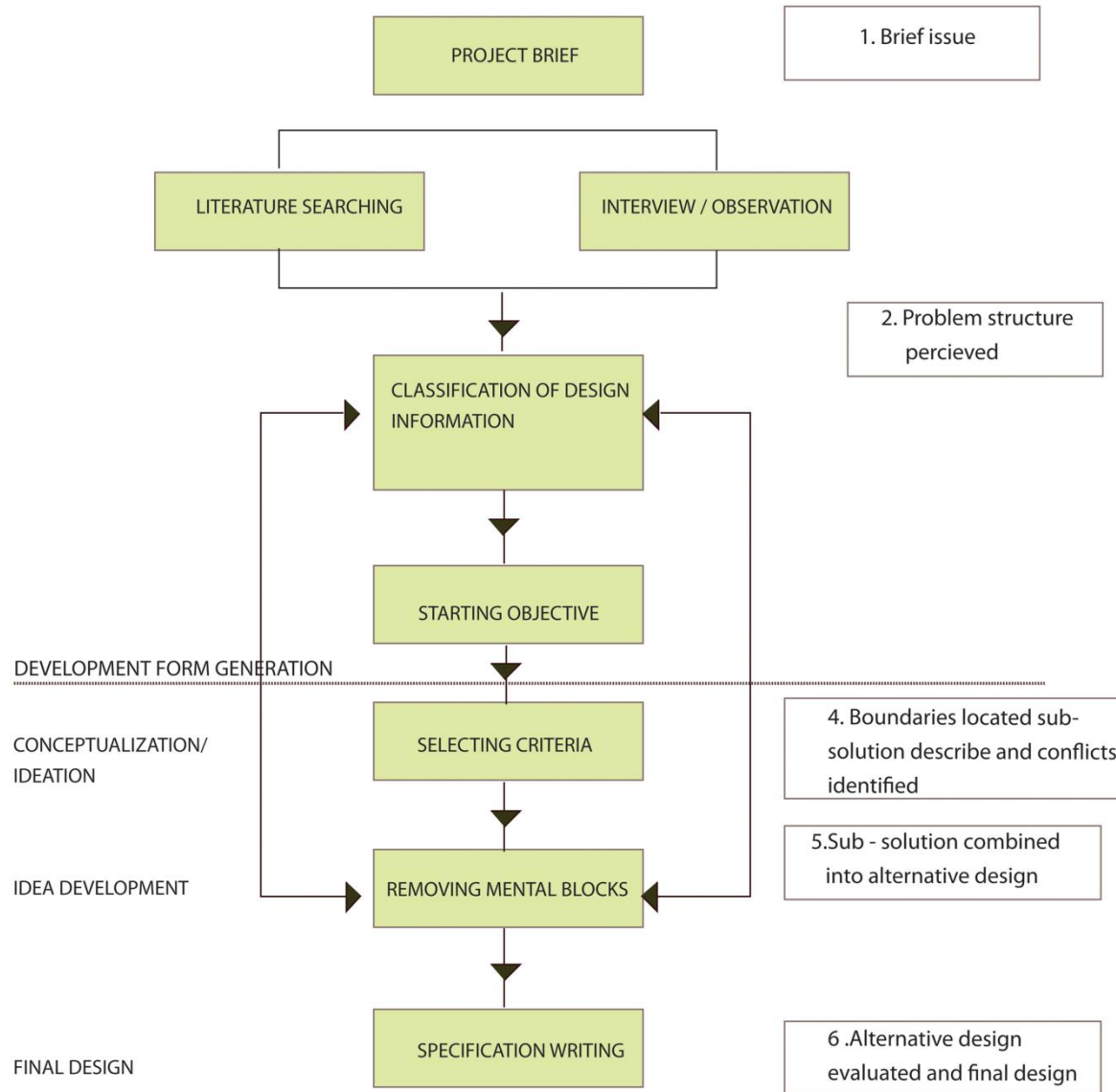
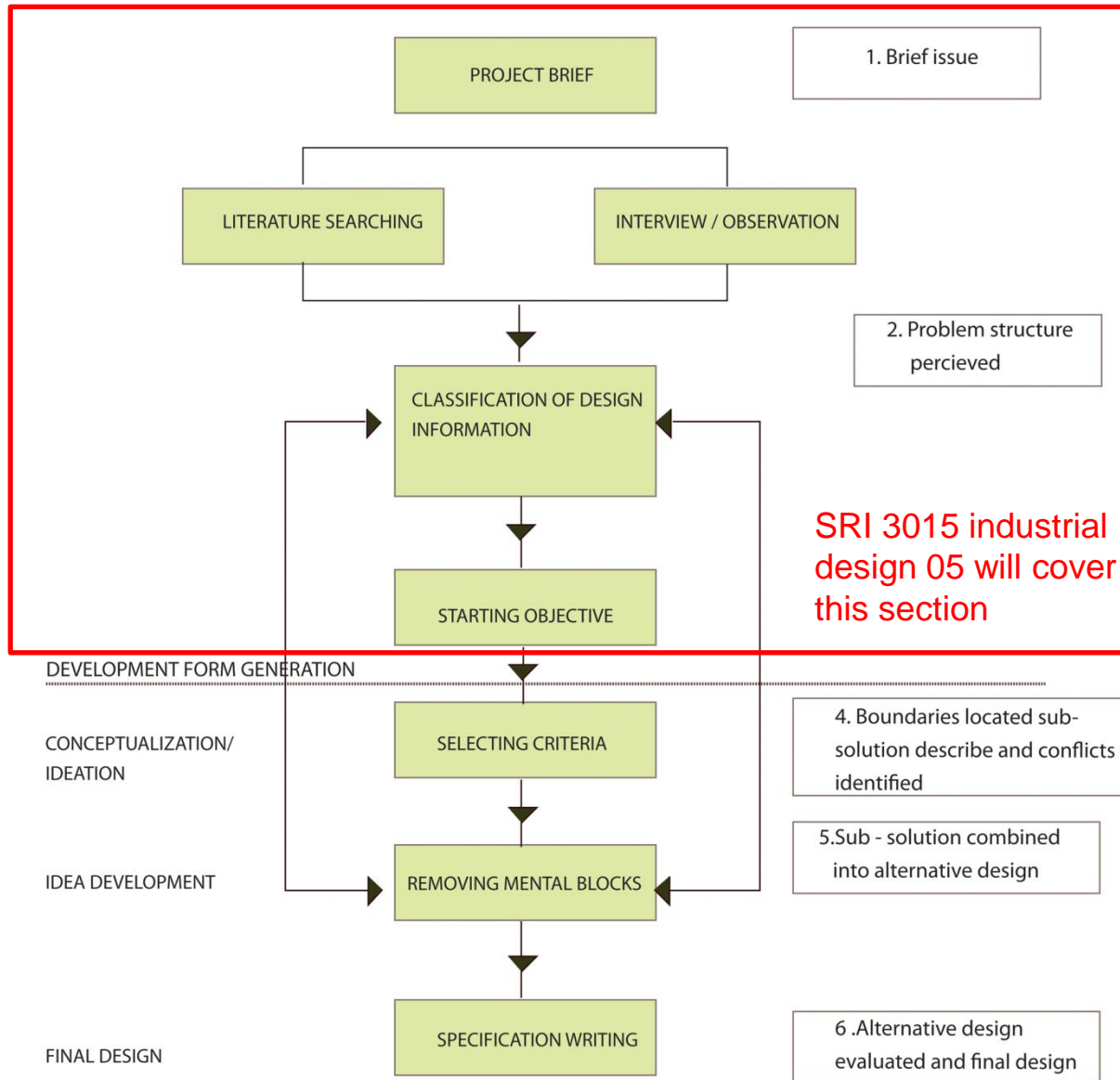


