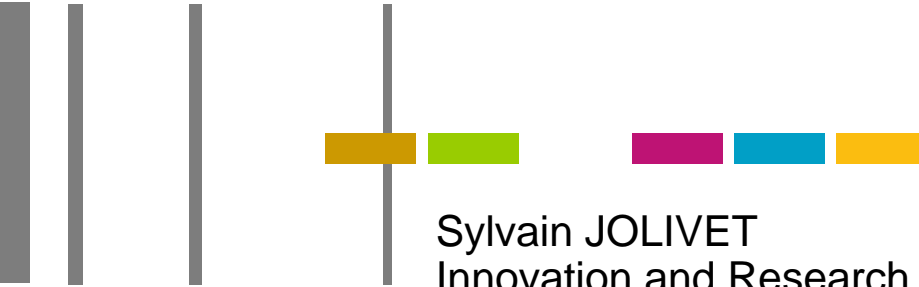




DESIGN AND ACCESSIBILITY

To innovate in the field of accessibility



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Comfort and Services Unit Division



Some figures about Handicap.

The french law about accessibility and consequences.

The concept train approach and the prospective design at SNCF.

How design students have tackled the subject of accessibility (diagnostics and key features of the study)

Some results.

The handicap in figures



12 000 000 of french people suffer of one or many temporary or permanent deficiencies.

5 000 000 disabled persons

including **2 000 000** persons with reduced mobility

What does the french law say ?



10 years

This is the time allowed by the law of february 2005 for the transportation operators and constructors to get the transport system (rolling stock and stations) accessible.





In regional express train:

853 stations (250 are already accessible)

1700 stopped points.

In Ile de France :

77 stations accessibles to persons in wheel chairs

The figures ... at SNCF



In 2005

435 183 helps in stations (sensible increase of 12% from the previous year)

En 2006

467 302 helps in action (sensible increase of 7% from the previous year)

The law consequences for future rolling stocks and stations



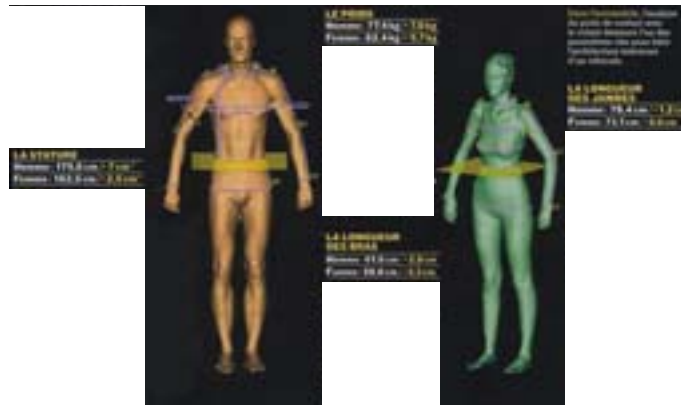
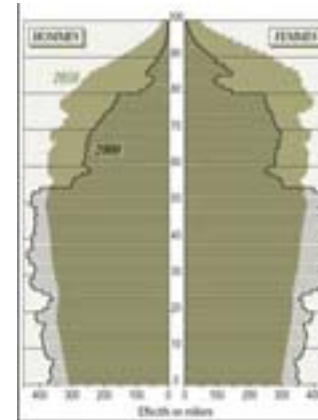
1 - Impact on future refurbishment programs of rolling stocks and stations.

2 – Impact on the conception of new products and services.

Some societal tendencies



... general ageing of the population



... Anthropométric differences and their evolution .

.... And the fast emergence of NICT.

The main issues today



To upgrade the existing system without multiplying handicap particular objects.

To integrate harmoniously new systems at the beginning of the products and services design.

A large application technical field



Trains

Access

Opened door controls

Welcome desks

Toilets

Seats

Travelers rooms

The environnement on the platform

signalling

Enlighting

The Acoustic design of spaces

Stations

Color codes

Materials

Services

The Concept train approach



- Concept train (since 2001) : Why a prospective and innovative approach by the design?

