CTX Hackathon Notebook – Group #2 ALSTOM

Pitch of the Project:

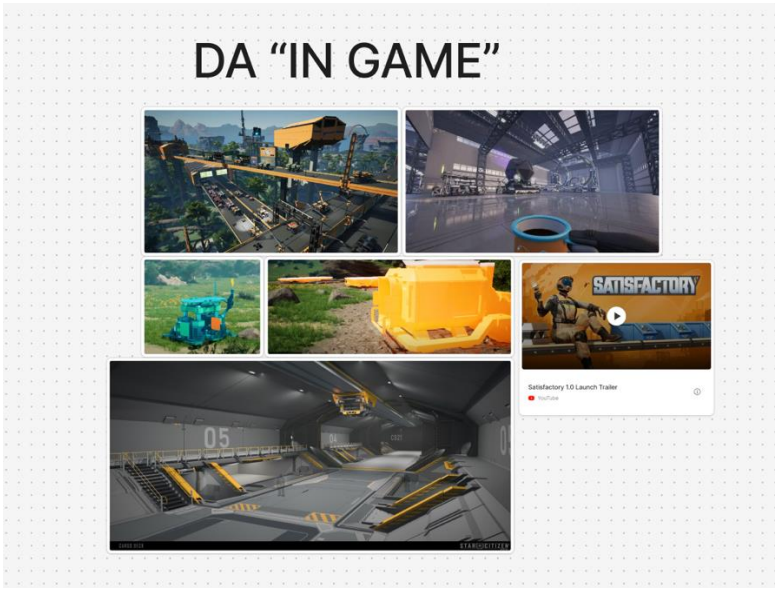
- Context: Alstom believes that there is room for improving the efficiency of their handling of logistical footprints, through the incorporation of modern technology. This could replace their current methodology, where they use PowerPoint, which in turn proves to be relatively inefficient, as it takes around 3 weeks to complete a single footprint.
- Problematic: Different departments work on the development of the footprints, where they share over and individually adjust the PowerPoint and collaboration is a difficult internal challenge. Additionally, PowerPoint doesn't offer a 3D view of the "kanban" logistic boxes, so determining the height aspect of said boxes in the workstation space is a challenge that slows down the process of producing the final footprint.
- Solution: Using virtual reality googles, visualization of the box placement can be done directly in the required space, while taking into consideration the available height of the space for the box. VR provides a true 1:1 scale that is immersive for the workstation environment, allowing the user to accurately judge the height and depth of the boxes.

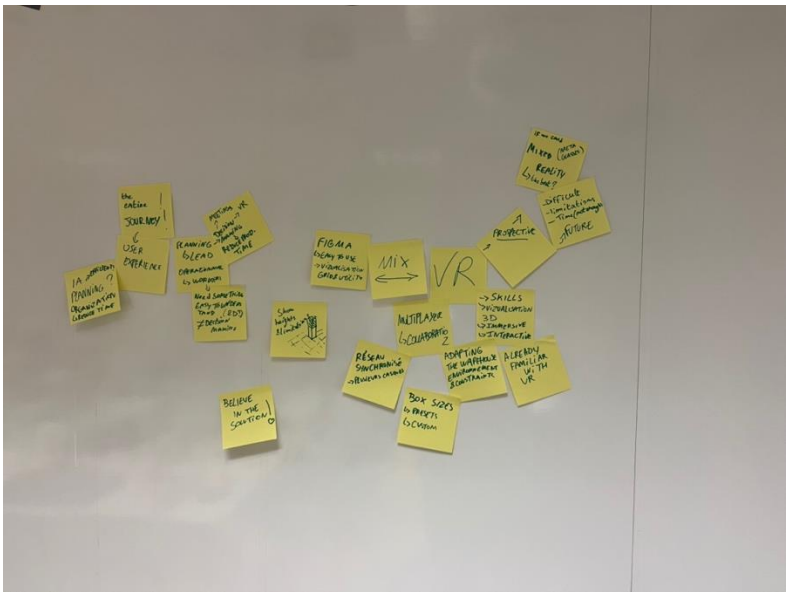
Development Process:

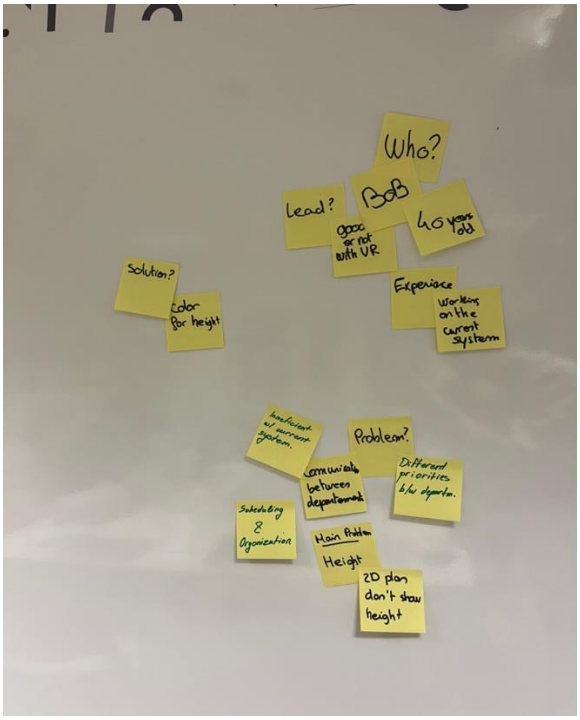
- **Brief Introduction:**
  - Our team was introduced to the brief by an ALSTOM employee. She explained that the company is looking towards the implementation of technology for the improvement of the efficiency of the work process. According to her, the company has already began working with VR and AR in the environment and as of now there are people who understand how to use this type of
  - The briefer, shared with us the challenge that they were facing at ALSTOM, the current way that they deal with this challenge and some pictures, used to compliment her explanation.
- **Brief Translation:**
  - The company faces an issue with the efficiency, associated with the development of footprints, used for the arrangement of "kanban" logistics boxes during the manufacturing process of their train cars.
  - In the context of the brief, inefficiency translates to a roughly 3-week work period for the completion of said footprints.
  - Now, ALSTOM uses PowerPoint as tool for the development of the footprints, which comes with many limitations, one of which is the inability for the logistic organizers to preview the box models in a 3-dimentional space. Because of this,

when developing the footprints, workers are unable to take into consideration the height of the boxes, posing many challenges along the way of the footprint completion.
  - According to the brief, the footprint development is split between different departments, where each can look at the PowerPoint file and make changes, which in turn poses collaboration problems because in many cases they lack communication, which further delays the process.
  - ALSTOM is looking forward to replacing their current PowerPoint model of work with something that can be easily understood by the departments but also to promote the opportunity of collaboration and to remove the miscommunication issue. On top of that they want to ensure that there is a way for the footprint makers to visualize the height of the boxes in relation to the production line, where they would be placed.
- **Our first steps:**
  - The team began by dividing the problem in different elements. We had to make sure that we know where this issue comes from and who are the main characters influenced.
  - Before we started brainstorming possible solutions, we tasked ourselves with the creation of a persona, named Bob. He attributed some characteristics to him in relation to the company and the problem we were tackling.
  - After Bob's persona was created, we started brainstorming the ways we were going to tackle the problem, keeping in mind that he was going to be the one for which our product would be developed. We also had to figure out on which technology were going to base our final product.
- **Programs we used:**
  - *Unity* for the development of the VR environment
  - *Google AI Studio* for the box measurement tool
  - *Blender* for the 3D modeling of the boxes
  - *Figma* for the internal organization within the team.
- **Why VR?**
  - Virtual reality proves to be most fitting with the general ambition we have for the project.
  - When creating the footprints, employees can precisely place the box model with an accurate base and height measurements within the perquisites of the workstation space.
  - VR is technology that constantly gets updated and ever more improving and with further development of our product, the implementation of multiplayer can prove beneficial for the overall communication and collaboration issues that the company experiences with their current model.

- **Process Documentation:**







DA ALSTOM

ALSTOM

maybe the color for the Height

Click here

Read more

Click here

Read more

Questions

- Qu’est-ce qui vous gène dans l’outil sur power point actuel ?
- Comment est organisé la ligne de production ?
- Qui sont les utilisateurs du système qu’on va crée ?
- Quelle variable pour la hauteur (y) des boxes ?
- Pourquoi plus particulièrement VR ?
- Télétravail ? Accessible sur place ou distance ?
- Attentes en particulier ?
- Qu’est-ce qu’ils ne voudraient surtout pas avoir
- Comment sont différenciés les boxs ? (Genre par départ? Part type d’objet ? est-ce que c’est important pour la séquence de mouvement?)
- Peut on avoir accès ou avoir plus d’info sur le power point utilisé?
- Des emplacements prédéfinis ?