SRI3015 Industrial Design 05

Major Project Workflow

Mohd Khairul Anwar Mohd Dahuri





Once the student reach the stating the objectives, they will

- Come out with a design brief
- Start to develop number of concept base from the brief planned by them

Industrial Design 05 project should cover the element listed below:

- Research (40%)
- Design (30%)
- Engineering (15%)
- Technical Element (15%)

OBJECTIVES

Students will use their **ability on design knowledge and skills** towards producing an innovative idea.

Major project emphasizes on the:

- Ability of the student towards **conducting a research**
- Application on **science and technology**
- Ability of the student towards applying their **skill on design**
- Application of **Design Aid**

AIMS

- This project will challenge students:
 -
 - Able to use their **design ability**
 - Produce **innovative and useful ideas**
 - Able to **apply the science and technology** onto their design
-
- Upon completion, students will:
 - Able to **produce an imagery or style** to meet the expectation of the design brief.
 - Able to **practice design process**
 - Able to **analyze the design** comprehensively and think of the complete solution.
 - Able to **use design aid** in most appropriate for the problem undertaking

Samples of Design Work

TUCANO

BACKPACK AND ACCESSORIES

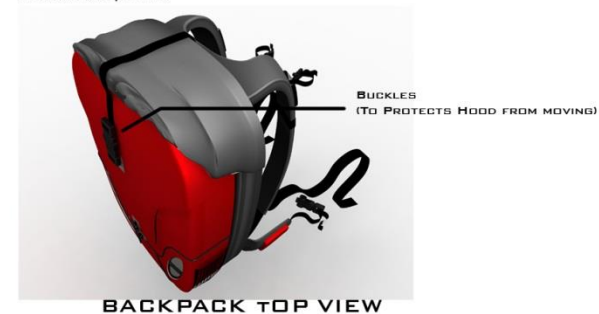
SUSTAINABLE TRAVEL

CAD (COMPUTER AIDED DESIGN)

Backpack were modelled in CAD (Computer Aided Design) in order to show how it will going to be look like. CAD will also allow us to see the shape of the bag in much more clearer besides enabling designer to visualize the whole backpack design before sending it to the production. By right it also allow designer to do some changes.



Some of the details on the backpack can be see clearly so that it can clearly be understand by people who viewing it. 2D drawing was actually not enough since some of the view and parts were not accurate and precise.



TUCANO

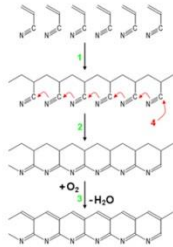
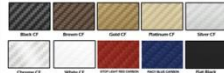
BACKPACK AND ACCESSORIES

SUSTAINABLE TRAVEL

THE MATERIAL

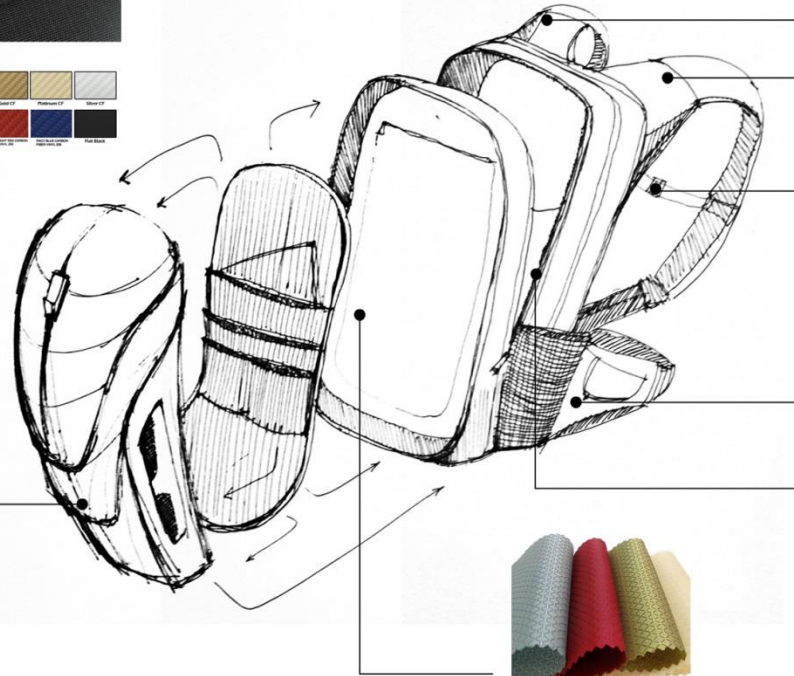


The main part of the backpack was made of carbon fibers that fits any kinds of condition. Protect the users with high-strength capacity. Appropriate for hiking or climbing because of light-weight material



CARBON FIBER

- . Physical strength, light weight
- . High dimensional stability
- . Good vibration damping, strength, toughness
- . Electrical conductivity
- . Biological inertness and x-ray permeability
- . Fatigue resistance, high damping
- . Chemical inertness, high corrosion resistance
- . Electromagnetic properties



FABRICS

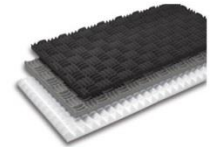
Nylon or Rip-Stop Nylon is an old debate as to whether nylon used in backpacks should be made waterproof. Some felt that a pack that doesn't breath will lead to wet and mildewed clothing, while others like the potential of waterproofing their packs.

