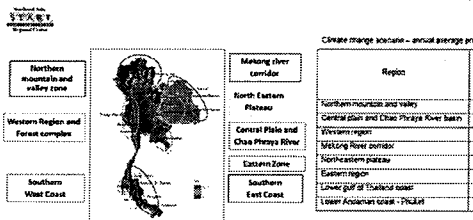


> SIGN_Thai Map Lighting Panel/Graphic

_Thai Climate Change Map



Estimated change in the flooded duration in the Mekong Delta in the future, compared to the present day

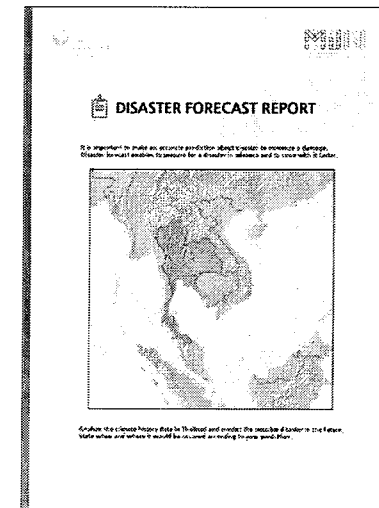


Climate change scenario - annual average precipitation

Region	Current climate	Future climate (average during 2045-2050)	
		Upper range	Median
Northern mountains and valley	1,353 mm	1,300 mm	1,119 mm
Central plain and Chao Phraya River basin	1,353 mm	1,300 mm	1,119 mm
Western region	1,353 mm	1,300 mm	1,119 mm
SE Asian river corridor	1,353 mm	1,300 mm	1,119 mm
Southern region	1,353 mm	1,300 mm	1,119 mm
Eastern region	1,353 mm	1,300 mm	1,119 mm
Lower part of Thailand basin	1,353 mm	1,300 mm	1,119 mm
Lower Asian coast - Thailand	1,353 mm	1,300 mm	1,119 mm

> SIGN_Work Paper

_Disaster Forecast Report



<https://www.wunderground.com/>

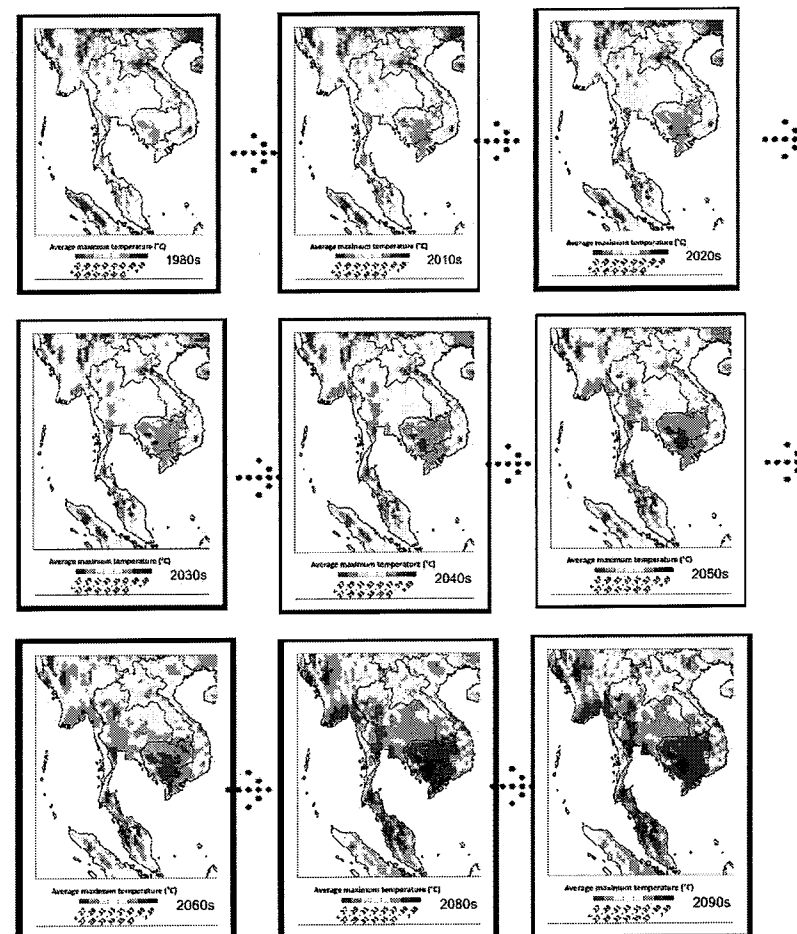
※ The above contents are planned and can be changed during the design process

> AV_Monitor 1- Average minimum temperature



http://startcc.iwlearn.org/project/copy9_of_hydro-agronomic-economic-model-for-mekong-river-basin-and-local-adaptation-in-thailand-model-development

> AV_Monitor 2 - Average maximum temperature

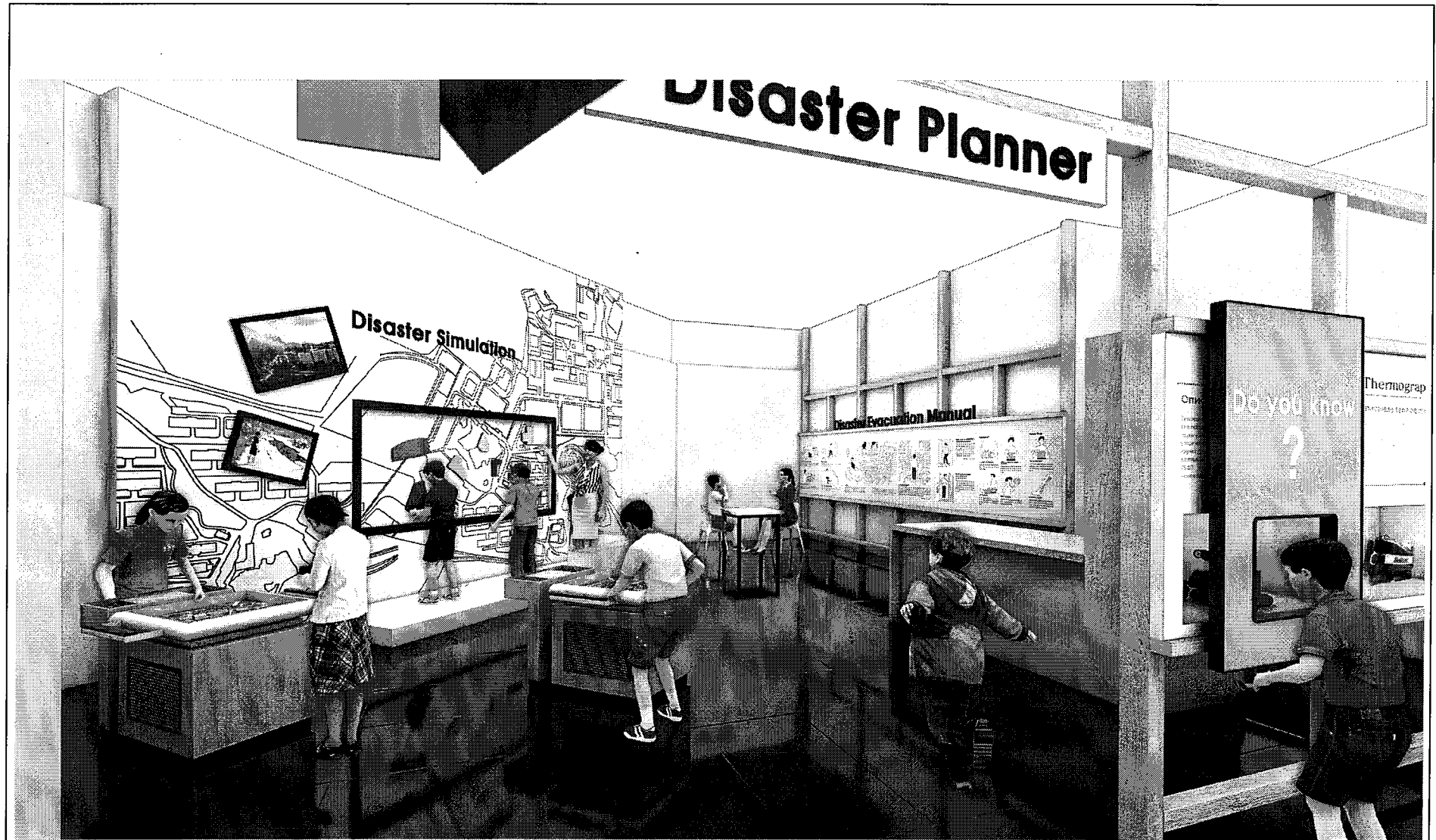


※ The above contents are planned and can be changed during the design process

05 Cluster1 Job Experience

— Disaster Management Institute | Disaster Planner

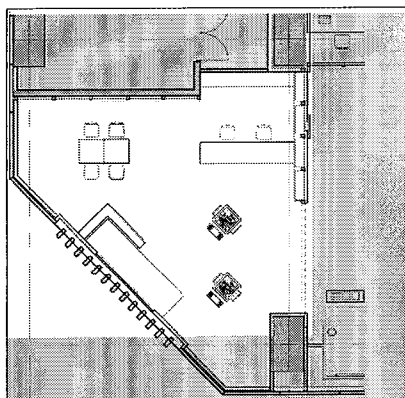
| Perspective



05 Cluster1 Job Experience

Disaster Management Institute | Disaster Planner

| Partial Floor Plan



■ Main Item

ITEM	QTY	IMAGE
Simulation map model (Moving Table)/ Block set	2 SET	

ITEM	QTY	IMAGE
Thai map graphic/ Magnetic Board	1 SET	

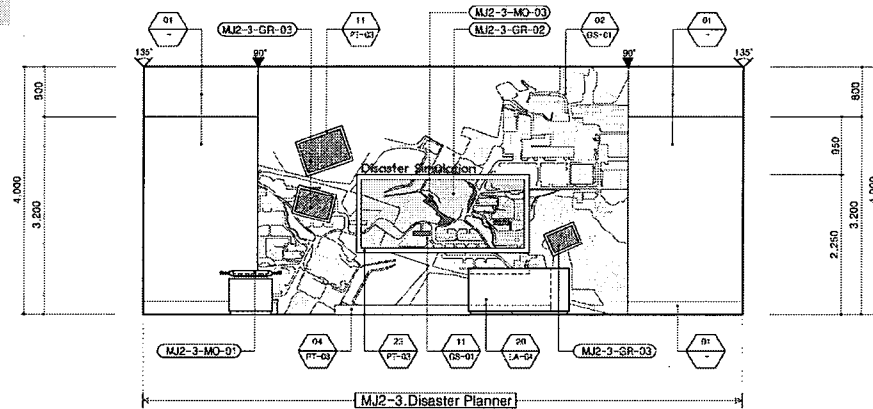
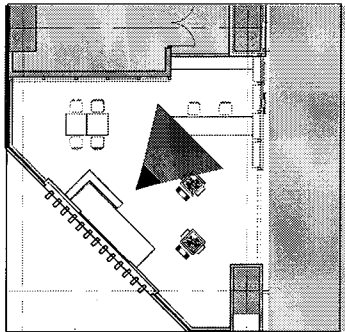
■ Experience Scenario

Time (min)	Disaster Planner		
	Operating	Job Experience	Media
15	<ol style="list-style-type: none"> 1. Explain the necessity of the preparation of disaster , NDWC which is warning system and Disaster Management Institute 2. Introduce the domestic and foreign disaster cases, explain the mission → Guide the debate about how to reinforce the disaster preparedness capacity 3. Explain experience contents and guide to which job the participants going to choose 4. Get each job's uniform and move to experience room 	<ol style="list-style-type: none"> 1. Orientation (15min) 1) Listen the explanation about the necessity of preparedness for disaster, the NDWC(National Disaster Warning Center) and Disaster countermeasure research field. 2) Mission!! "Prepare for the future disaster and cultivate the capacity that respond to the EMERGENCY situation " → Reference the disaster case images on the World map graphic wall, talk about How to deal with the big disaster as soon as possible. 3) Make a basic introduction of disaster management institute jobs(Climate Change Analyst, Disaster Planner, Emergency medical technician) and make a choice which job the participants going to choose → Choose what each participants want or randomly assign 4) Get each job's uniform and move to experience room 	Uniform/ Laptop/ Image graphic (World map)/ Graphic Sheet (Actual disaster case image)
45	<ol style="list-style-type: none"> 1. Move to Disaster Planner experience room, make a buddy system 2. Introduce how to analyze the data which is related to flood, and Check the estimated damage area through the map graphic 3. Through the simulation map model, guide the participants make a various evacuation route 3. Guide how to fill the evacuation manual 	<p>⇒ Move to Disaster Planner Corner → Through the simulating various evacuation route, make the best evacuation manual.</p> <ol style="list-style-type: none"> 1. Analyze the flood data, check the estimated damage area (10min) 1) Making buddy system and then receive the climate change data related to flood. 2) Compare and analyze annual climate change data, check the estimated damage area on the Thai map graphic with the teacher. 2. Minimize the flood damage Simulation (15min) 1) Make a block type drain on the checked estimated damage area. 2) Using the simulation map model(which can move up and down), Roll the ball from the start and make the best evacuation route to minimize the flood damage. 3. Fill the Disaster Response Manual (5min) : 1) Standard to the best efficient evacuation route, fill a evacuation route on the disaster response manual. (Expansion drainage, Ensure the evacuation route) 	Simulation map model (Moving Table) / Block SET (including balls) / Magnetic Board / Graphic Sheet(Thai topography) / Work paper(Disaster response manual)
60	<ol style="list-style-type: none"> 1. Guide the participant's experience comment presentation 2. Explain the disaster rescue equipment and direction 3. Guide the career and university information 4. Take a commemorate photo and give some notices. <p>※Arrangement the experience equipment and reset the system</p>	<ol style="list-style-type: none"> 1. Present Experience comment(5min) 1) Wrap-up the experience and make some presentation about how the participants overcome the disaster 2. Explain disaster relief tools and testing them (5min) 1) Display disaster relief tools ,explain how to use them and experience the equipment 3. Job Information & Commemorate photo (5min) 1) Take some information about jobs and university information which is related to disaster management field 2) Take a commemorate photo with colleague 	Disaster relief tools / Graphic panel + moving panel / Job Info-guide Paper/ Camera