TO CREATE
TO ANTICIPATE THE MAIN TENDENCIES AND TO BE
PREPARED TO THE SOCIETY'S EVOLUTIONS
TO PREPARE AS BEST AS POSSIBLE THE FUTURE
NEEDS FOR ROLLING STOCKS AND STATIONS
TO DESIGN TO INNOVATE



donner au train des idées d'avance



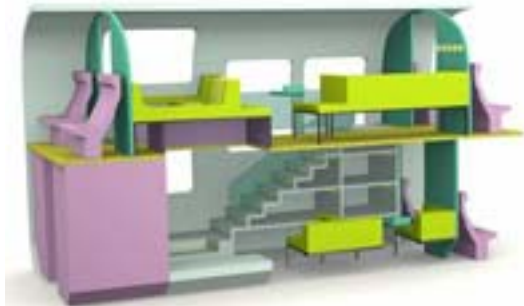
the reasons of a partnership with a higher design school.



Ensci

To get a new and fresh vision of the transportation system by younger students

To make students sensitive to this problem



The Citizen train / Presentation of the scope and of some results



This year, the following topics were proposed to the students

- 1- The train and the stations of the future accessible for all
- 2- The analyse of consequences of ageing of the population, on the future products and services.
- 3- The potential contribution of NICT on the services and products design for all travellers.

Diagnostic and study key features



The handicap **The train**

Handicaps cartography
The accessibility's obstacles ?
What are the needs?
ITW handicapped persons and associations

In France and overseas
The others means of transport
The study of the train's image.

Accessibility and comfort

To think the train accessible for all is to turn the trip to be more comfortable and stressless.

The station

Communication and information space
A life space
Study of other public spaces

And..

The study of mobility
NICT look out
Bibliography

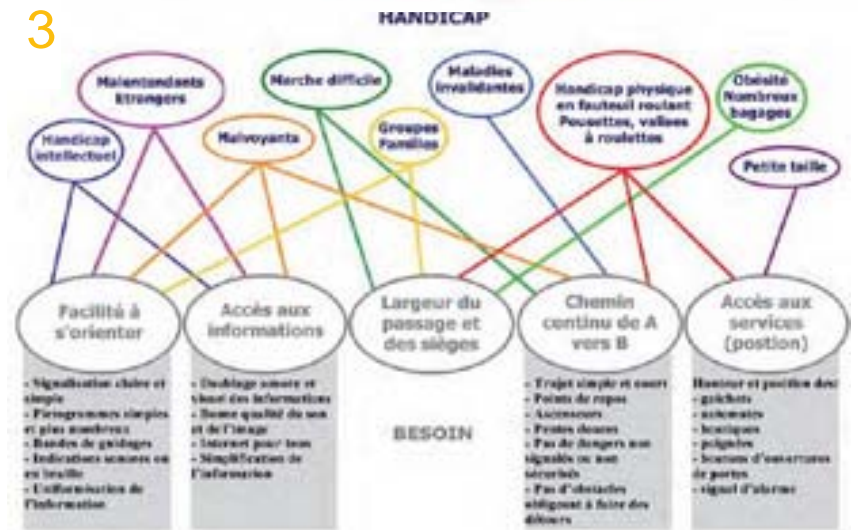
Diagnostic and study key features



- The handicap**
- 1 Handicaps cartography
 - 2 The accessibility's obstacles ?
 - 3 What are the needs?
- ITW handicapped persons and associations



1	<p>Handicaps physiques :</p> <ul style="list-style-type: none"> - Hémiplegie - Paraplégie - Tétraplégie - Infirmité motrice cérébrale - Obésité - Blessures temporaires <p>Handicaps intellectuels :</p> <ul style="list-style-type: none"> - Trisomie - Syndrome de Turner - Retard mental <p>Handicaps psychiques :</p> <ul style="list-style-type: none"> - Autisme - Syndrome Gilles de Tourette - Troubles obsessionnels compulsifs - Schizophrénie - Dépression - Paranoïa 	<p>Handicaps sensoriels :</p> <ul style="list-style-type: none"> - Malvoyance - Malentendance <p>Handicaps neurologiques :</p> <ul style="list-style-type: none"> - Sclérose en plaques - Maladie d'Alzheimer - Maladie de Parkinson <p>Handicaps neuromusculaires:</p> <ul style="list-style-type: none"> - Les myopathies - La polioomyélite <p>Maladie invalidante:</p> <ul style="list-style-type: none"> - Le diabète <p>Autres personnes à mobilité réduite :</p> <ul style="list-style-type: none"> - Personnes âgées - Groupes - Femmes enceintes - Personnes chargées - Parents et leurs enfants
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donner au train des idées d'avance



Diagnostic and study key features



Accessibility and comfort

To think the train accessible for all is to turn the trip to be more comfortable and stressless.