Today most packs are made as water resistant as reasonably possible. Modern made packs made of untreated nylon are less common to find than treated ones. Therefore, most packs made of nylon either have a polyurethane coating or have been treated with silicone. Both make the fabric more waterproof, much stronger and a bit heavier.

FOAM

Foam is often used in pack construction for padding for the wear's back, shoulder and hips. It may also be used to protect contents of the pack and add a little support.

Dual Density Foam has both closed cell and open cell foam are combined together. This allow for the soft feeling of open cell foam against your pressure points without losing the better load bearing qualities of closed cell foam.



HARDWARE

Acetal has great stiffness and tensile strength and is often used in the male half of side releases buckles. It is able to resist moisture absorption, and performs very well under freezing or arid conditions.



ZIPPERS

Coil (aka nylon zipper)- Coil teeth are extruded plastic, ewn onto the zipper tape.

They tend to be self repairing, smoother opening, very flexible, easier to work with and much more forgiving to clothing and sleeping bags. They are less tamper resistant and more prone to problems with dirt and sand than tooth type zippers.



Keyed Hasp Lockable Zipper Slider

Sliders with a built in locks can usually be easily picked with a paperclip

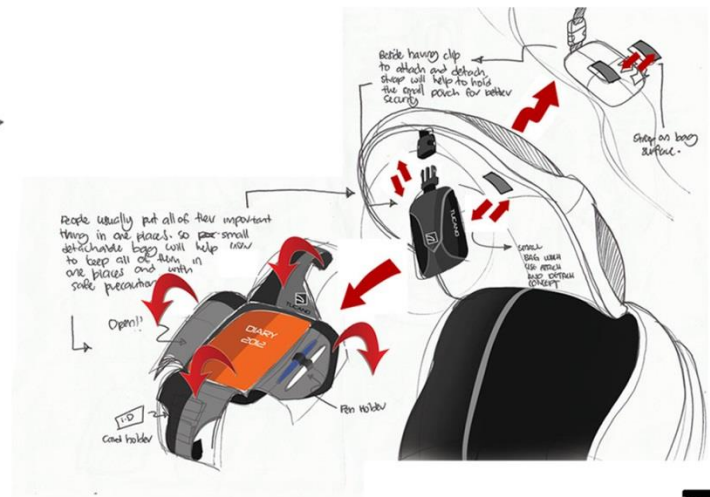
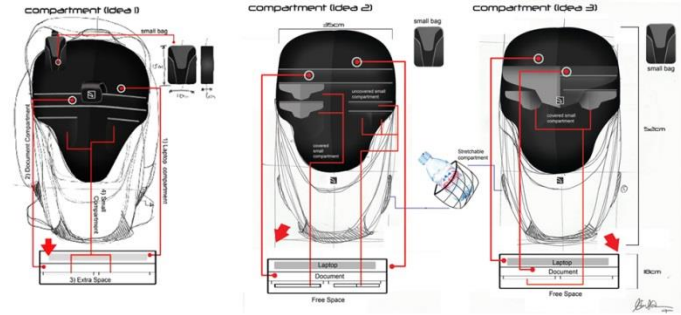


TUCANO

BACKPACK AND ACCESSORIES

SUSTAINABLE TRAVEL

THE INTERIOR

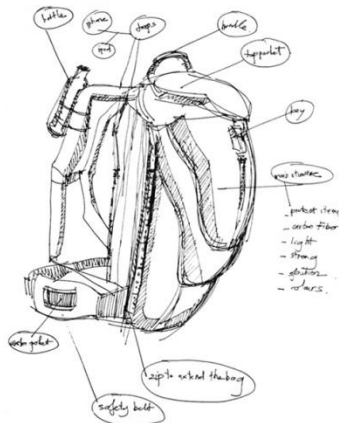
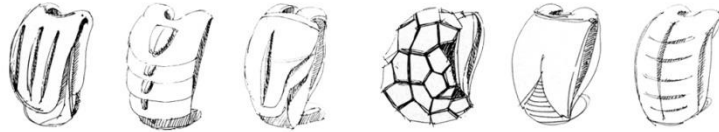


TUCANO.

BACKPACK AND ACCESSORIES

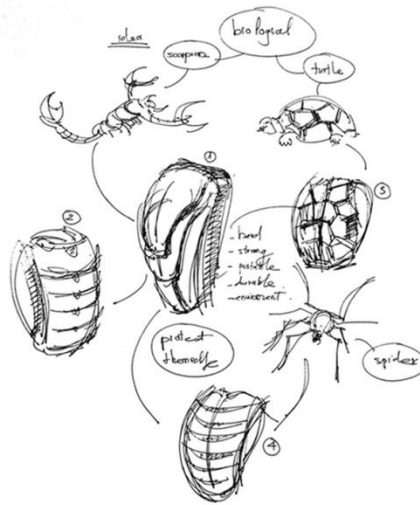
SUSTAINABLE TRAVEL

THE CONCEPT

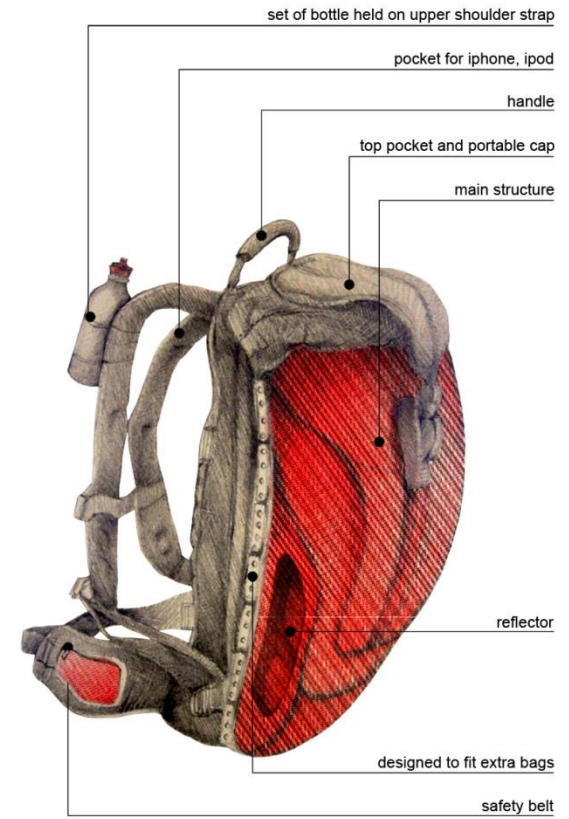


The design is based on the simulation of biological. The crustacean such as turtle spider or scorpion are the inspiration for the design on the back of the product