05 Cluster1 Job Experience

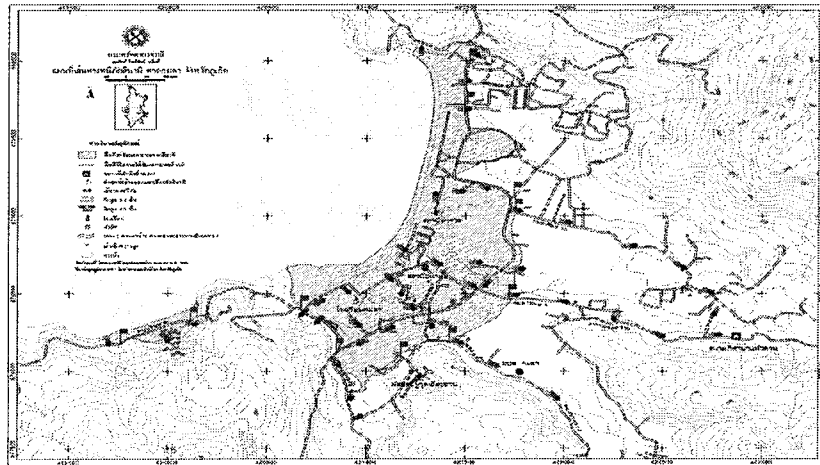
— Disaster Management Institute | Disaster Planner

> SPACE _ ELEVATION

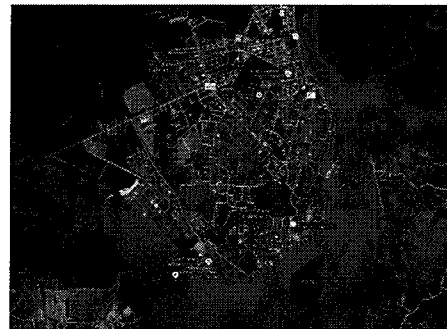
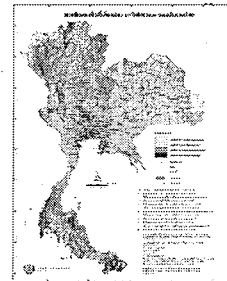


> SIGN _ Map graphic

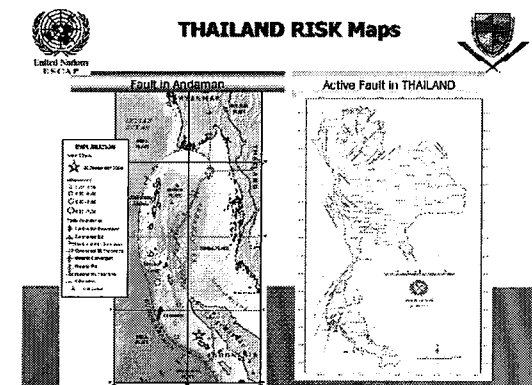
Floods / Tsunami Evacuation map-Phuket



Thai_MU BAN NONGNUT-->



--> Thailand Risk Map

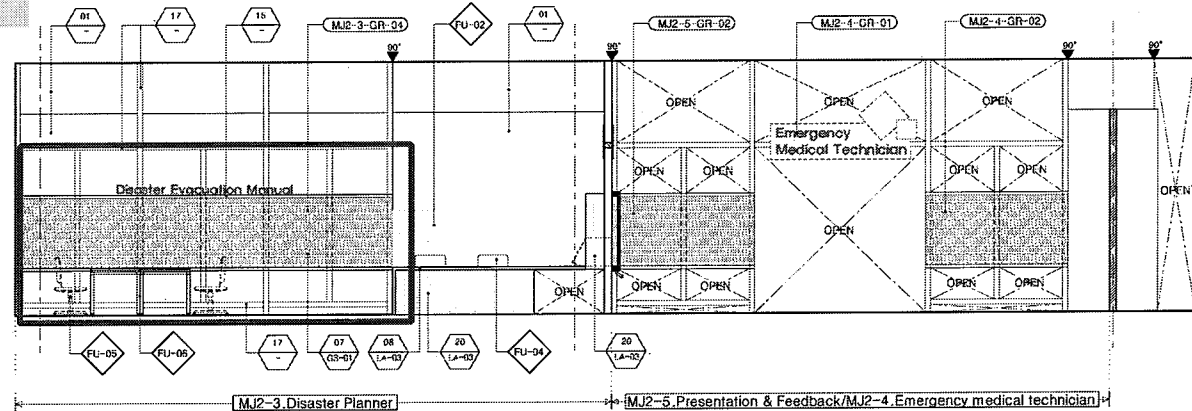
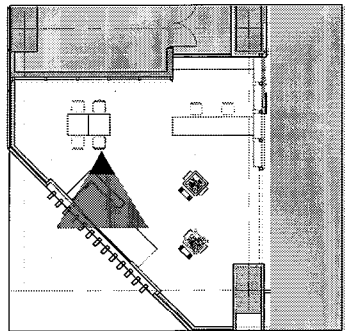


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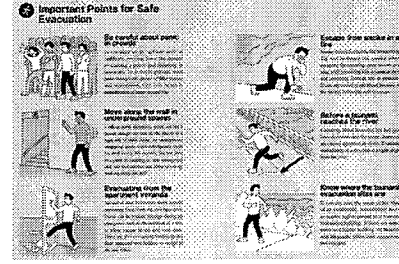
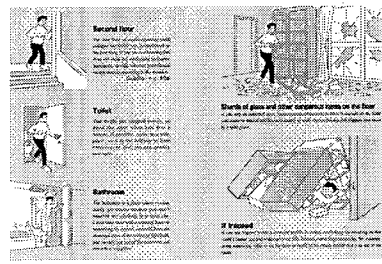
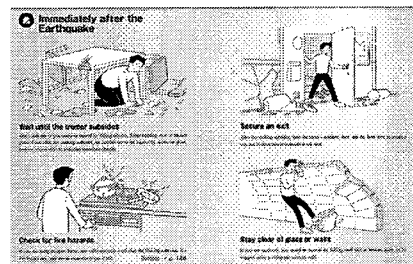
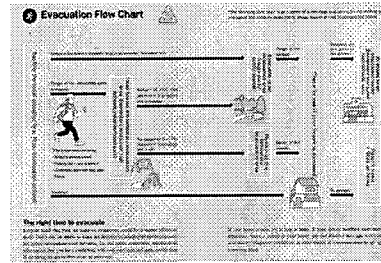
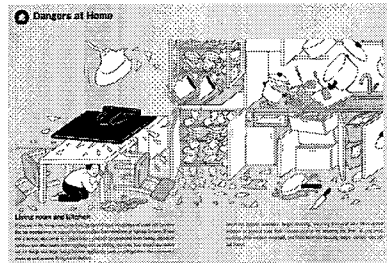
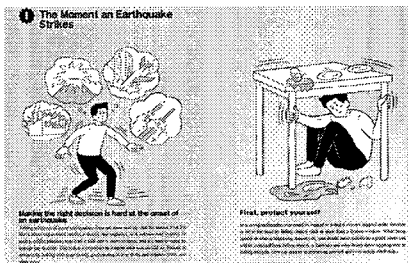
05 Cluster1 Job Experience

Disaster Management Institute | Disaster Planner

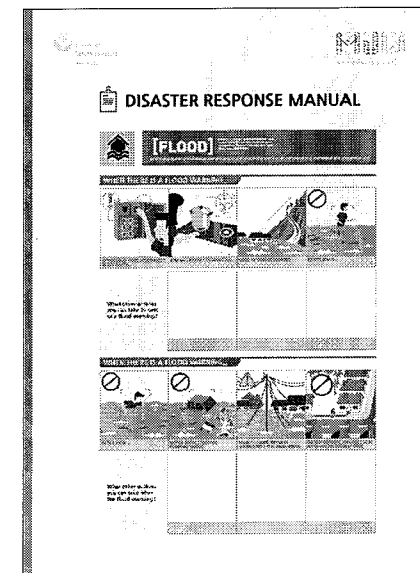
> SPACE_ELEVATION



> SIGN_Disaster Response Manual



> SIGN_Work Paper



※ The above contents are planned and can be changed during the design process

05 Cluster1 Job Experience

— Disaster Management Institute | Emergency Medical Technician

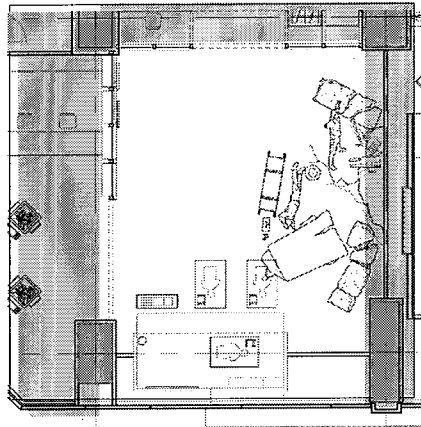
| Perspective



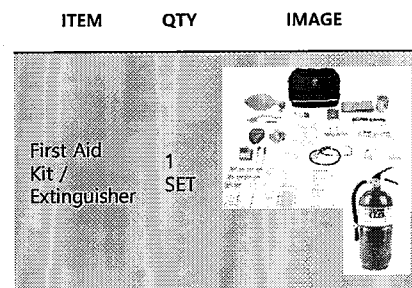
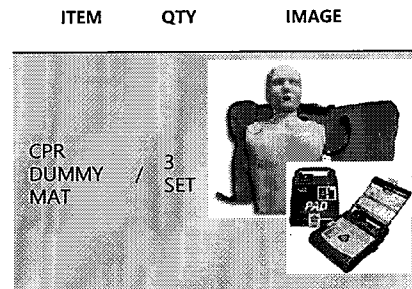
05 Cluster1 Job Experience

Disaster Management Institute | Emergency Medical Technician

| Partial Floor Plan



■ Main Item



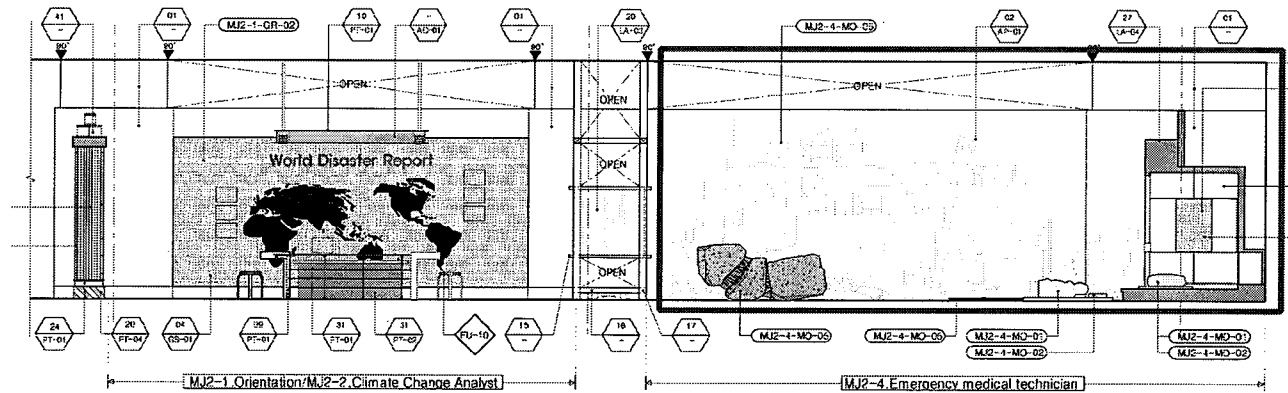
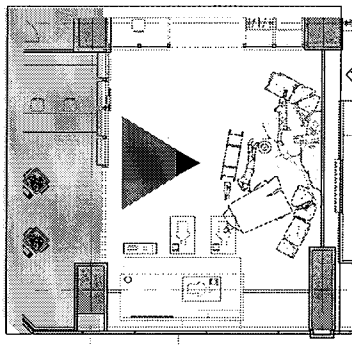
■ Experience Scenario

Emergency Medical Technician			
Time (min)	Operating	Job Experience	Media
15	<ol style="list-style-type: none"> 1. Explain the necessity of the preparation of disaster, NDWC which is warning system and Disaster Management Institute 2. Introduce the domestic and foreign disaster cases, explain the mission → Guide the debate about how to reinforce the disaster preparedness capacity 3. Explain experience contents and guide to which job the participants going to choose 4. Get each job's uniform and move to experience room 	<ol style="list-style-type: none"> 1. Orientation (15min) <ol style="list-style-type: none"> 1) Listen the explanation about the necessity of preparedness for disaster, the NDWC(National Disaster Warning Center) and Disaster countermeasure research field. 2) Mission!! "Prepare for the future disaster and cultivate the capacity that respond to the EMERGENCY situation" → Reference the disaster case images on the World map graphic wall, talk about How to deal with the big disaster as soon as possible. 3) Make a basic introduction of disaster management institute jobs(Climate Change Analyst, Disaster Planner, Emergency medical technician) and make a choice which job the participants going to choose → Choose what each participants want or randomly assign 4) Get each job's uniform and move to experience room 	Uniform/ Laptop/ Image graphic (World map)/ Graphic Sheet (Actual disaster case image)
45	<ol style="list-style-type: none"> 1. Move to Emergency Medical Technician experience corner, make a buddy system 2. Educate the emergency situation and basic First aid method 3. Testing Ambulance equipment 4. Present First Aid at the Emergency situation and guide the experience 5. Guide the experience through CPR DUMMY 	<p>→ Move to Emergency Medical Technician corner → Reenact the fire accident scene, practice the evacuation and first aid kit at the actual disaster situation.</p> <ol style="list-style-type: none"> 1. Lectures on how to response the disaster (10min) <ol style="list-style-type: none"> 1) Make a buddy system and take a class about the EMERGENCY situation and first aid method 2) Ambulance(model): Introduce the built in equipment and its manual -Stretcher, Oxygen brakes, Oxygen respirator, Neck strap, First Aid kit and so on 2. Practice first aid at the accident scene (20min) <ol style="list-style-type: none"> 1) Take a class about the First aid manual and equipment usage using DUMMY at the fire scene 2) Targeting CPR DUMMY, practice the CPR process ▶ Obstruction Airway -CPR(chest compression) :Check the patient's condition, practice the CPR according to the process [Check the victim for unresponsiveness→Sustain Airway→Check breath→Ventilations→Check the cardiac arrest→Find the cardiac compression location→cardiac compression→check again] ▶ Treating Injury-Fracture(Ankle) :Check the injury and trying to deal with. [Take off the shoe→Place a cloth on the injured sole, uphold the splint and fix it.] 	/Cardiac defibrillator CPR DUMMY/ First Aid Kit / Fire extinguisher / Reenact Fire Scene Graphic Sheet(CPR direction)/ Graphic Sheet(Summary, introduction and direction of First Aid Kit) / Graphic Scasi (Ambulance)
60	<ol style="list-style-type: none"> 1. Guide the participant's experience comment presentation 2. Explain the disaster rescue equipment and direction 3. Guide the career and university information 4. Take a commemorate photo and give some notices. <p>※Arrangement the experience equipment and reset the system</p>	<ol style="list-style-type: none"> 1. Present Experience comment(5min) <ol style="list-style-type: none"> 1)Wrap-up the experience and make some presentation about how the participants overcome the disaster 2. Explain disaster relief tools and testing them (5min) <ol style="list-style-type: none"> 1) Display disaster relief tools, explain how to use them and experience the equipment 3. Job Information & Commemorate photo (5min) <ol style="list-style-type: none"> 1)Take some information about jobs and university information which is related to disaster management field 2) Take a commemorate photo with colleague 	Disaster relief tools / Graphic panel + moving panel / Job Info-guide Paper/ Camera