Diagnostic and study key features

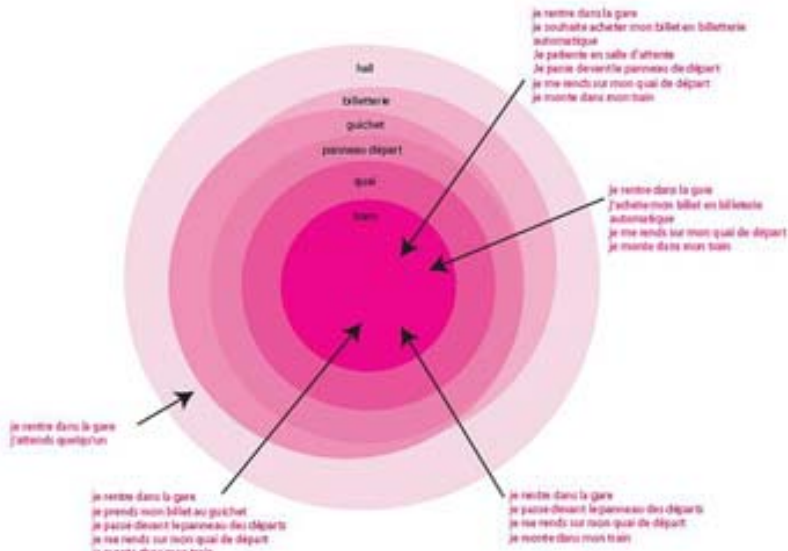


The train

In France and overseas
The others means of transport
The study of the train's image.



Diagnostic and study key features



The station

- 1 Communication and information space
- 2 A life space
- 3 Study of other public spaces