This biologically simulative design gives users a new perspective on travel bag product



A backpack that fits you, has the proper capacity, and has the features that are appropriate for the specific task to help maximize your enjoyment and hiking comfort



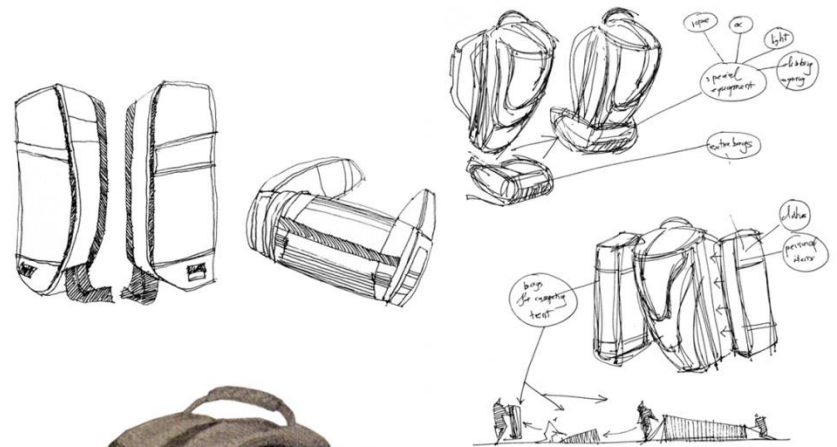
TUCANO.

BACKPACK AND ACCESSORIES

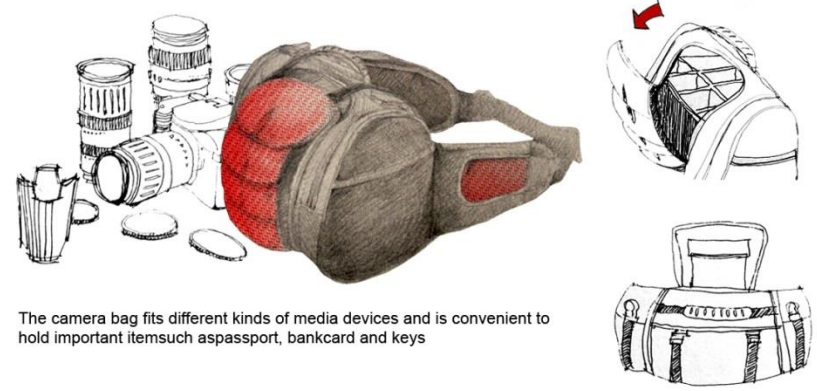
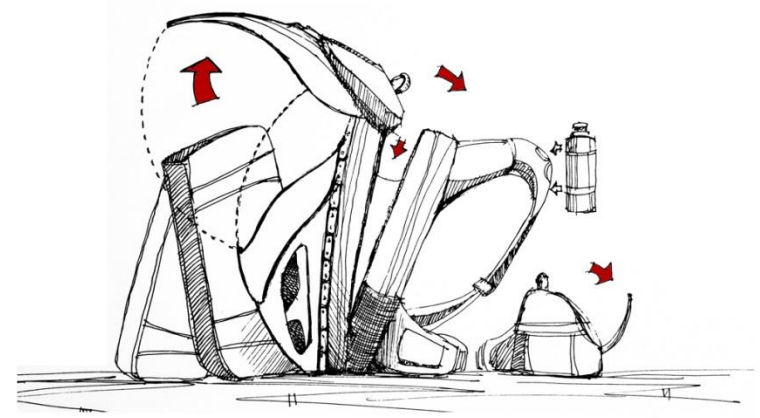
SUSTAINABLE TRAVEL

ACCESSORIES

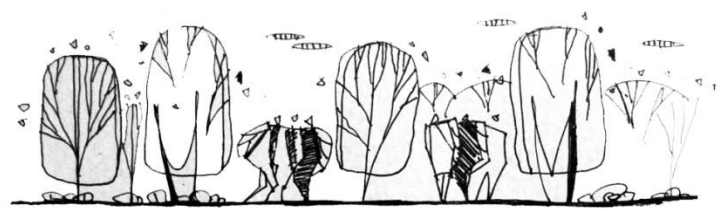
The special design of this backpack allows the user to carry more extra bags and accessories. The extra items are designed to be easy to remove or install



The extra bag can be easily transformed into a camping tent by just a few steps



The camera bag fits different kinds of media devices and is convenient to hold important items such as a passport, bank card and keys



TUCANO

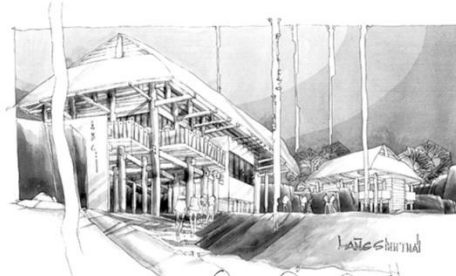
BACKPACK AND ACCESSORIES

SUSTAINABLE TRAVEL

ADVERTISING

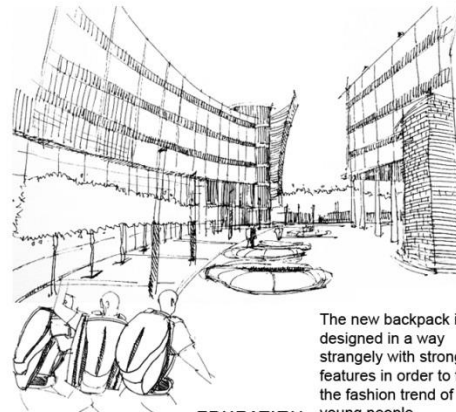


The new product focuses on the two target audiences. The first group is people who are interested in travelling, namely, eco-tourism. The second group that the new design will follow is active student.