05 Cluster1 Job Experience

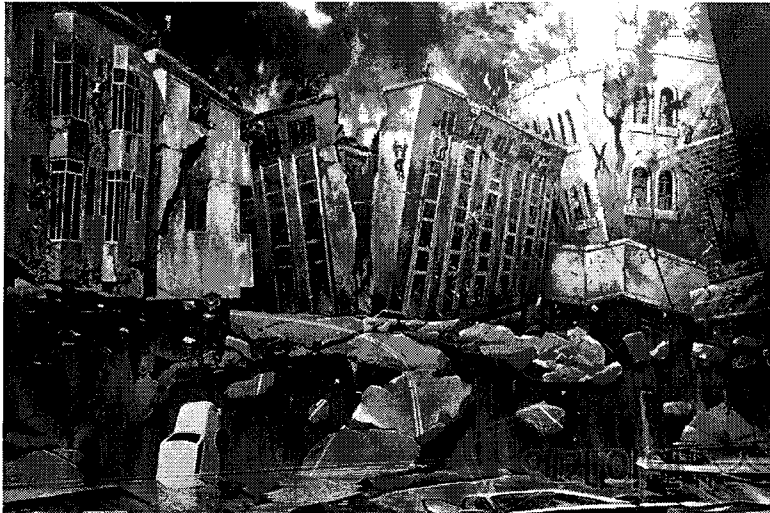
— Disaster Management Institute | Emergency Medical Technician

> SPACE_ELEVATION



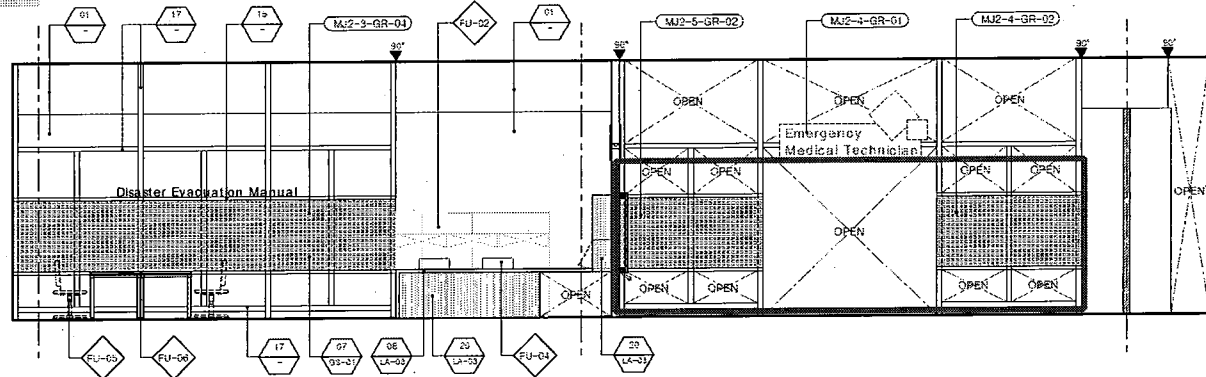
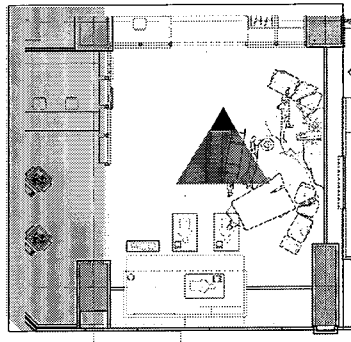
> MODEL_3D PAINTING

→ Reenact the fire scene using 3D painting ,stretcher, first aid kit, Concrete fractures



※ The above contents are planned and can be changed during the design process

> SPACE_ELEVATION



> SIGN_CPR Manual

CPR is as easy as
C - A - B



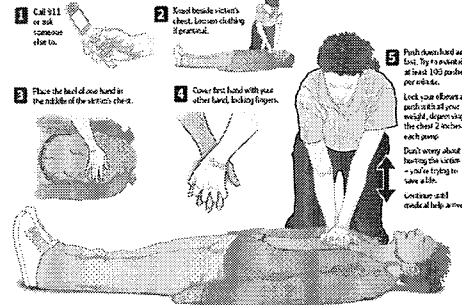
Compressions
Push hard and fast
on the center of
the victim's chest

Airway
Tilt the victim's head
back and lift the chin
to open the airway

Breathing
Give mouth-to-mouth
rescue breathe

Hands-only CPR

The latest research shows that chest compressions alone are the most effective way for an untrained bystander to save a life after an adult collapses from cardiac arrest. The technique shown here should not be performed on infants, children, drowning victims, or at times involving a drug overdose. Call 911, what to do.



SOURCE: American Heart Association

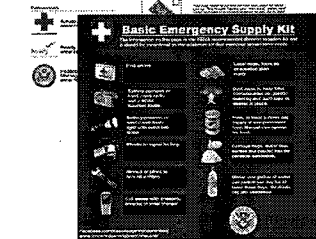
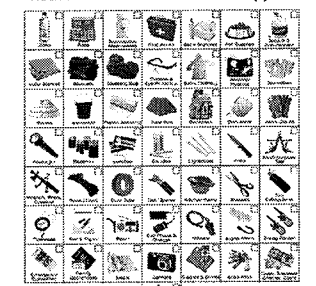
DATE: 10/10/10

> SIGN_Emergency Kit

<EMERGENCY DISASTER KIT>



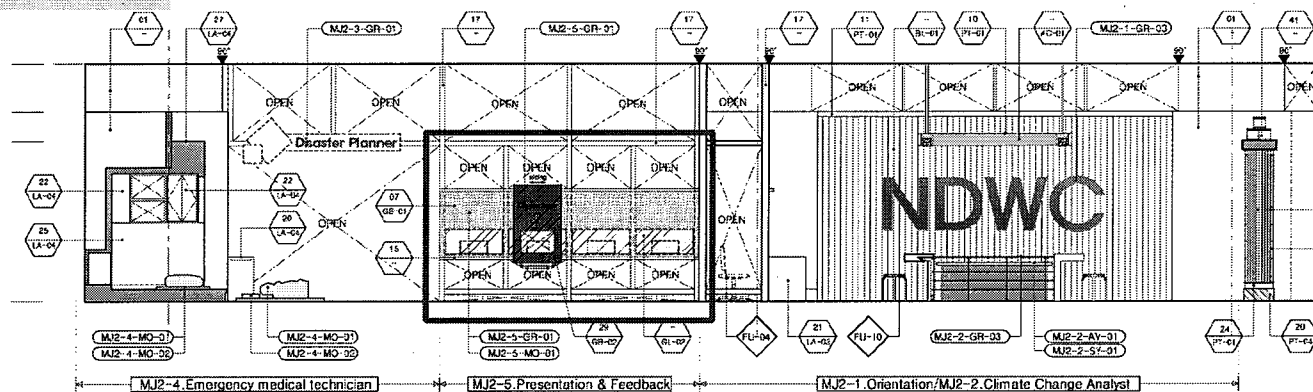
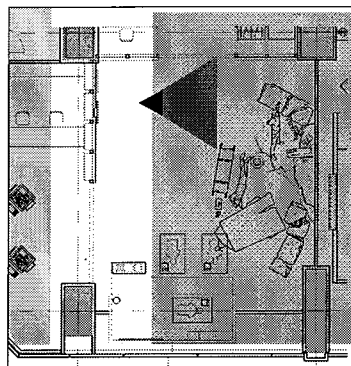
+ Emergency Kit Visual Checklist for Disaster Supplies



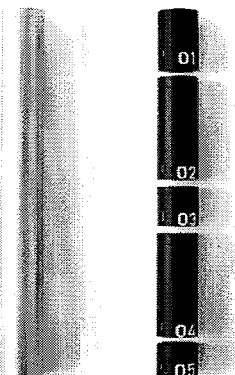
※ The above contents are planned and can be changed during the design process

— Disaster Management Institute | Presentation And Feedback

> SPACE ELEVATION



> MODEL/SIGN_ Disaster Rescue Equipment



<MINIM+AID>



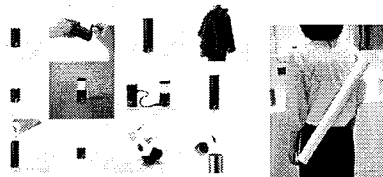
< Thermal camera>

Classify	Summary
Mass	1.7kg below
Heat resistance	300°F(260°C) / 8min
Waterproof	IP67
Resolution	320X240(76,800) more than



<Navigation equipment>

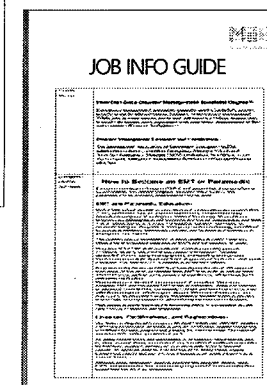
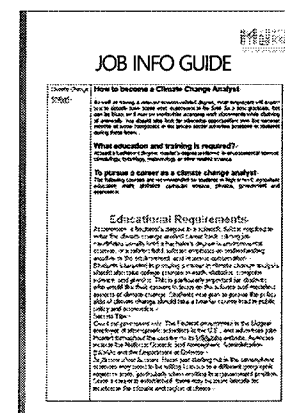
Classify	Summary
Length/ weight	maximum 250cm / 3.5kg below
Camera diameter	38mm below
Camera renses	¼" Color CCD Sensor



<Firefighting Robots>

Classify	Summary
Total Size (L x W x H)	900 x 650 x 370mm
Total Weight	40kgf
Payload	20 kgf
Max Velocity	8 km/h
Gradability	35°
Traction Motor	DC Motor
Operating time	1 hr

> SIGN_ Job info guide Paper

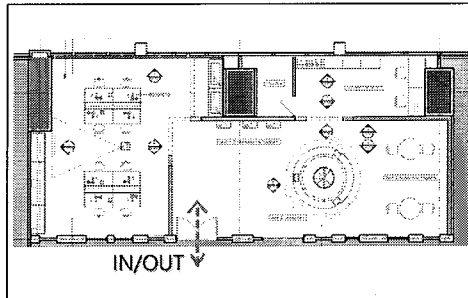


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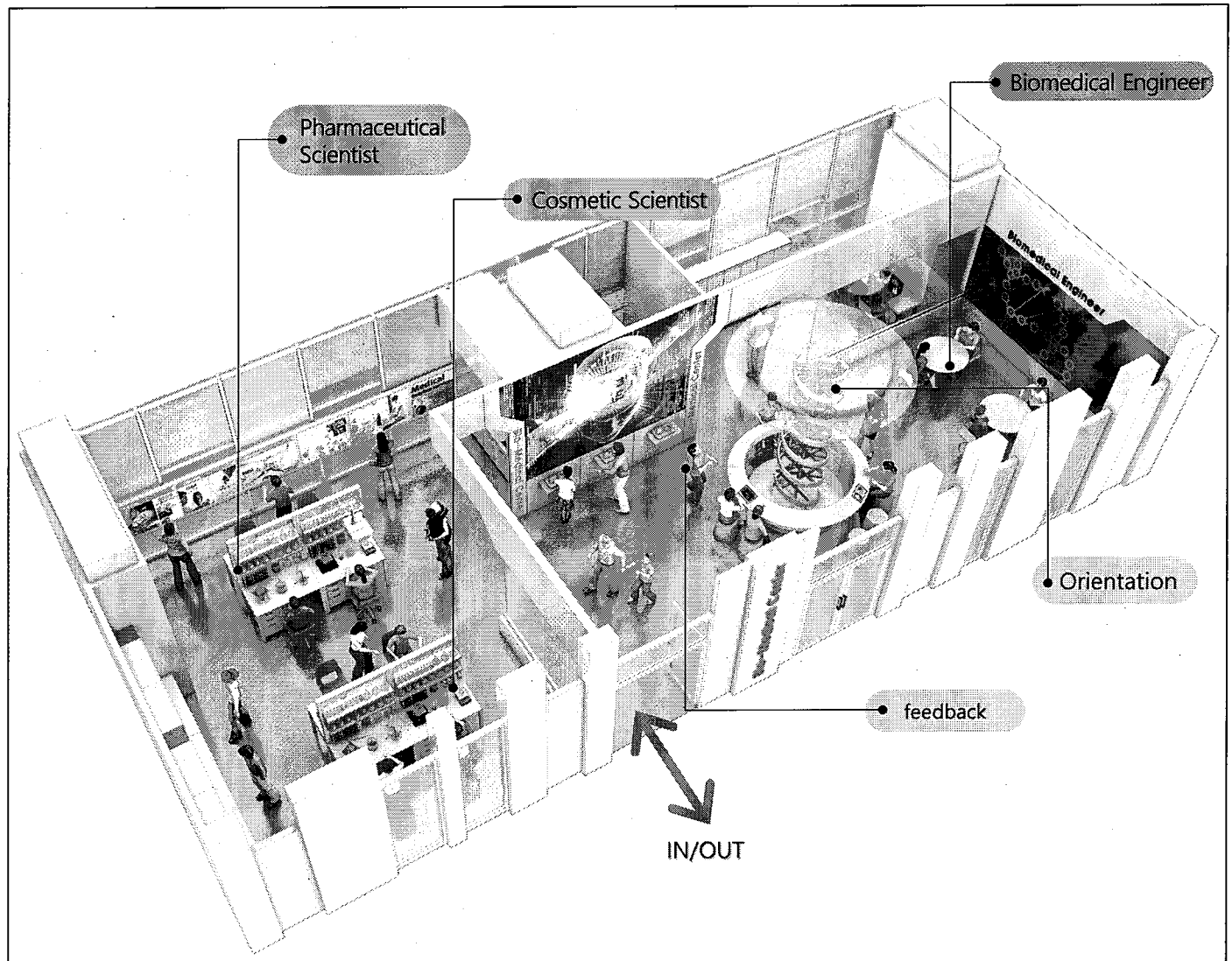
06 Cluster1 Job Experience