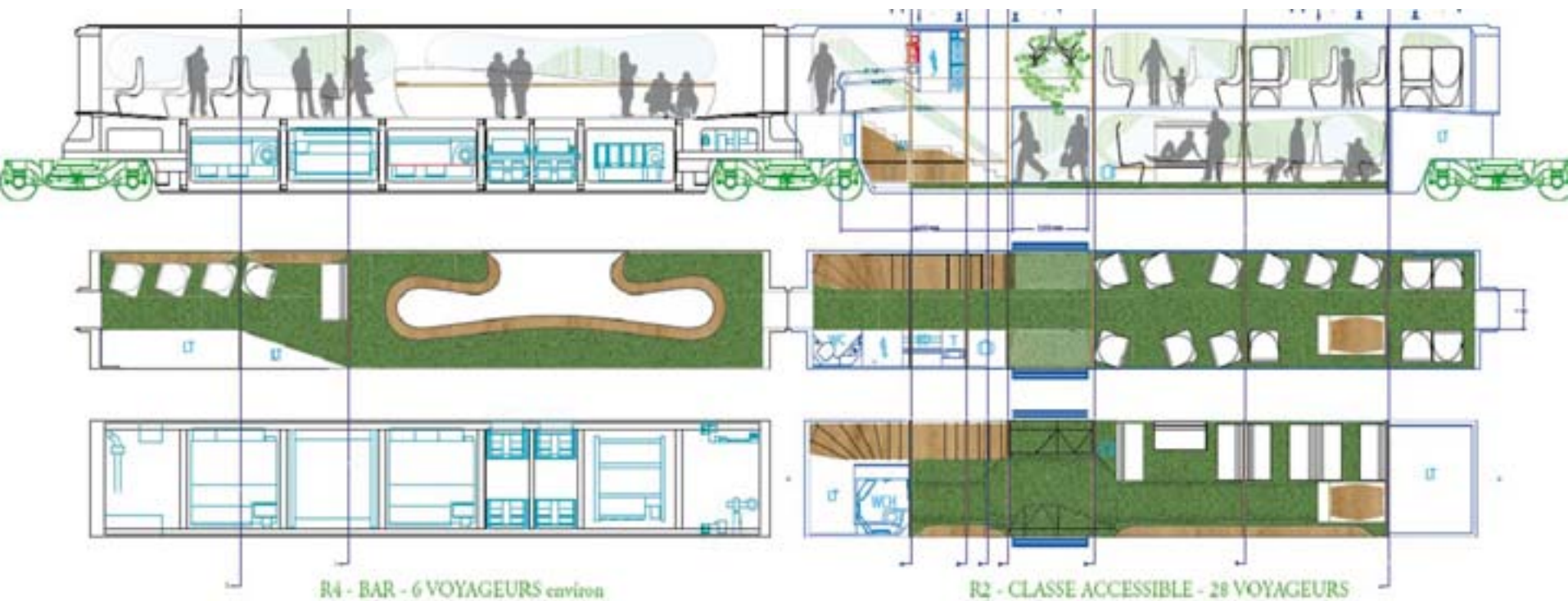


Diagnostic and study key features



And..
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SOME RESULTS...



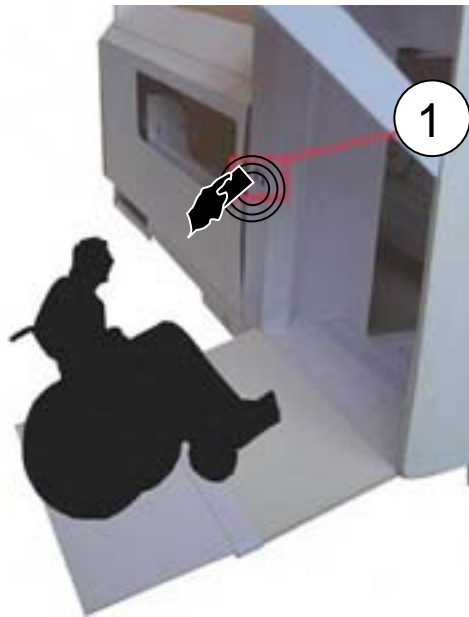
« Hortys » by Edouard Chassaing - Physical and mental accessibility in a double-deck train

SOME RESULTS...



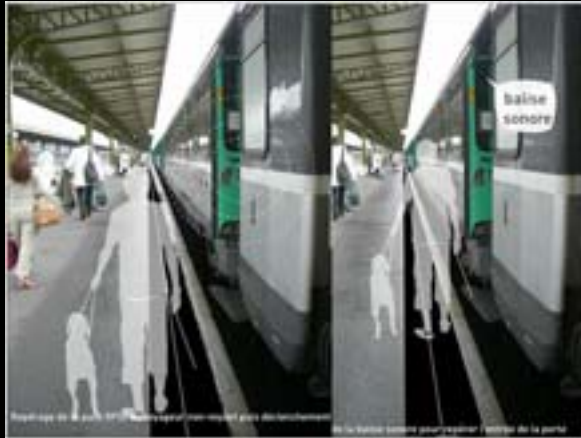
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SOME RESULTS...

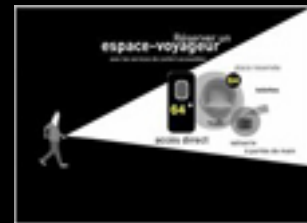
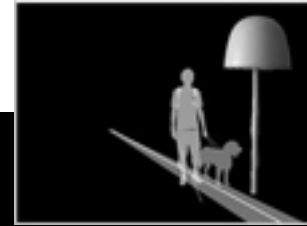


A new door to get on board a train - by Raphaëlle Tantot

SOME RESULTS...



THE DARK TRAIN



« Le train obscur » by Aude Messenger

donner au train des idées d'avance



SOME RESULTS...



Creation of a relaxation space by Mathilde Chevalier

CONCLUSION...



The results of the approach confirm :

That thinking about future products and services in a inclusive way, going on the way of the « design for all ».

That integrating the design at the beginning of the future projects.

Next steps :

Prototyping some solutions.

Purchasing and testing others ideas
(like the dark train for ex)

Thanks for your attention...