The special design of the bag will help the users to maximize the enjoyment and hiking comfort.

ECO_TOURISM



EDUCATION

The new backpack is designed in a way strangely with strong features in order to fit the fashion trend of young people.

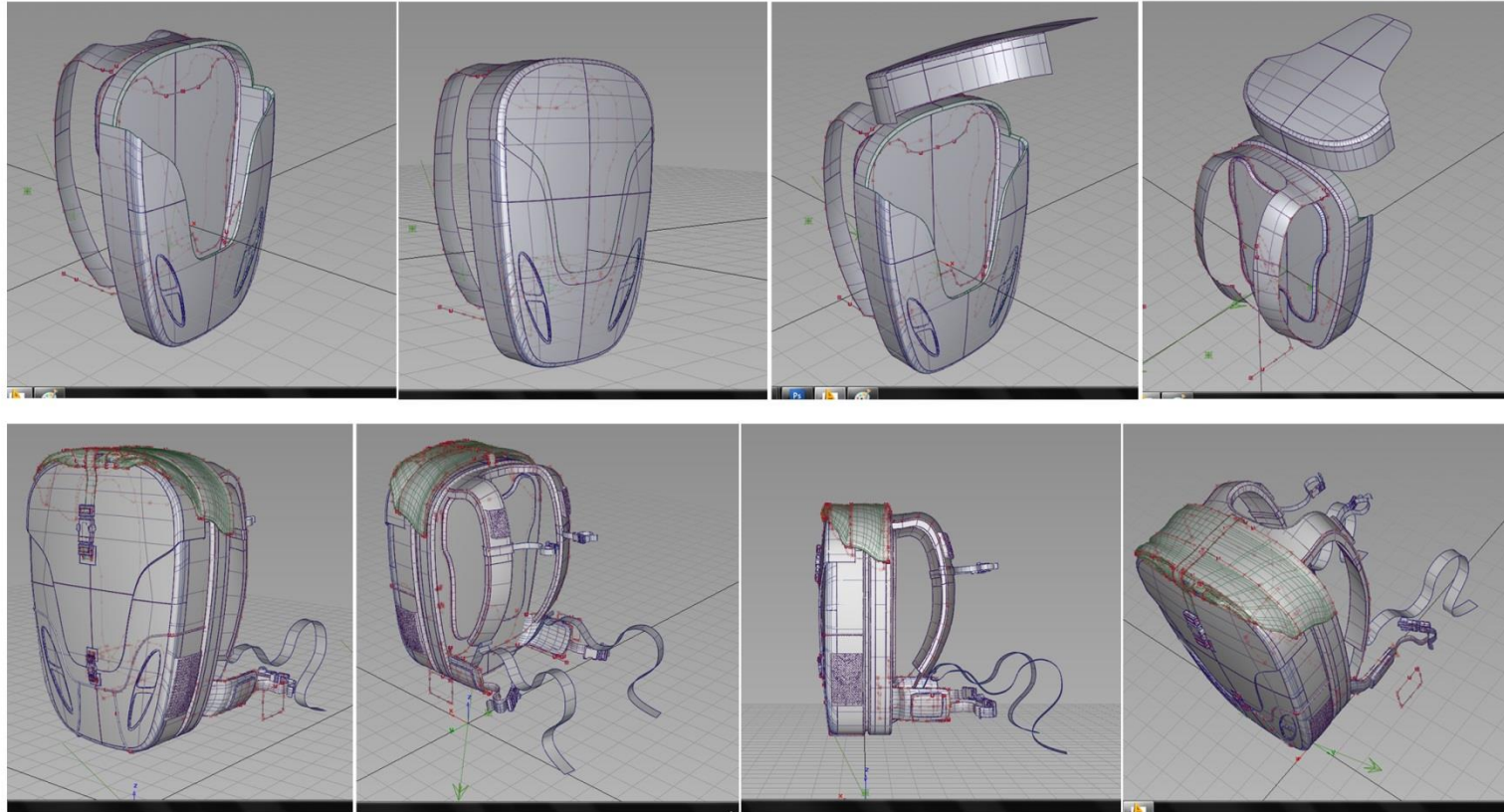


TUCANO

BACKPACK AND ACCESSORIES

SUSTAINABLE TRAVEL

CAD (COMPUTER AIDED DESIGN) DEVELOPMENT

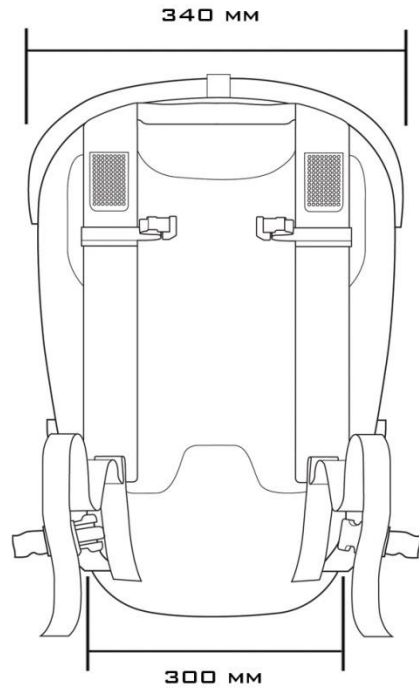


TUCANO.