Bio-Medical Center

Floor Plan



Isometric



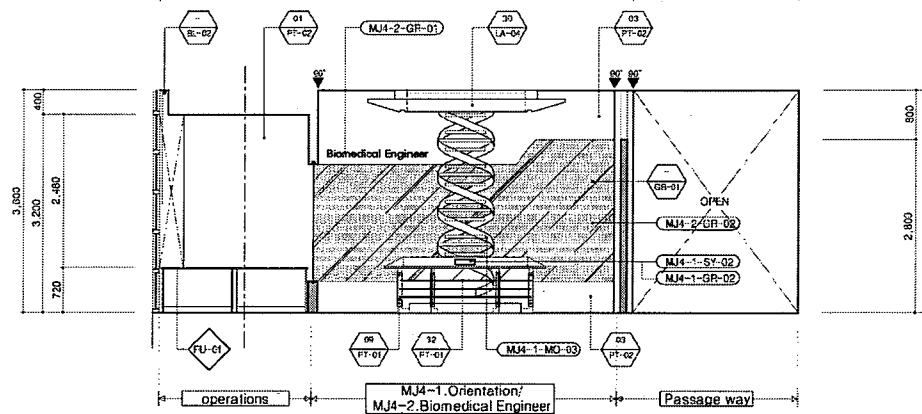
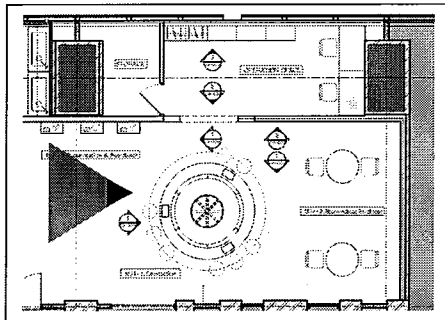
Action Summary

Mission	Suggest customized Beauty & Health solution through analyzing personal DNA	
	Time	60min
Operation Plan	Participants	12p
	Staff	3p
	Area	131.57m ²
Main Actioning	Biomedical Engineer	Suggest customized Health & Beauty Life plan
	Pharmaceutical Scientist	Prescribe customized secondary drugs and titration experiment
	Cosmetic Scientist	Make customized natural oil cosmetics

06 Cluster1 Job Experience

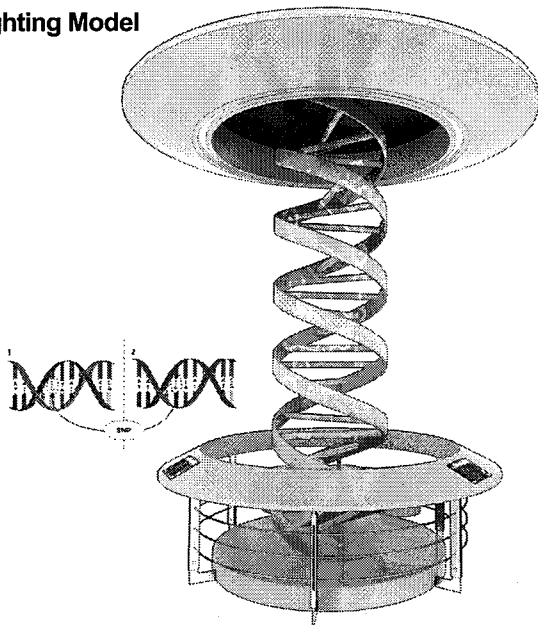
— Bio-Medical Center | Orientation

> SPACE _ ELEVATION



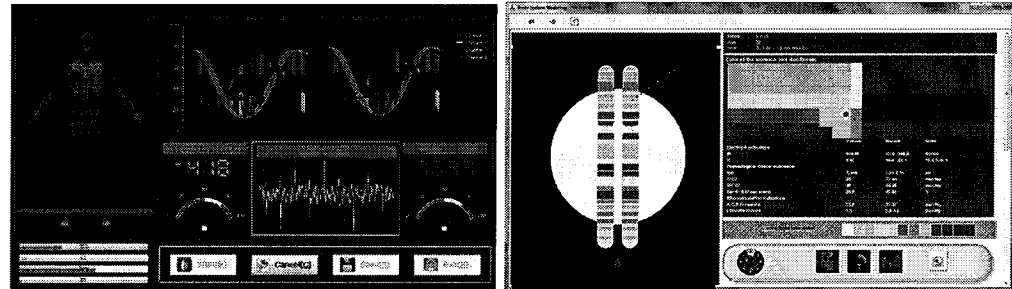
> Model DNA Structure Model

DNA_Lighting Model

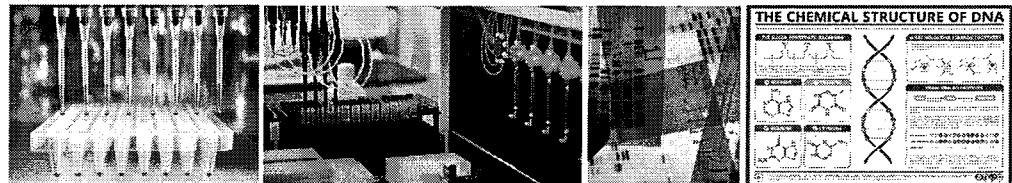


> Sign_DNA Analysis Data

DNA Analysis Data Image



DNA Analysis Image

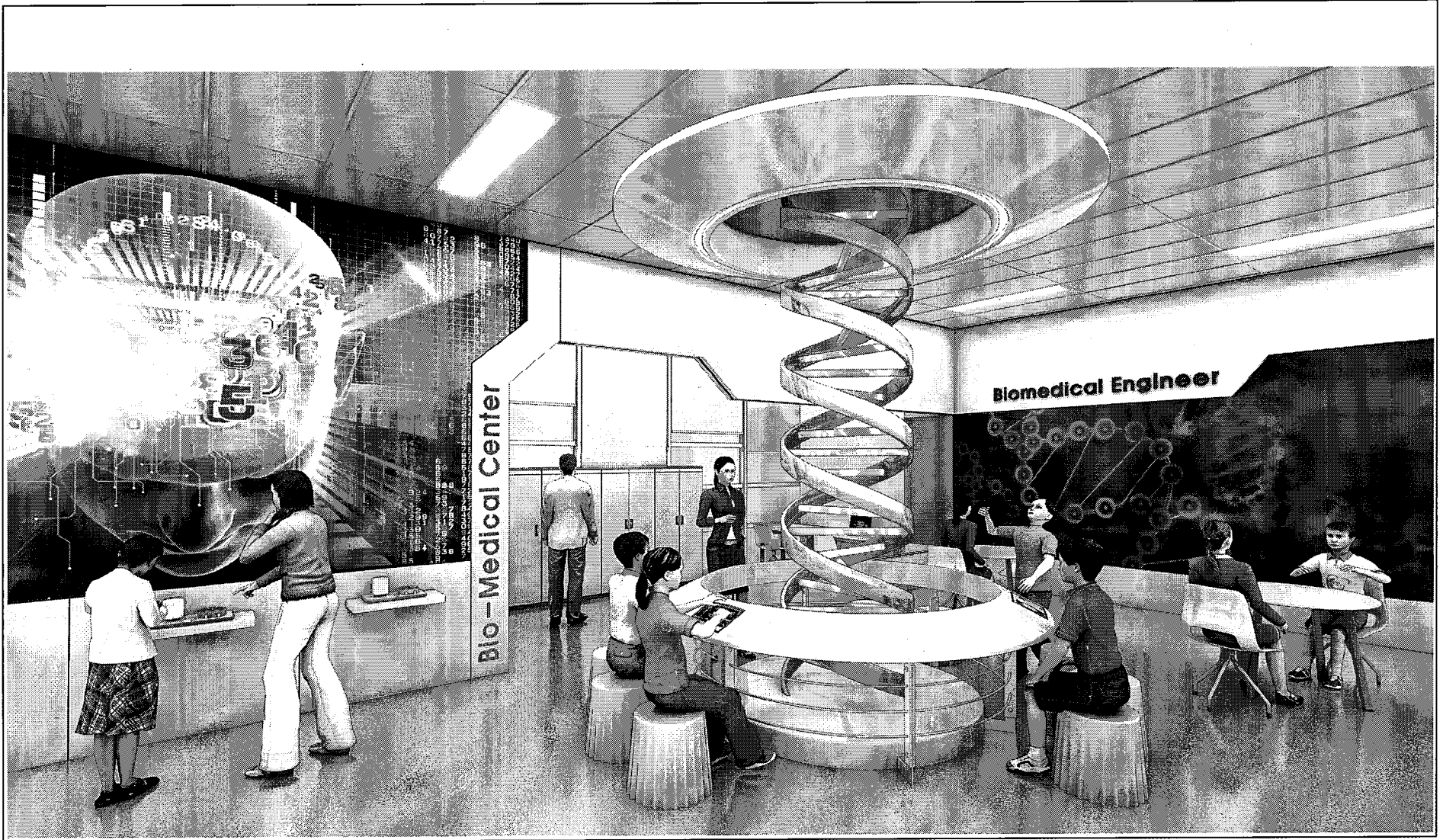


DNA Analysis Process

06 Cluster1 Job Experience

— Bio-Medical Center | Biomedical Engineer

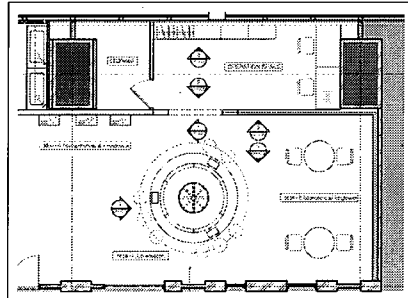
| Perspective



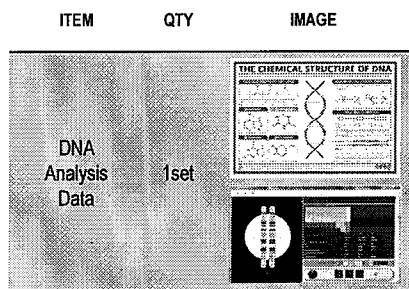
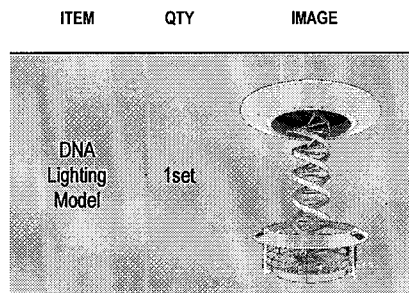
06 Cluster1 Job Experience

