

An aerial photograph of a large industrial or research building at CERN. The building has a prominent colorful mural on its side, featuring a central figure with radiating lines. In the foreground, there is a parking lot with several cars parked. The background shows a lush green landscape with mountains in the distance under a cloudy sky. A white octagonal outline is drawn on the ground in the lower-left corner.

Challenge Based Innovation

Multidisciplinary team

Solving power - different points of view

NGOs

Problems worth solving – driving the solution if successful

CERN

Technological feasibility support - inspiration

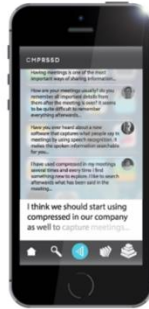
3-6 months
Global teams
Kick-off and Gala at CERN



Needfinding → Solution generation → Proof of concept

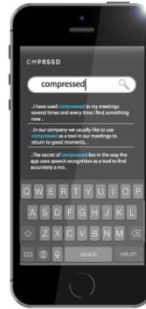
Team CMPRSSD:

How TALENT technologies could be applied to facilitate creation and sharing of knowledge? (TALENT ITN)



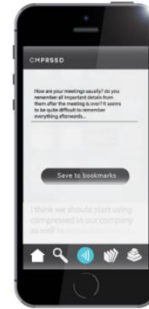
CAPTURE.

CMPRSSD records everything that is said in meetings and transfers it to text. It removes all silent moments from the recordings, capturing only the essential.



SEARCH.

CMPRSSD uses word categorizing methods to make searching moments from meetings easier. Now you can find small detail easily from the past.



USE.

CMPRSSD enables you to access any moment from any meeting, even from a project that has been on going for years.

Team Edumind:

*Helping autistic kids to communicate
Inspiration from augmented reality research at CERN (Edusafe ITN)*

IV.
Solution

A 3D printed model of a circular device, possibly a communication aid. The device is light blue and has a flat top surface. Two small, square, translucent components are mounted on the top surface. The device is supported by a wooden base with several small wooden pegs. The background is a plain, light-colored surface.

Parents

- Safety (bruises)
- Experts without validation
- Mental tiredness
- Availability of facilities and treatments
- No science behind alternative treatment
- Feeling powerless

Kids

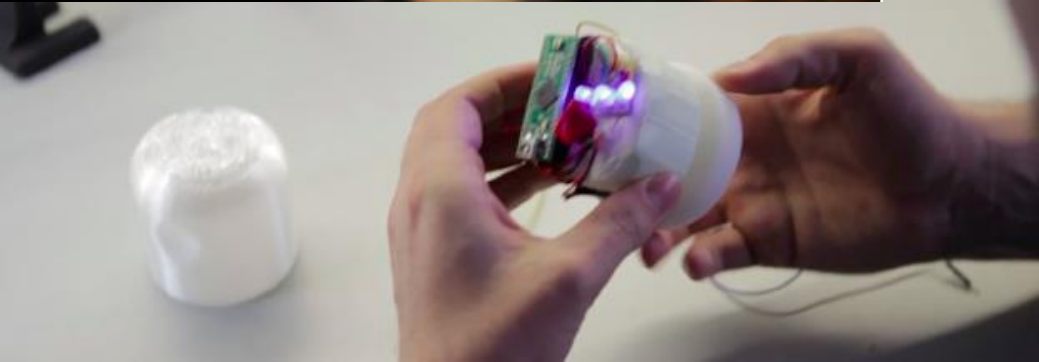
- Frustration
- No ideal models – each situation is unique (e.g. picture of a cup)
- Self understanding (e.g. own strength)
- Missing communication tools (e.g. language)
- Scared of social situations
- Overwhelming inputs lead to extreme reactions
- Attention span low
- Distracted very easily
- Don't understand others – needs to learn everything by heart
- Tiny comfort zones – what food, colors, etc. are acceptable

Therapists

- Safety (bruises)
- Mental tiredness
- Keeping track of advancement (multitasking during sessions)
- Finding out a best unique study plan for each child
- Little knowledge of technology (though iPad)
- No in-house R&D except for spaces and methods, but not for tools
- No time to redesign