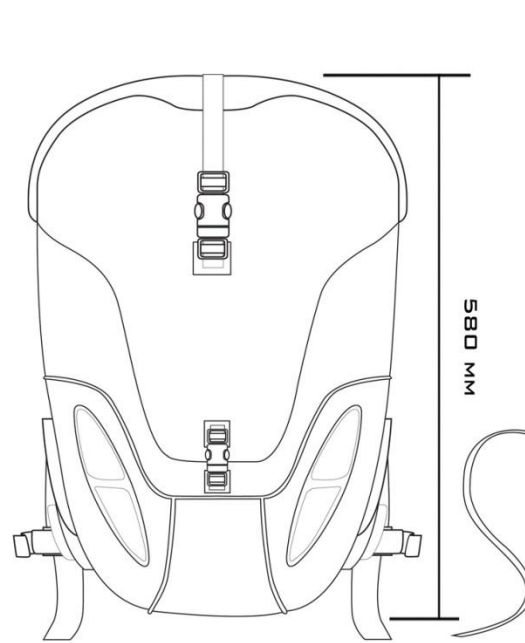
BACKPACK AND ACCESSORIES

SUSTAINABLE TRAVEL

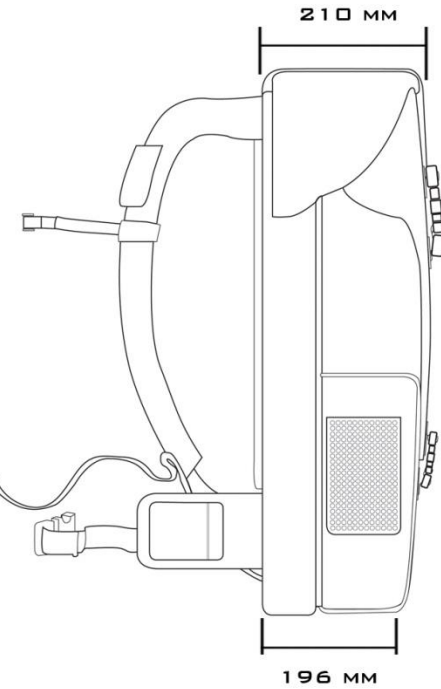
TECHNICAL DRAWING



Rear View



Front View



Side View

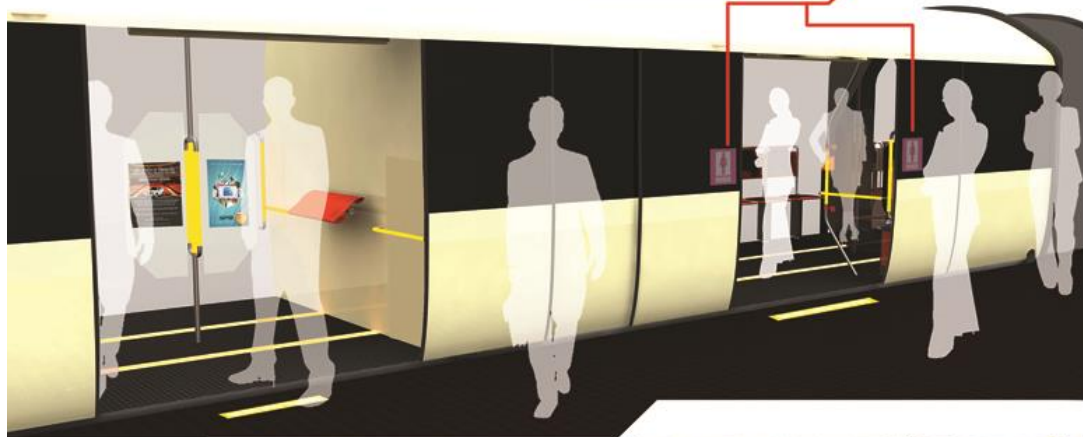


Samples of Design Works

INSIGHT CONCEPT

DESIGN SOLUTION 2

Logo placed at the door of the LRT coach entrance will help passenger to identify their coaches and will not cause mistake to them.

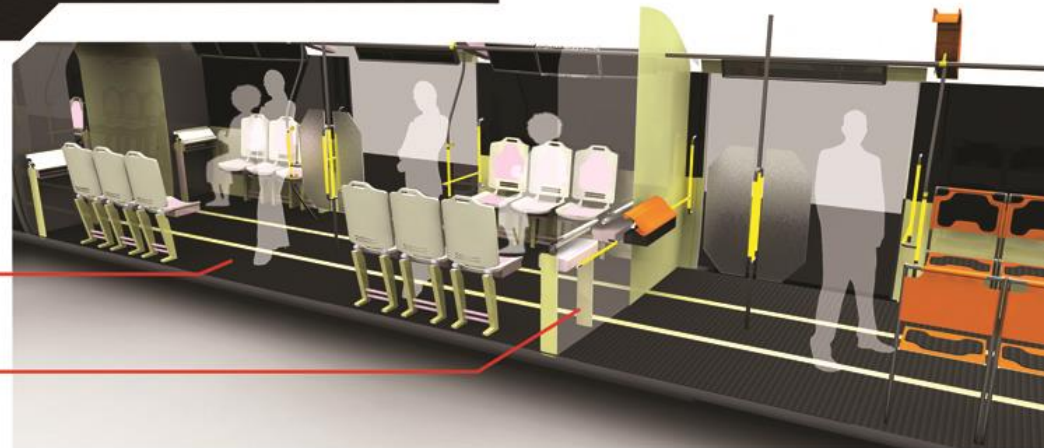


Coaches For Women

LRT trains are divided into two sections, man space and women space. This solution based on the adaptation of the problems expressed by majority of woman which frequently mentioned by them in the survey form in the point of view section. This idea may have the potential to help reduce the rate of sexual harassment and feeling uncomfortable, especially for women who use this service regularly.

Safety is an important aspect in nurturing the development of a good community. This idea may have the potential in helping self to build awareness about the importance of giving respect for women.

Part of the female users felt uncomfortable while being inside the normal coaches. This caused by problems such as sexual harassment and the safety towards their personal belongings. Women coaches might help these people to use this service with confidence and free from feeling disturbed.



Separation wall between section will ensure that male users may not simply be able get into the female coaches section. Even so, user like a family able to use the standard coaches since it not restricted to particular gender.

INSIGHT CONCEPT

DESIGN
SOLUTION 2

Coaches Section

Coaches divided into 2 section, which is women and normal section. Although both of this section consist of 2 different features, they still shared the same coaches. It is impossible for extra coaches to be added with the existing. This situation may cause weight problem.



Women Section

Women section will address most of the needs which required based from the respond feedback from the questionnaire. Disturbance, sexual harassment and also belonging safety can be improve if the solution applied. The user may view this solution as something which is useful and beneficial. The feature for this coaches implemented with soft colour since women will be the user for this section. It will also make the design much attractive.

The normal section will be much bigger in term of space since this section occupied not only men, but also the women. This section not restricted to single gender since some of women who bring their child or together with family must stay together and cannot be separated. This situation will cause the group to use the same section.