Bio-Medical Center | Biomedical Engineer

Partial Floor Plan



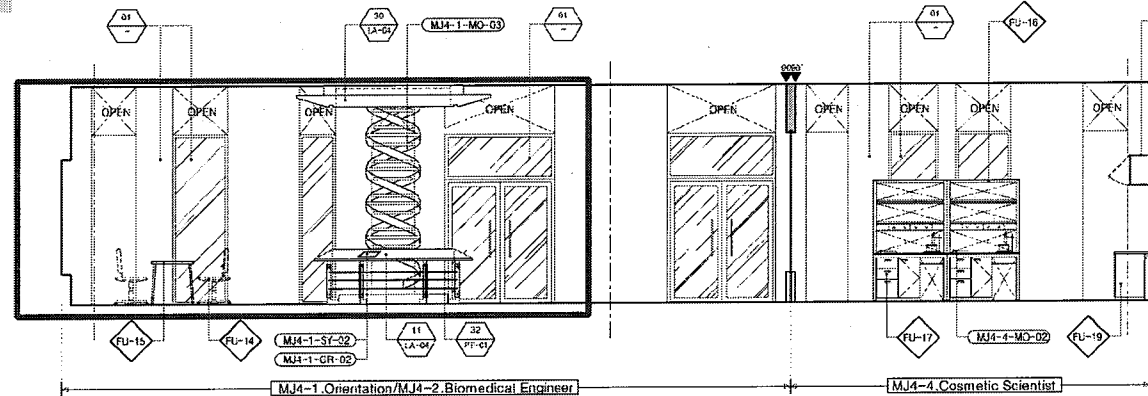
Main Item







Experience Scenario

Time (min)	Biomedical Engineer		
	Operating	Job Experience	Media
15	<ol style="list-style-type: none"> 1. Explain biomedical research field which is research about human's health and beauty. 2. Explain Mr.Kwang(virtual client)'s request and DNA analysis result. 3. Explain experience contents and jobs, and guide to which job the participants going to choose 4. Hand out each job's uniform and make the participants move to experience room 	<ol style="list-style-type: none"> 1. Orientation (15min) <ol style="list-style-type: none"> 1) Listen the description about DNA analyzing service and various biomedical research field which can predict and prevent one's various potential disease through analyzing DNA, finding out each person's food, medicine reaction and genetic characteristic 2) Mission!! "Suggest Customized Health & Beauty Service through analyzing DNA" <ul style="list-style-type: none"> → With the DNA Structure Model and Monitor's analyzed DNA data, Listen the description about Mr.Kwang(virtual Client)'s analyzed DNA data result. 3) Listen the description about Basic Information and Bio Medical center's jobs(Biomedical Engineer, Pharmaceutical Scientist, Cosmetic Scientist) and make a choice which job the participants going to choose. → Choose what each participants want or randomly assign 4) Get each job's uniform(Lab coat) and move to experience room 	Uniform/ Laptop/ Image Graphic(DNA)/ DNA Lighting Model/ Monitor/ DNA analysis data image(Summary Report)/
45	<ol style="list-style-type: none"> 1. Move to Biomedical Engineer experience room, make a buddy system 2. Explain experience contents 3. Deliver Mr.Kwang's DNA Report to experience team. → check Internal/External physical itemized content and then guide how to analyze personal genetic characteristics. 4. Guide to suggest customized solution(exercise & diet) according to analyzed data each team. 5. Based on Mr.Kwang's analyzed DNA data, guide how to make customized life plan. 	<ol style="list-style-type: none"> → Move to Biomedical Engineer corner → Through personal DNA analyzing, analyze genetic characteristics which can affect to health and beauty and suggest customized solution 1. Analyze personal DNA data, suggest customized solution (20min) <ol style="list-style-type: none"> 1) Delivered Mr.Kwang(virtual client)'s DNA Analysis Report as a buddy system 2) Checking Internal/External itemized Content, analyze personal genetic characteristics. → Analyze Internal item [body mass index/neutral fat/cholesterol/blood sugar/blood pressure/caffeine metabolism] and genetic weakness → Analyze External item [skin aging/skin elasticity/pigmentation/hair loss/Thick hair/Concentration of Vitamin C] and genetic weakness 3) Suggest customized solution as to personal genetic characteristics → As to analyzing genotype, suggest healthcare way and improving lifestyle method. (genotype custom exercise & diet) 2. Fill the Bio(Life)-Plan Report (10min) : Fill the Bio(Life)-plan report as to Mr.Kwang(virtual client)'s Genotype 	DNA analysis detailed report/ Sample Paper/ Life Plan Report Work Paper
60	<ol style="list-style-type: none"> 1. Guide the participant's experience comment presentation 2. Introducing Smart health care product, guide the test and participant's experience 3. Explain Biomedical technique's direction and future. 4. Guide the career and university information 5. Take a commemorate photo and give some notices ※Arrangement the experience equipment and reset the system 	<ol style="list-style-type: none"> 1. Experience Smart Health Care & Feedback (10min) <ol style="list-style-type: none"> 1) Wrap-up the experience, gather to feedback corner and make some presentation about the experience 2) Experience Smart health care product: Take a description about Health care product, and as long as applicants, try it on 3) Talk about Bio&Nano Technology's future. 2. Job Information & Commemorate photo (5min) <ol style="list-style-type: none"> 1) Take some information about jobs and university information which is related to biomedical technology 2) Take a commemorate photo with colleague 	Smart healthcare Camera Image Graphic Explanation pannel Job Info-guide Paper

Bio-Medical Center | Biomedical Engineer


[illegible]

↓ Internal/ External itemized contents report

 <p>자질량저수(BM4) 상대 체질량 측정 체질량 저수(75%) 이상을 측정하는 원리 (대체 무게)</p>		 <p>중성지방 중성지방은 혈액 속에 녹아 있는 지방산 중성지방 농도(25%) 이상을 측정하는 원리 (대체 무게)</p>	
 <p>혈액스테롤 혈액에 포함된 콜레스테롤과 지방산의 총량 측정 (혈액스테롤에 대한 혈당과 체질량에 대한 상관관계) 1.00%</p>		 <p>혈당 혈당 농도 측정 (혈당에 대한 혈당과 체질량에 대한 상관관계) 1.14%</p>	
 <p>혈압 혈압 측정 (혈압에 대한 혈당과 체질량에 대한 상관관계) 0.20%</p>		 <p>키레인지대사 키레인지대사 측정 (키레인지대사에 대한 혈당과 체질량에 대한 상관관계) 1.00%</p>	
 <p>피부 두께 피부 두께 측정 (피부 두께에 대한 혈당과 체질량에 대한 상관관계) 0.00%</p>		 <p>피부 탄력 피부 탄력 측정 (피부 탄력에 대한 혈당과 체질량에 대한 상관관계) 0.00%</p>	
 <p>복소 측정 복소 측정 (복소 측정에 대한 혈당과 체질량에 대한 상관관계) 0.00%</p>		 <p>탈모 탈모 측정 (탈모 측정에 대한 혈당과 체질량에 대한 상관관계) 0.20%</p>	
 <p>모발 굵기 모발 굵기 측정 (모발 굵기에 대한 혈당과 체질량에 대한 상관관계) 0.20%</p>		 <p>비타민 C 대사 비타민 C 대사 측정 (비타민 C 대사에 대한 혈당과 체질량에 대한 상관관계) 1.00%</p>	


[illegible]

세계의 달력




세계의 달력은 1년 12월 12달을 각각 나타내는 달력이다. 12월 12달을 각각 나타내는 달력이다.

여성의 복장




한복, 저고리, 바지

세계의 달력



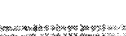
세계의 달력은 1년 12월 12달을 각각 나타내는 달력이다. 12월 12달을 각각 나타내는 달력이다.

세계의 달력




세계의 달력은 1년 12월 12달을 각각 나타내는 달력이다. 12월 12달을 각각 나타내는 달력이다.

여성의 복장




한복, 저고리, 바지


세계의 달력



세계의 달력은 1년 12월 12달을 각각 나타내는 달력이다. 12월 12달을 각각 나타내는 달력이다.


Bio(Life)-Plan Report









PERSONALIZED BIO PLAN

HEALTH STATUS





HEALTH ANALYSIS


HEAD-SCANS:








HEAD-SCANS MEASUREMENTS:


 Density


 Volume


 Mass


 Weight


 Mass

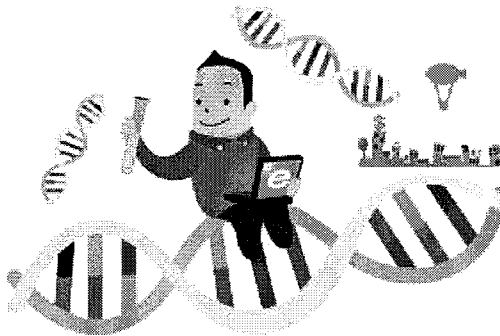
AGE	KEY POINT	LIFE PLAN
45		
50		
60		
70		
80		

※ The above contents are planned and can be changed during the design process

> CONTENTS

Biomedical Engineer**The path to Biomedical Engineer**

Biomedical engineering which is also referred to as medical engineering or medical engineering, bioengineering, medical engineering and others is called BME in short. According to CNN in 2013, it is the best job in America out of the jobs surveyed based on various indexes related to jobs such as materials from Bureau of Labor Statistics.



In 2026, the population aged 65 and above exceeded 10 million. Copious life leads to an increase in demand for quality of life, longer lifespan and health management. The performance of medical technology including artificial organs, organ transplant, emotion adjusting devices and others will open new doors to disease treatment.

Biomedical engineering which is also referred to as medical engineering or medical engineering, bioengineering, medical engineering and others is called BME in short. According to CNN in 2013, it is the best job in America out of the jobs surveyed based on various indexes related to jobs such as materials from Bureau of Labor Statistics.

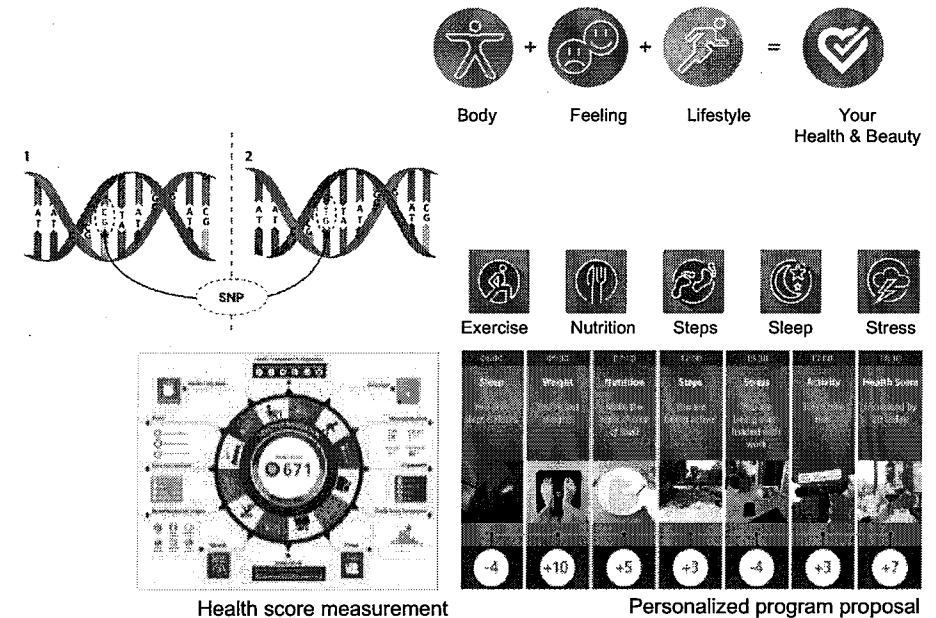
Biomedical engineer has ranked first for 2 consecutive years after receiving the best grade 'A' in job satisfaction, social benefits and work stress and due to the investment and interest on medical and health welfare in Korea, it is one of the academic areas that is quickly receiving investment and interest.

After graduation, multiple majors can be taken in medical universities and graduates can get employed in domestic and foreign medical device companies, pharmaceutical companies, general hospitals and other medical engineering fields.

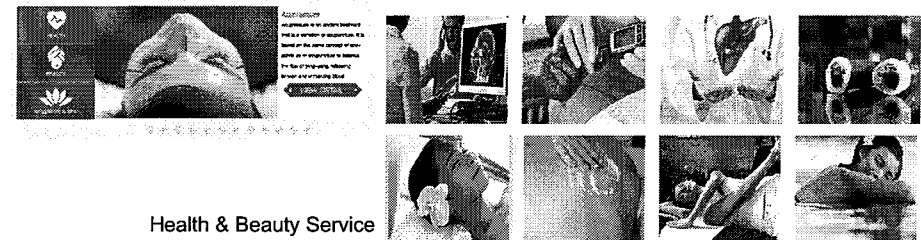
According to 'CNN's Top 100 Job Announcement', the best job in America was 'biomedical engineer' followed by professional nurse in the second place. It is notable that biomedical engineering, which is a technician in the field of biomedical engineering has been ranked first as the best job in America.

Applicants need to have a lot of knowledge related to basic science such as physics, biology, electronic engineering, information science and others. Currently, there are many great jobs available in Netherlands, Italy, USA, Asia and so on where the medical device market is rapidly increasing so if the applicant is able to go to frequent business trips overseas, it will be an advantage.

Experience personalized consulting (bio plan and medical equipment) based on health score data measured using DNA analysis data



→ Medical Service →



※ The above contents are planned and can be changed during the design process

06 Cluster1 Job Experience

— Bio-Medical Center | Pharmaceutical Scientist / Cosmetic Scientist

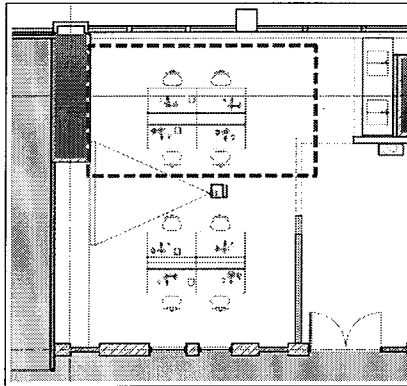
| Perspective



06 Cluster1 Job Experience

Bio-Medical Center | Pharmaceutical Scientist

Partial Floor Plan



Main Item

ITEM	QTY	IMAGE
Medicine Making Kit SET	2SET	

ITEM	QTY	IMAGE
Experiment Equipment	2SET	

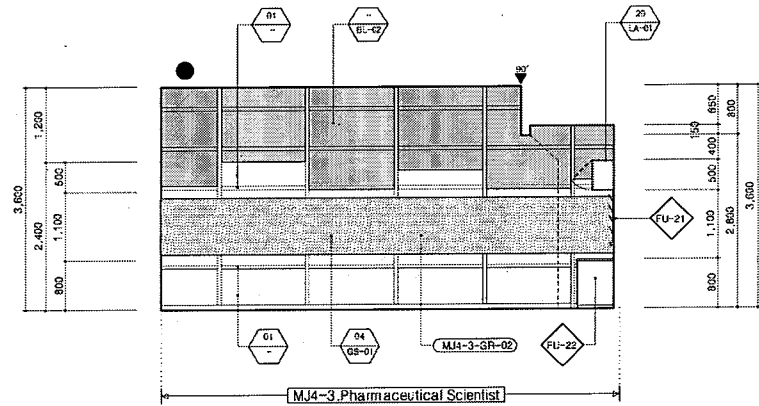
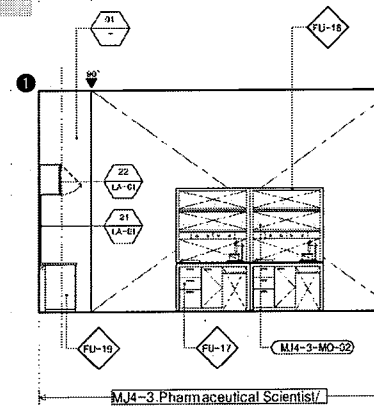
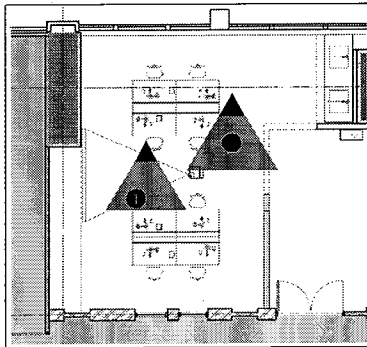
Experience Scenario