Team

- Limited hardware/software resources
- Scientific validation lacking
- PhD style supervision / role split
- Lack of time
- Decision making
- Ethics and access to users
- Language issues (French children)
- ...



https://www.youtube.com/watch?v=KNvn_fBH0hk



Subatomic particle legos



Forces and carrier particles

There are four fundamental forces at work in the universe: the strong force, the weak force, the electromagnetic force, and the gravitational force. They work over different ranges and have different strengths

However, the most familiar force in our everyday lives, gravity, is not part of the Standard Model, as fitting gravity comfortably into this framework has proved to be a difficult challenge. The quantum theory used to describe the micro world, and the general theory of relativity used to describe the macro world, are difficult to fit into a single framework. No one has managed to make the two mathematically compatible in the context of the Standard Model

Subatomic particle Lego

Finding these elementary particles in nature is almost impossible. Not only because of their tiny size (10-18 m) but also because they do not exist in that state in nature. They have to be produced in labs by means of acceleration, ionization, beams, and some very complicated sh-t

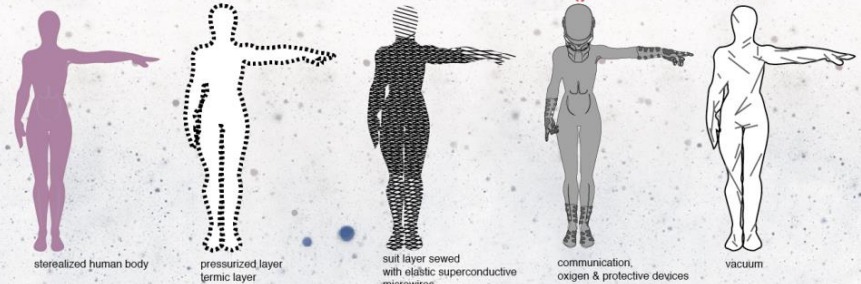


detail a



antimatterconnectionsproject

1. head protection
2. gold blinder
3. intern communication system
4. ligh and camera
5. oxygen tube
6. glass protection visor
7. head ring quick-grip system
8. superconductor magnet system
9. external communication (e.radiation)
10. extraprotective gloves
11. superconductor rings
12. timer & decay controller
13. antimatter container



Bio-suit steps & periferical devices









Aalto University
Design Factory



20 ♦ Years of Pdp

pdp

PRODUCT DEVELOPMENT PROJECT

*HAAS mill
accessories*

*HAAS lathe
accessories*





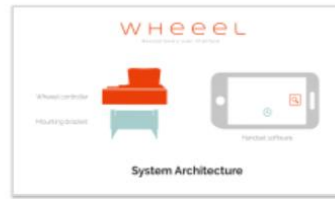
Team Heat

Fireplaces are said to be the heart of a home. They create ...



Team Fabulous Bees

Link Box is the electricity cabinet at private houses operated by Caruna ...



Team Wheel

The Wheel team is making the roads safer by building a device, ...



Team Innoboatics

A lot of alarm information in Engine Control Room. How do cruise ...

Team Gravity Fighters

Team Gravity Fighters

Mobile. Lightweight. Battery powered. HOIST. Traditionally the power is fed to the ...



Team Plänt

Our Plänt-stick combined with the gaming app is a helping hand teaching ...



Team HuVi

The workwear locker is a classic Lindström product. It has been a ...



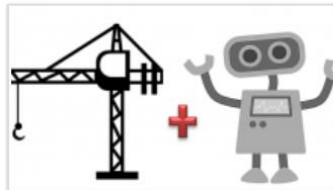
Team Createam

Meeting rooms, flexi offices, professors' room, bosses room... All of these spaces ...



Team Dragonfly

With the fast-paced development of Unmanned Aerial Vehicle or drones, the urban ...



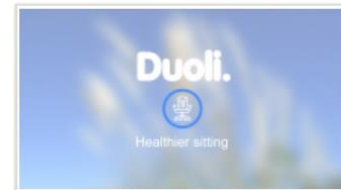
Team Bumblebees

What happens when you automate the transfer of the load from a ...



Team Ship Happens

Vessels. Complexity. Overflow of information. A scenario that team SHIP HAPPENS is ...



Team Kuusi

Back pain? Neck pain? Feeling tired after too much sitting? What if ...