Normal Section

INSIGHT CONCEPT

DESIGN SOLUTION 2

Monitor

The additional features of monitors in the coaches will help users not to get bored. This medium will be another information delivery system inside the LRT. Diversity of information delivery approach is seen to help all people who use either the public or the disabled in assuring that no one being left behind in terms of technological advancement. This is in line with the government aims in achieving Vision 2020.



Handebar with Transparent Advertisement Panel

Wall surface in LRT coaches will no longer tangled and messed with pasted advertisements and notices. The application of glass advertising panel on the handlebar of the entrance dapan help in terms of interior environment which is clean and comfortable. Panel which is placed between both right and left entrances is seen able to attract more user to read and gain knowledge while inside the LRT.

Leaning Rail

Leaning rail will help more people to relax and rest in non-seating position. With the advantage on size and space usage, this seat is suitable to be applied inside the LRT coaches. This seat will be implemented at every corner of the wall as seen in the diagram. This approach will help more people to enjoy public facilities without having to stand up among packed crowd while inside the LRT coaches. It will also help in addressing the discomfort among passengers.

Features Women Section

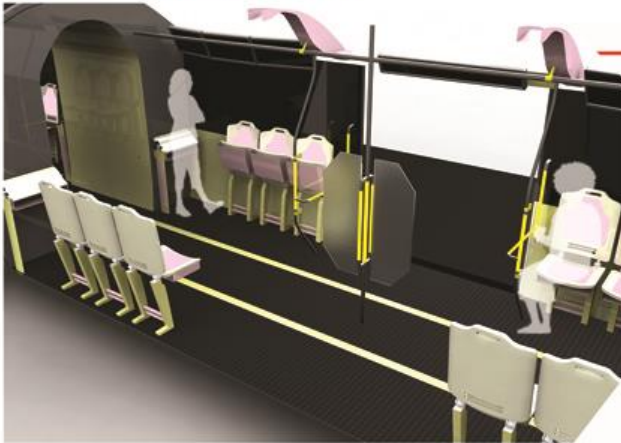
Folding Padded Seat

Approach using Padded Folding Seat will give more access not only to the public, but also for people with disabilities who wish to enjoy these facilities equally and fairly. These special groups do not have to wait for empty LRT to arrive in order to enable them to use and not interfering other public users

INSIGHT CONCEPT

DESIGN SOLUTION 2

Leaning rail with compartment



With the usage of soft colour, the interior will look more feminine and suits the female user. The shape of the seat made to be softer. This ensures that the female users become more relaxed and comfortable without male users with them.

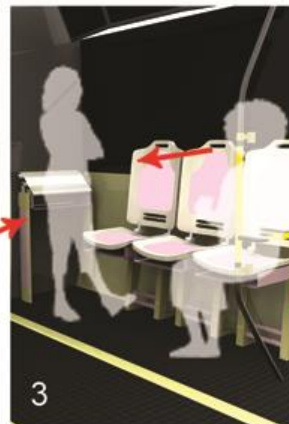


Leaning rail will be the best solution if coaches is full and occupied by the other users. Although the user are not in seating position, it can provide comfort while in leaning position. The user only need to lean back a little to the wall and the leaning rail will accommodate the users.



With the compartment hidden under the seat, user can simply slide in their laptop cover or even valuable documents inside it and make it less visible to the surrounding.

With the provided compartment positioned under the seat, it will make the user belongings be less visible to the other user. The user will be much more safer and belongings be more secure.

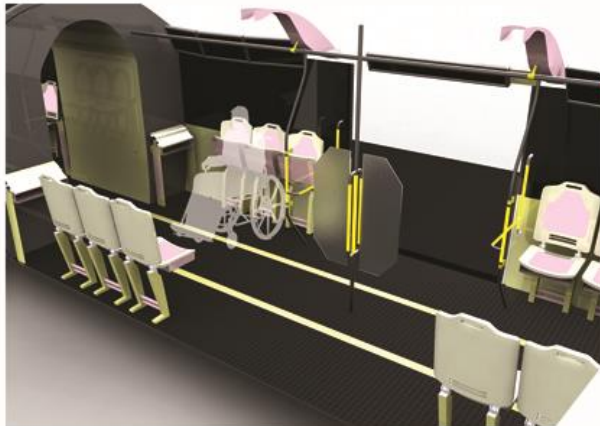


How does it work?

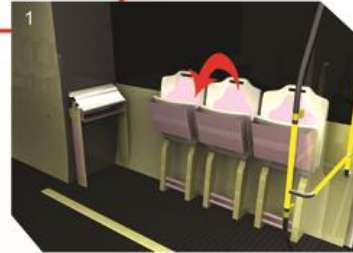
INSIGHT CONCEPT

DESIGN SOLUTION 2

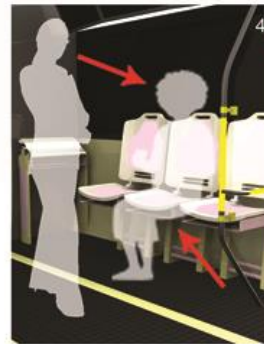
Folding Padded Seat with compartment



With the provided compartment positioned under the seat, it will make the user belongings be less visible to the other user. The user will be much more safer and belongings be more secure.



All seats in LRT trains that was replaced by folding seat mechanism is seen to help people, especially disabled people. They will be more free to choose the facility during entry into the coach without having to wait too long just for the empty LRT



Just like other folding seat mechanism, users only need to push down the seat so that it can be comfortably occupied by user. This approach seems to save space and allowing wheelchair users to use this facility together.



With the compartment hidden under the seat, user can simply slide in their laptop cover or case inside it and make it less visible to the surrounding.



Upholstery can help in addressing comfort issues among users especially senior citizens. With just a few simple steps there will be no more complaint regarding with problems as such. Changes and approach may bring bright potential in improving the public transportation sector in Malaysia.

How does it work?