Time (min)	Pharmaceutical Scientist		
	Operating	Job Experience	Media
15	<ol style="list-style-type: none"> 1. Explain biomedical research field which is research about human's health and beauty. 2. Explain Mr.Kwang(virtual client)'s request and DNA analysis result. 3. Explain experience contents and jobs, and guide to which job the participants going to choose 4. Hand out each job's uniform and make the participants move to experience room 	<ol style="list-style-type: none"> 1. Orientation (15min) <ol style="list-style-type: none"> 1) Listen the description about DNA analyzing service and various biomedical research field which can predict and prevent one's various potential disease through analyzing DNA, finding out each person's food, medicine reaction and genetic characteristic 2) Mission!! "Suggest Customized Health & Beauty Service through analyzing DNA" → With the DNA Structure Model and Monitor's analyzed DNA data, Listen the description about Mr.Kwang(virtual Client)'s analyzed DNA data result. 3) Listen the description about Basic Information and Bio Medical center's jobs(Biomedical Engineer, Pharmaceutical Scientist, Cosmetic Scientist) and make a choice which job the participants going to choose. → Choose what each participants want or randomly assign 4) Get each job's uniform(Lab coat) and move to experience room 	Uniform/ Laptop/ Image Graphic(DNA)/ DNA Lighting Model/ Monitor/ DNA analysis data image(Summary Report)/
45	<ol style="list-style-type: none"> 1. Move to Pharmaceutical Scientist corner, make a buddy system. 2. Explain experiment equipment direction and guide safety rules 3. DNA analysis data Check & explain experiment contents → Guide to check internal DNA items of DNA analysis summary report → Titration experiment using iodine and vitamin C for prescribe secondary medicine. [Titration experiment – chemical experiment for checking what materials in it] 4. Guide Medical Service contents 	<p>→ Move to Pharmaceutical Scientist corner → Considering internal genetic characteristic, healthcare through prescribing secondary medicine and maximizing drug's effect.</p> <ol style="list-style-type: none"> 1. According to analyzed DNA data, prescribe customized medicine considering internal genetic characteristics(25min) <ol style="list-style-type: none"> 1) Making a buddy system, check experiment equipment and materials. 2) Take a class about experiment process and safety rules 3) Check Mr.Kwang(virtual client)'s internal genetic characteristics for improving healthcare of DNA analysis data 4) chemistry experiment(Iodimetric Titration: Vitamin C Titration) for prescribing secondary medicine(vitamin C) <ol style="list-style-type: none"> ① Dissolute starch to water. 1000ml/12spoon ② Put iodine to starch water ③ Pour some beverage(which contain vitamin C- Commercially available) to beaker per 20ml each, and label them ④ Drop the starch-iodine solution to each beaker by burette ⑤ Drop the solution until the beverage's color going to change like starch-iodine solution, record each beverage's change point and compare them, ⑥ Check each beverage's vitamin C content and prescribe most suitable beverage. 2. Recommend customized Medical & Health Service (5min) <ol style="list-style-type: none"> 1) Recommend Medical Service like Bumrungrad International Hospital/ Health Care Medical Clinic(HCMC) at Chiang-mai / Cre resort Chiang-mai and so on 	Medicine making KIT / Experiment equipment SET Image Graphic (Medical Service Center Image)
60	<ol style="list-style-type: none"> 1. Guide the participant's experience comment presentation 2. Introducing Smart health care product, guide the test and participant's experience 3. Explain Biomedical technique's direction and future. 4. Guide the career and university information 5. Take a commemorate photo and give some notices ※Arrangement the experience equipment and reset the system 	<ol style="list-style-type: none"> 1. Experience Smart Health Care & Feedback (10min) <ol style="list-style-type: none"> 1) Wrap-up the experience, gather to feedback corner and make some presentation about the experience 2) Experience Smart health care product: Take a description about Health care product, and as long as applicants, try it on 3) Talk about Bio&Nano Technology's future. 2. Job Information & Commemorate photo (5min) <ol style="list-style-type: none"> 1) Take some information about jobs and university information which is related to biomedical technology 2) Take a commemorate photo with colleague 	Smart healthcare Camera Image Graphic Explanation pannel Job Info-guide Paper

06 Cluster1 Job Experience

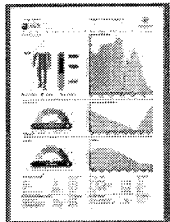
Bio-Medical Center | Pharmaceutical Scientist

> SPACE ELEVATION

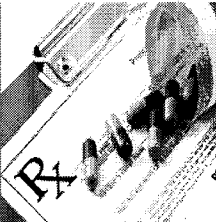


> Model Iodimetric Titration Experiment Kit

Iodimetric Titration : Vitamin C



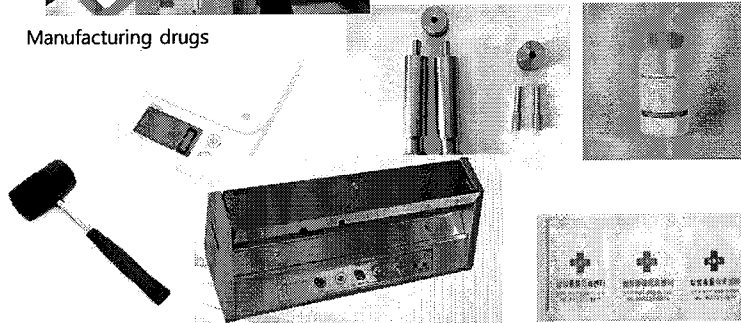
Health score and prescription



Manufacturing drugs

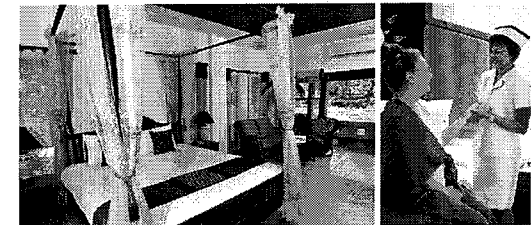


[Titration experiment
– chemical experiment for checking what materials in it]



Experimental tools

Recommend Medical & Health Care Service



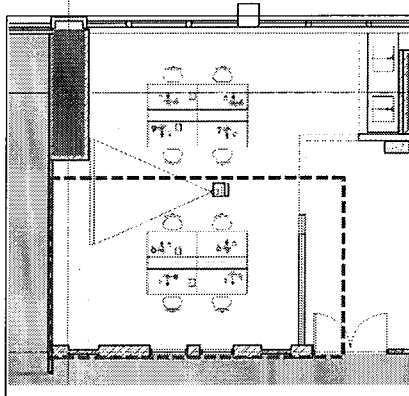
<Chiang Mai Healthcare Center>
<http://www.healthcaremedicalclinic.com/> Reference

※ The above contents are planned and can be changed during the design process

06 Cluster1 Job Experience

Bio-Medical Center | Cosmetic Scientist

Partial Floor Plan



Main Item

ITME	QTY	IMAGE
Cosmetic Making Kit	2SET	

ITEM	QTY	IMAGE
Experiment Equipment	2SET	

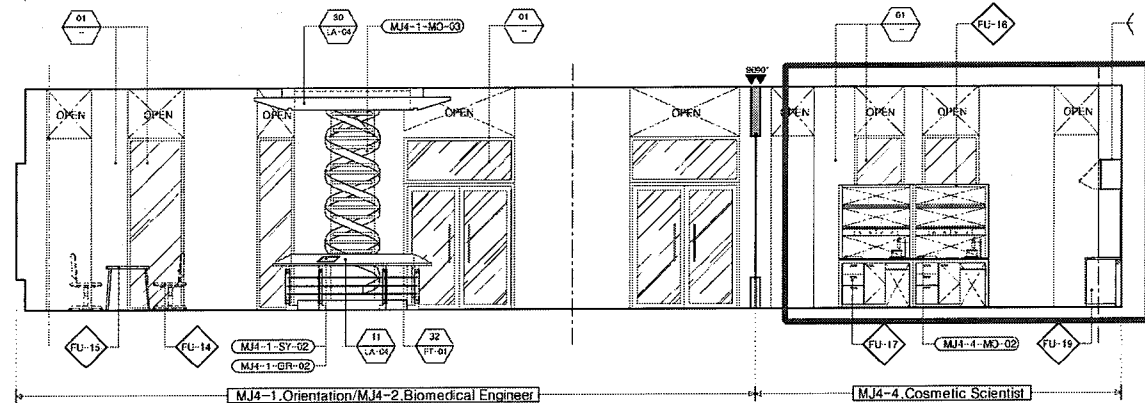
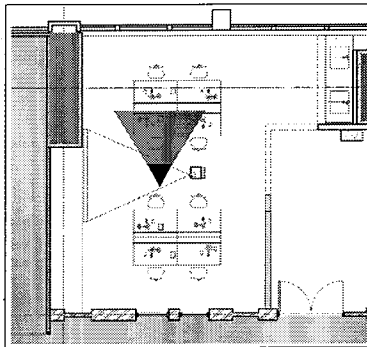
Experience Scenario

Time (min)	Operating	Cosmetic Scientist	Media
15	<ol style="list-style-type: none"> 1. Explain biomedical research field which is research about human's health and beauty. 2. Explain Mr.Kwang(virtual client)'s request and DNA analysis result. 3. Explain experience contents and jobs, and guide to which job the participants going to choose 4. Hand out each job's uniform and make the participants move to experience room 	1. Orientation (15min) 1) Listen the description about DNA analyzing service and various biomedical research field which can predict and prevent one's various potential disease through analyzing DNA, finding out each person's food, medicine reaction and genetic characteristic 2) Mission!! "Suggest Customized Health & Beauty Service through analyzing DNA" →With the DNA Structure Model and Monitor's analyzed DNA data, Listen the description about Mr.Kwang(virtual Client)'s analyzed DNA data result. 3) Listen the description about Basic Information and Bio Medical center's jobs(Biomedical Engineer, Pharmaceutical Scientist, Cosmetic Scientist) and make a choice which job the participants going to choose. → Choose what each participants want or randomly assign 4) Get each job's uniform(Lab coat) and move to experience room	Uniform/ Laptop/ Image Graphic(DNA)/ DNA Lighting Model/ Monitor/ DNA analysis data image(Summary Report)/
45	<ol style="list-style-type: none"> 1. Move to Cosmetic Scientist experience corner and make a buddy system 2. Explain experiment equipment direction and guide safety rules 3. DNA analysis data Check & explain experiment contents →Guide to check internal DNA items of DNA analysis summary report →Making lifting lotion using natural herb oil 4. Guide Healing Service contents 	⇒ Move to Cosmetic Scientist Corner →Considering External genetic characteristic, make cosmetics using natural Ingredients, minimize side effect and offer customized skin care service. 1. Make herb Ingredient considering external genetic characteristic as to analyzed DNA data (25min) 1) Making a buddy system, check experiment equipment and materials. 2) Take a class about experiment process and safety rules 3) Check Mr.Kwang(virtual client)'s external genetic characteristics for improving skincare of DNA analysis data 4) Making natural herb oil cosmetics(Lifting Lotion) ① Put water materials into beaker except aloe vera gel ② Put oil materials into other beaker. ③ Heat ①, ② until 70°C putting on hotplate ④ If ①'s temperature become 70°C, metering aloe vera gel and stir it using whisk and put it to ① ⑤ Put ④ into ② ⑥ Stir it as fast as possible using whisk for 2minutes. ⑦ Stir for 10 seconds using mini blender. Repeat ⑥, ⑦ until emulsification ⑧ Put essential oil and stir them. Put them into a case and attach a sticker 2. Recommend customized Beauty & Healing Service (5min) 1) Recommend Chiang-Mai spa resort and Thai massage service	Experiment KIT / Experiment equipment SET (Hot plate /Glass beaker /scale/mini whisk /mini blender / Circular thermometer /spatula /reagent spoons /spatula/ethanol /sticker) Image Graphic (Healing Service)
60	<ol style="list-style-type: none"> 1. Guide the participant's experience comment presentation 2. Introducing Smart health care product, guide the test and participant's experience 3. Explain Biomedical technique's direction and future. 4. Guide the career and university information 5. Take a commemorate photo and give some notices ※Arrangement the experience equipment and reset the system 	1. Experience Smart Health Care & Feedback (10min) 1) Wrap-up the experience, gather to feedback corner and make some presentation about the experience 2) Experience Smart health care product: Take a description about Health care product, and as long as applicants, try it on 3) Talk about Bio&Nano Technology's future. 2. Job Information & Commemorate photo (5min) 1) Take some information about jobs and university information which is related to biomedical technology 2) Take a commemorate photo with colleague	Smart healthcare Camera Image Graphic Explanation pannel Job Info-guide Paper