Présentation

1. SUMMARY of the BRIEF (What problem? Who, When)
   (who is alstom, big company working in the railway and etc (20 sec max)
   Alstom use Powerpoint (tedious and boring) to create their logistical footprints, issues : sequencing and no real idea of the dimensions (height), asynchronous exchanges with departments, too many back and fort (not efficient) → organization and communication problems, take too much time (3 weeks, communication is slow) for creating their footprint

2. redefining the needs (What exactly)(can go with the first point)
   WHAT THEY WANT = SIMPLE AND EFFICIENT collaborative SYSTEM for their logistics (they like and are used to VR)
   which allows to carefully plan and adapt their sequences, reduce the footprint production time and visualize

3. How we're tackling the problem (brief explanation of the solution, like how we "sell" it quickly)
   VR Tool for planning their footprint
   (saves ? sharing data ? collaborative ?)
   taking consideration : not everyone is good with technology, used where (in office only?),

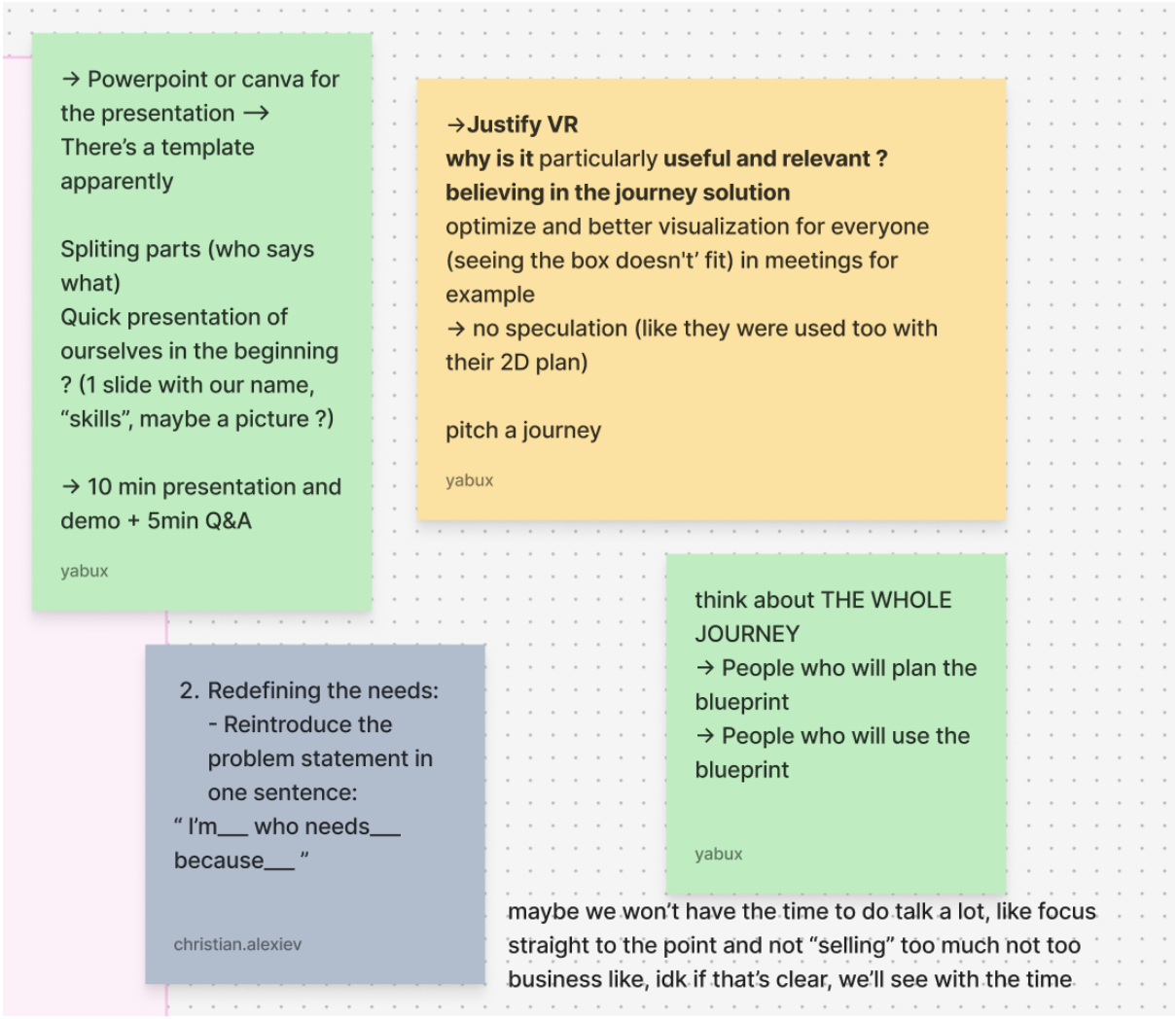
4. How it works (quick explanation)
   technical part