INSIGHT CONCEPT

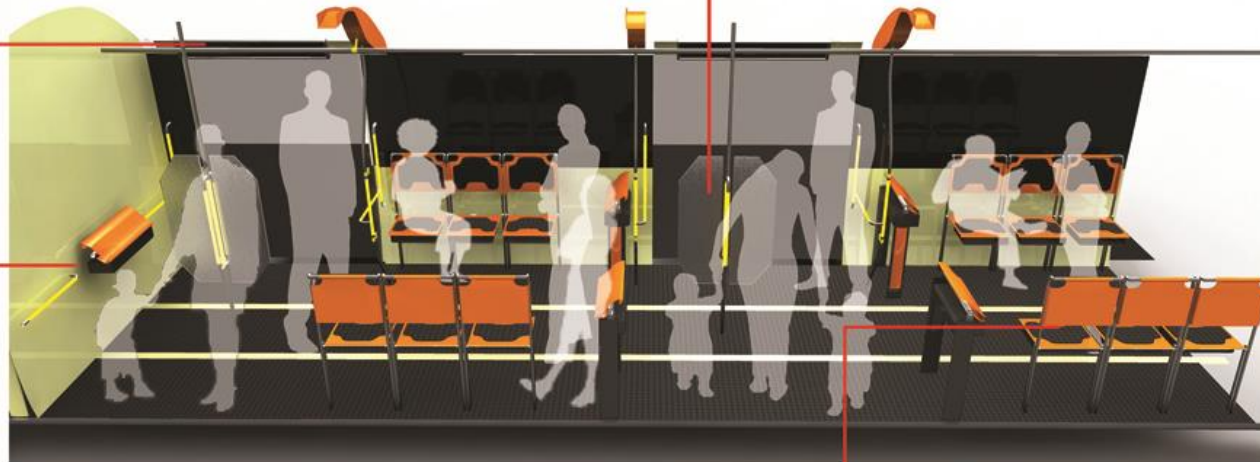
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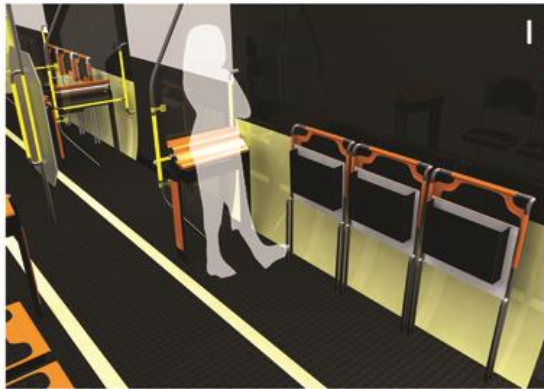
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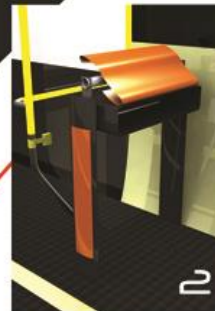
INSIGHT CONCEPT

DESIGN
SOLUTION 2

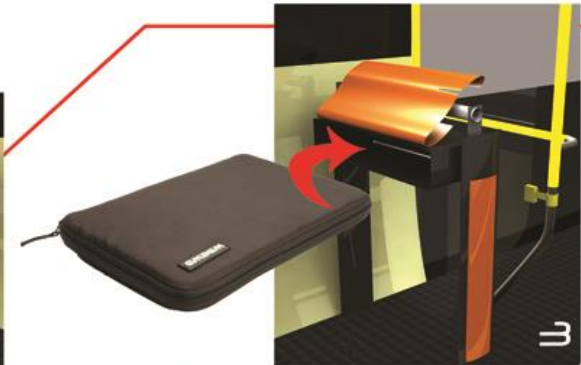
Leaning Rail with compartment



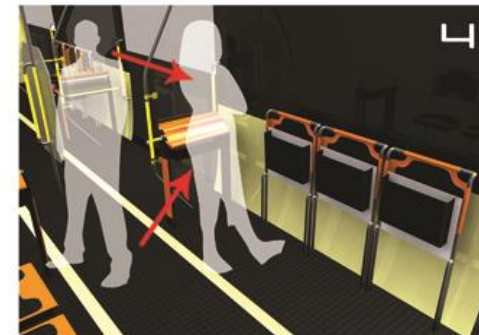
The Leaning Rail applied onto this section will help to accommodate the user who are in need of place to rest themselves. This seating method will help in addressing the demand for the user who using the LRT services that full and cramped.



Leaning rail will be the best solution if coaches is full and occupied by the other users. Although the user are not in seating position, it can provide comfort while in leaning position. The user only need to lean back a little to the wall and the leaning rail will accommodate the users.



With the compartment hidden under the seat, user can simply slide in their laptop cover or case inside it and make it less visible to the surrounding.



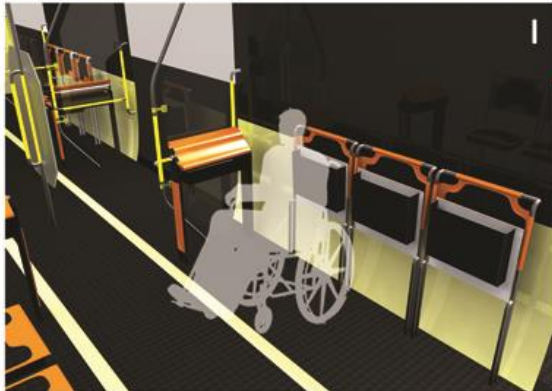
With the provided compartment positioned under the seat, it will make the user belongings be less visible to the other user. The user will be much more safer and belongings be more secure.

How Does It Work?

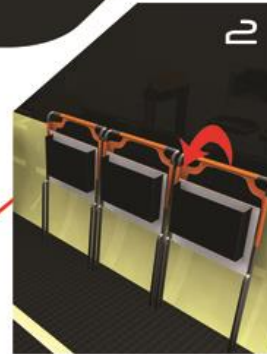
INSIGHT CONCEPT

DESIGN
SOLUTION 2

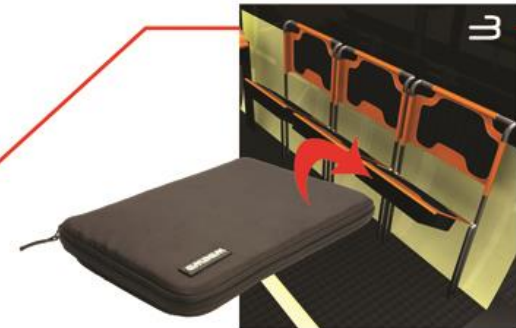
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How Does It Work?

INSIGHT CONCEPT

Design
Solution I

Technical Design I

Base:
Putra LRT Bombardier MKII (Scale 1:500)