06 Cluster1 Job Experience

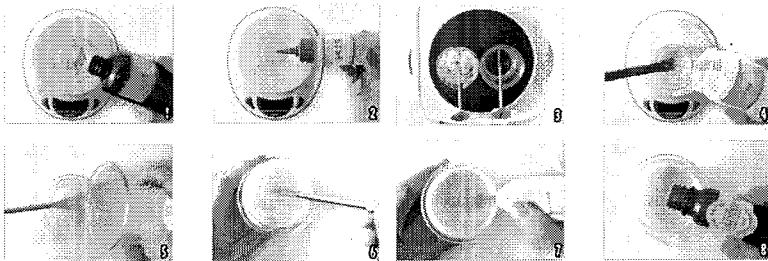
Bio-Medical Center | Cosmetic Scientist

> SPACE_ELEVATION



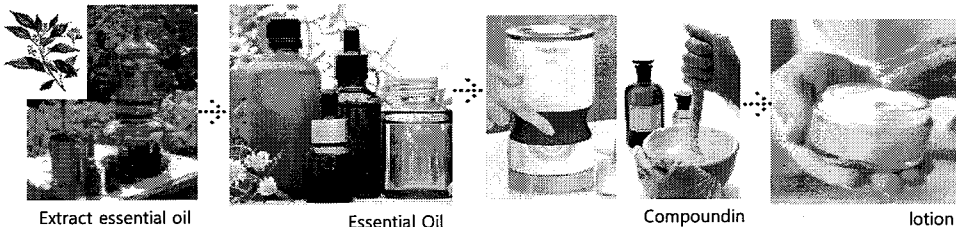
> Model_Cosmetic Making Kit

Making Cosmetics using natural herb oil



- Water materials
 - : Hyaluronic Acid /Aloe vera gel
- Oil materials
 - : Jojoba oil/ Apricot kernel oil /Almond oil/ Shea Butter /Olive wax
- Essential oil
 - :lavender / Grafe fruit / Geranium

Making Cosmetics using Essential oil



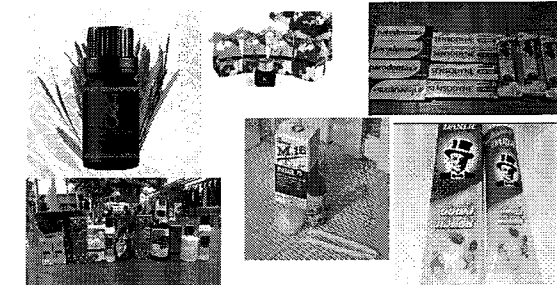
Extract essential oil

Essential Oil

Compoundin

lotion

Prevent Disease & Herb Oil for Treatment



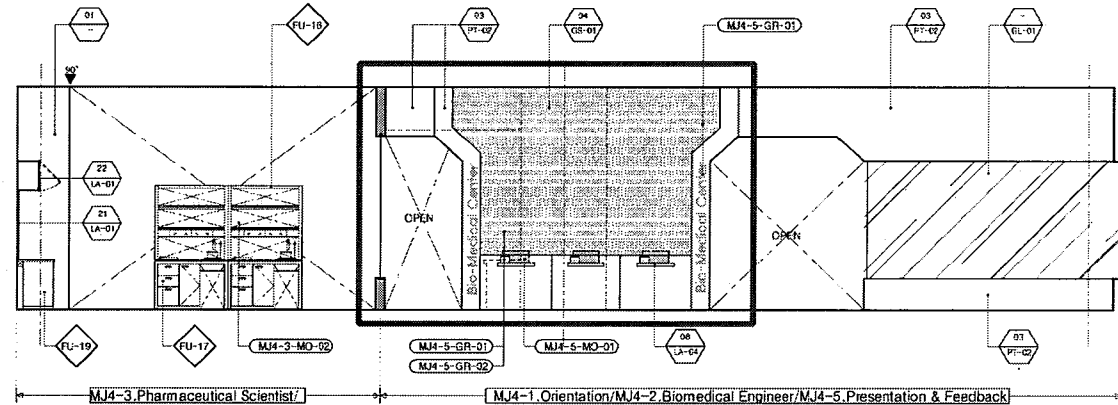
Herb oil for prevention disease and treatment

- :Lemon grass oil
- Anti-dandruff shampoo
- :Basil oil – hives drug
- :Basil leaves – hives remedy
- :Ginger – Muscle relaxation
- :Guava leaves – Dental health



※ The above contents are planned and can be changed during the design process

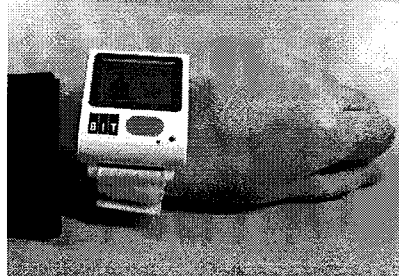
■ Bio-Medical Center | Presentation And Feedback



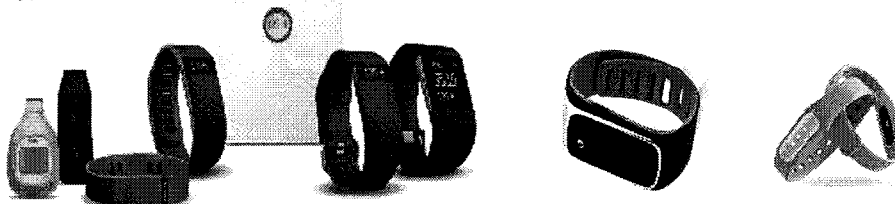
Smart Health Care



Band Type



There are several wearable sensor devices that can be used in ubiquitous healthcare especially in monitoring the health status of the patient while they are away from the hospital and even in the hospital.



JOB INFO GUIDE

Researcher argues that most studies compare achievement of engineering graduates with that of students in other programs in order to assess the success of students. They can get a better degree, a better job, or a better salary, and therefore, a better life. The research is not a study of the degree, but a study of the degree.

Suppose that the demand for a company's product is a function of the price of the product, the price of related products, the company's advertising, and the company's reputation. The company's advertising and reputation are endogenous to the company's pricing and production decisions, and the company's reputation is also endogenous to the company's advertising and production decisions.

Accessing programs may require additional training or experience depending upon the nature of the program. For example, some programs may require a minimum number of years of experience in a related field. Some programs may require a minimum number of years of experience in a related field. Some programs may require a minimum number of years of experience in a related field.

Copyright © 2005, Lawrence Erlbaum Associates, Inc.

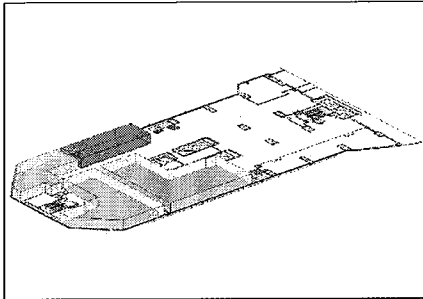
With skills in mechanical engineering, the principles of mechanics and their application to a wide range of systems, the student designs, develops and manufactures their own

Biomedical Engineering Advancement

※ The above contents are planned and can be changed during the design process

07 Cluster2| Career Exploration & Planning

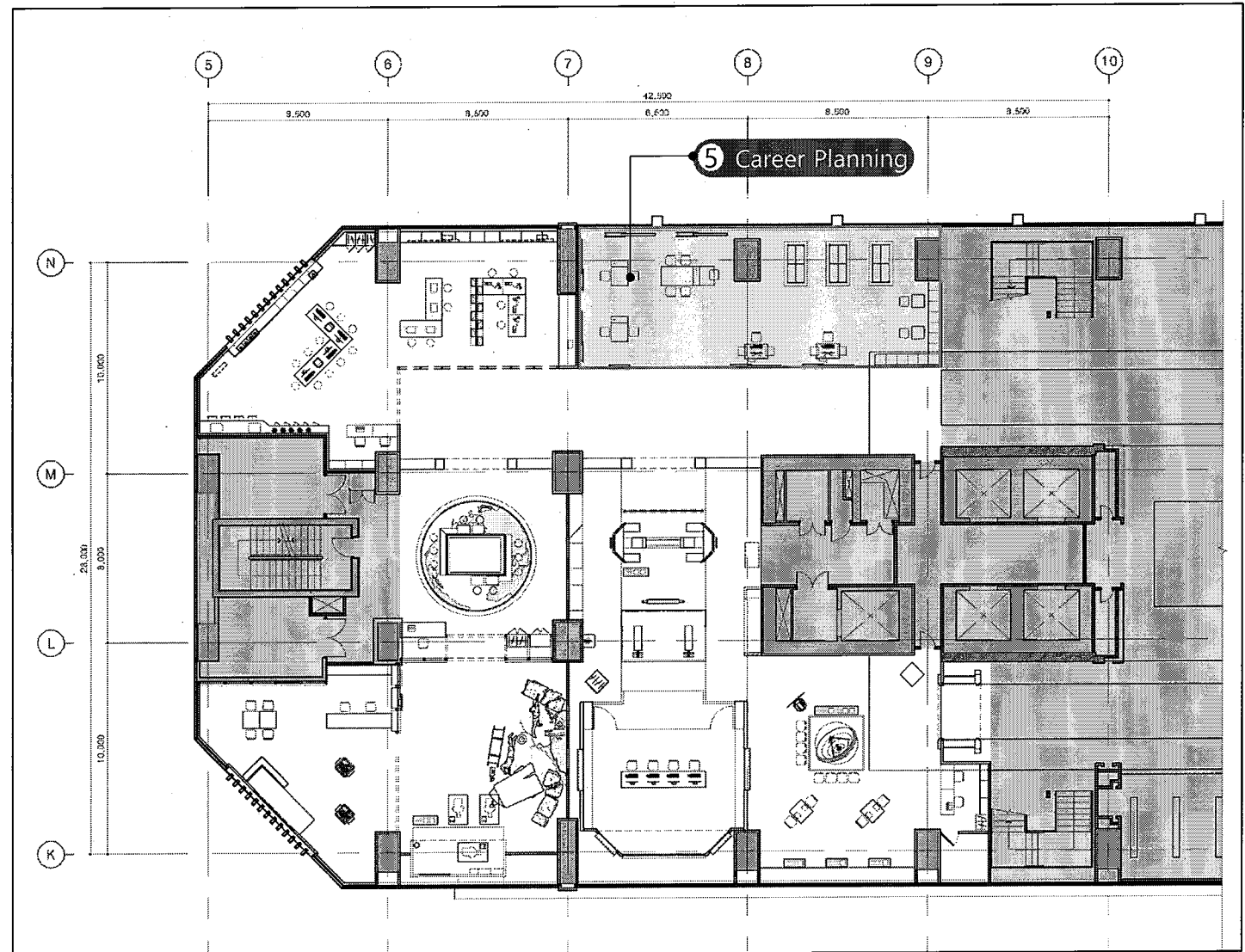
| Key Plan



■ Space Summary

Area	Corner
5 Career Planning	Who am I?
	Future Jobs
	JOB Archive

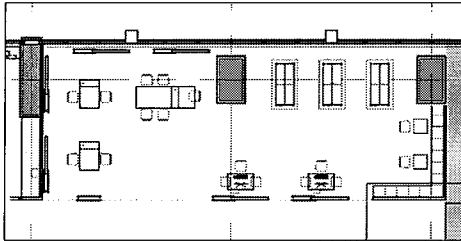
■ Floor Plan



07 Cluster2 Career Exploration & Planning

— Career Planning

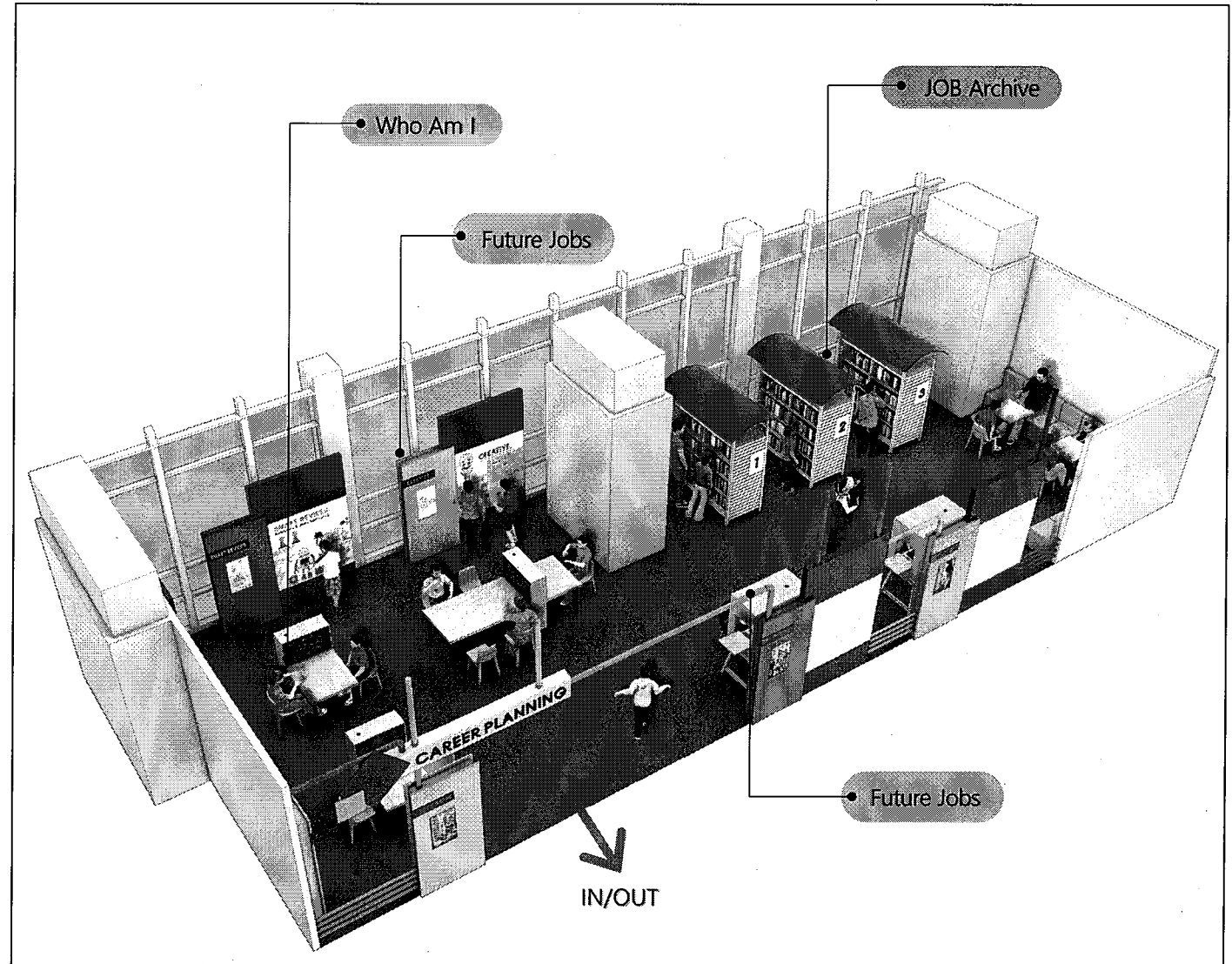
| Floor Plan



■ Action Summary

Operation Plan	Time	No limit
	Capacity	15-20p at the same time
	staff	2p
	Area	140.94 / 42.63py
Main Acting	Who am I	Catechetical test using 8 multiple intelligence theory /Make portfolio
	Future Jobs	Introducing promising job /Information searching about (Thailand) domestic and foreign celebrities in relation to promising jobs, interview video, company information, and role models
	Job Archive	Read the books related to jobs and career information

| Isometric



07 Cluster2 Career Exploration & Planning

— Who am I / Future Jobs

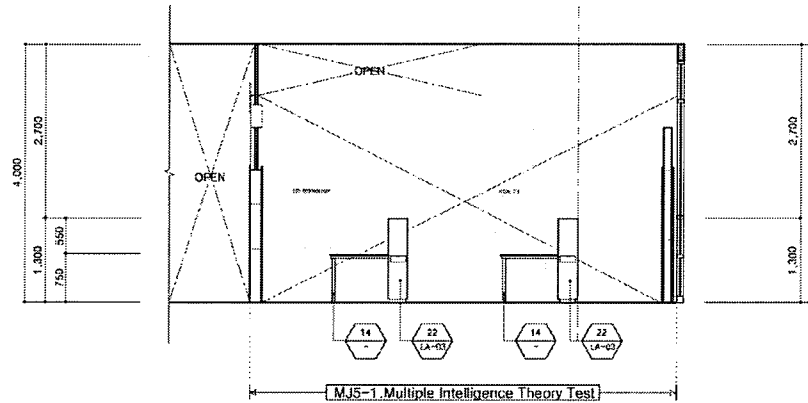
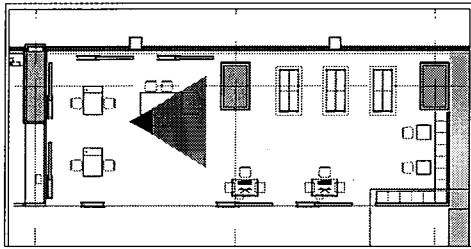
| Perspective



07 Cluster2 Career Exploration & Planning

— Who Am I

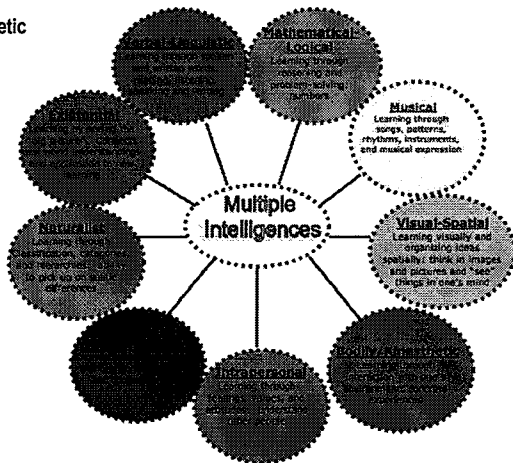
> SPACE _ ELEVATION



> CONTENTS_Multiple Intelligence Theory

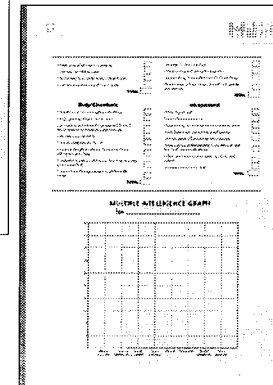
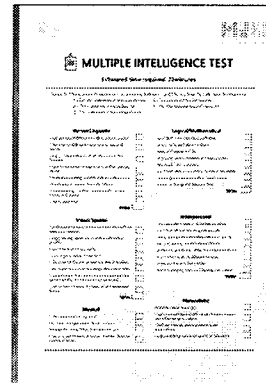
Multiple Intelligence Theory _ by H.Gardner

- ① linguistic
- ② logical-mathematical
- ③ spatial
- ④ bodily-kinesthetic
- ⑤ musical
- ⑥ interpersonal
- ⑦ intrapersonal
- ⑧ natural

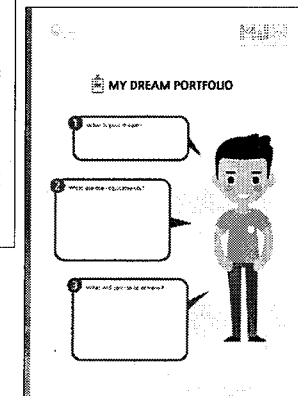
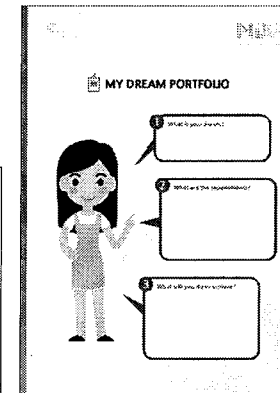


> SIGN_ WORK PAPER

Multiple Intelligence Test



Portfolio

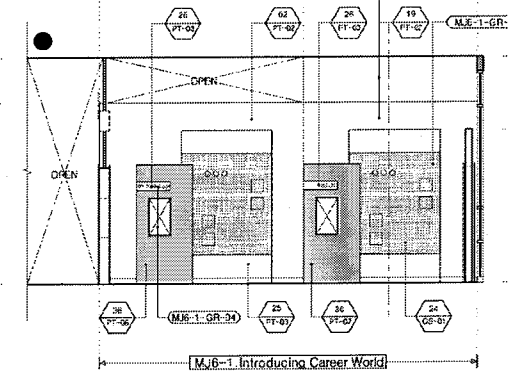
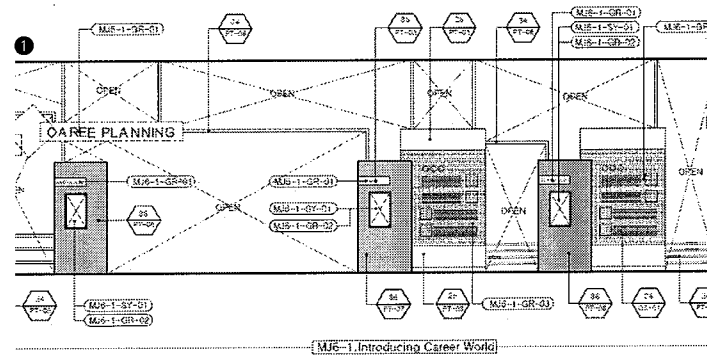
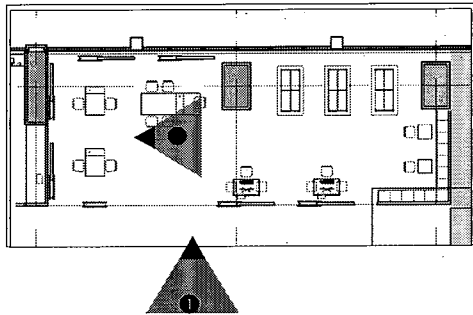


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07 Cluster2 Career Exploration & Planning

— Future Jobs

> SPACE _ ELEVATION



> Digital Monitor / Still Image

STI _ Future Jobs



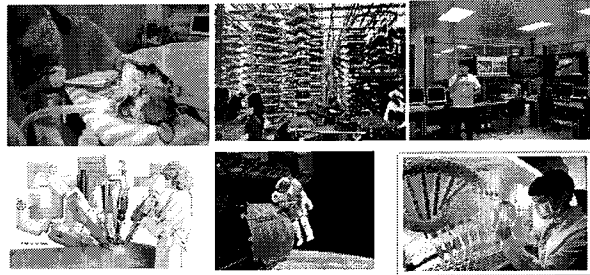
Sports Recording Analyst Researcher
Crime Victim Career Worker
Medical Science Liaison (MSL)

Genetic Counselor

Cytotechnologist

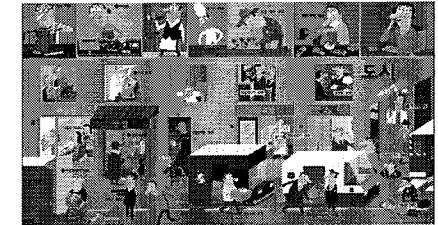
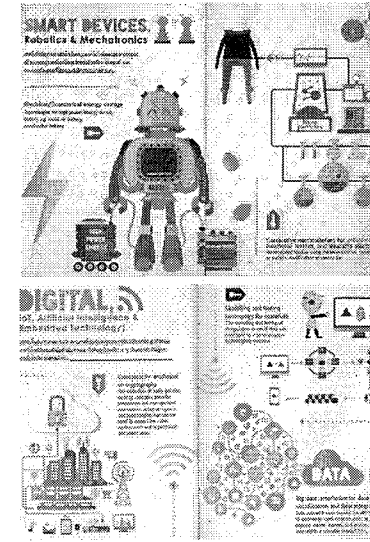
IoT developer

Animal Health Technician



> SIGN_Image graphic/Lighting Panel

Introducing Career World

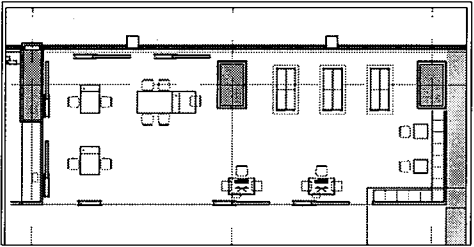


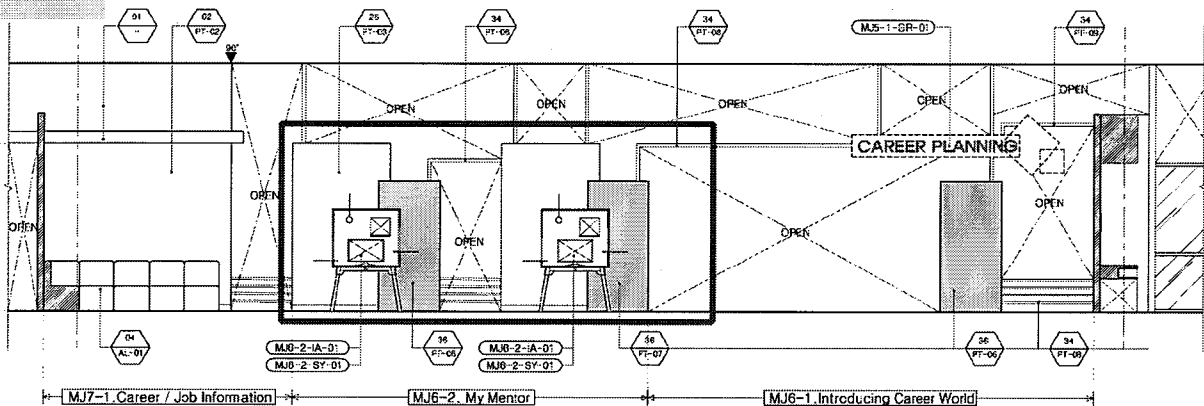
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07 Cluster2 Career Exploration & Planning

— Future Jobs

> SPACE ELEVATION





> INTERACTIVE

My Mentor :
Science field Future occupation group ranking and candidate for potential jobs

1. Financial engineer specialist
2. Robot specialist
3. Healthcare specialist
4. Green energy specialist
5. Biomedical specialist
6. Aerospace shuttle specialist
7. Cognitive brain engineering specialist
8. Cyber network specialist
9. Information system specialist
10. R&D record management evaluation specialist

My Mentor :
Example of introducing information on science jobs

Software developer

Research, analyze, design, demonstrate, test the process and method, maintenance, instruct the program usage as well as the technology that will drive and support the development of large scale of software system

1. analyze, research and develop software
2. Study the process and relevant technologies
3. Design process to standardize software
4. Test and perform QA of process
5. Evaluate outcome in each step of the process and evaluate the risk
6. Support the development of large scale of software system
7. Maintenance and revise software information for companies/authorities
8. Instruct the programs usage to staffs
9. Perform other duties as assigned

My Mentor : INTERACTIVE

Item	My Mentor	Time	within 2 minutes
Production Formats	Touch screen method		
H/W	Touch 32" 2EA		
Summary of Direction	>Provide video and detailed information by classifying over 100 various jobs per theme		
Contents of Direction	Display Contents	Screen composition	
	STEP 1	Select category per aptitude/occupation/field	SW : Search-type of information video (Touch maneuver) Job introduction video (*Produced by the Exhibition Video Team) (*Language ver - 1 THAI)
	STEP 2	Select detailed classification out of the classification list per theme Ex.) Select broadcast station from the list per job site	TST HW : 3 sets of 32" touch monitor *Over 100 job introduction video (Produced by Exhibition video SW)
	STEP 3	Select the job of interest out of the job list of detailed classification Ex.) Select the job of interest in the broadcast station site	*Display menu of 100 jobs by classifying per theme Example of classification per aptitude) Realistic-investigative-artistic-social-enterprising-conventional. Example of classification per job site) Company-broadcast station-publisher-hospital-school-sports center-art museum-performance hall-court-construction site-airport-port-city-farm

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07 Cluster2 Career Exploration & Planning

— Future Jobs / Job Archive

| Perspective



08 Management Planning

| 1. Operating Plan

Dwell times

- 09:30 ~ 17:30
- > 5 times a day [Job Experience 1times 60min]
- ① 09:30-10:30
- ② 11:00-12:00
- [Lunch]
- ③ 13:00-14:00
- ④ 14:30-15:30
- ⑤ 16:00-17:00

Ticketing System

- Pre-reservation → Site Payment
- [Site purchase subject to remaining tickets and non-reserved tickets]

Staff Plan

Item	4/5F Mini Job World [Job experiences in 4 sites]	4F Career Planning	[max]
Operator -Practical training from relevant professionals -Retired professionals	-Total 12people allocated per site < 4sites x (2operator+1staff) = 12per. >	-	12
Staffs -Trained casters -Lead experiential trial	-	-Guide exhibit introduction -Management of Emergency Evacuation etc.	2
Total			14per.

Operating Process [EXAMPLE]