5. Demo
   wow look it works

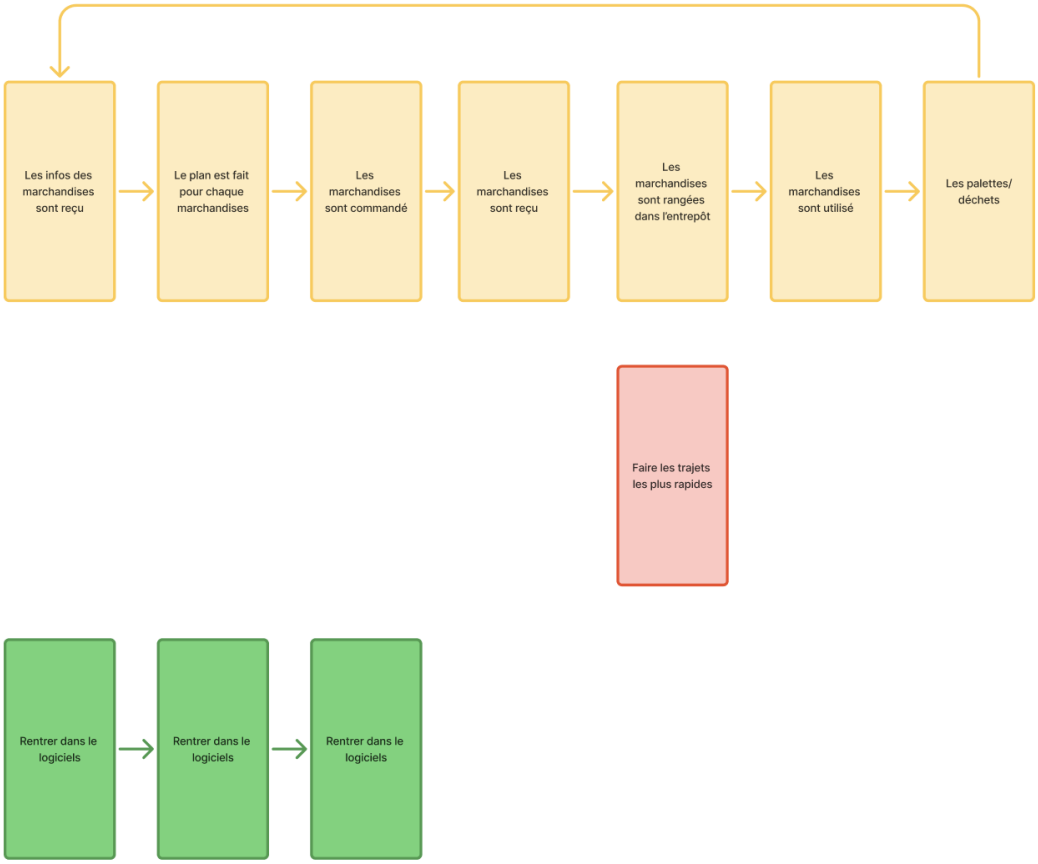
6. What's next ? How we can adapt, improve the current solution. What else the company should think about (communication etc)

   What we could do in the future, how to go further : more "workshops", software version (not necessarily using VR), going for AR (Rayban meta), database with the sizes (copy/paste the excel and auto box presets, server related), "AI" algorithm which decide the boxes organization (priority, sequencing and "place")

   Recommendations for Alstom : Adapt the 3D environment to their real workshops (Scan the environment for example (or also scan boxes that can be automatically added to the system?), add constraints, etc). Redefine their organization (not going back and forth with different departments, defining their key needs, comparing the different blueprints. Changing the preset boxes to their actual real size.


→ Powerpoint or canva for the presentation → There's a template apparently
Spliting parts (who says what)
Quick presentation of ourselves in the beginning ? (1 slide with our name, "skills", maybe a picture ?)
→ 10 min presentation and demo + 5min Q&A
yabux
→Justify VR
why is it particularly useful and relevant ?
believing in the journey solution
optimize and better visualization for everyone (seeing the box doesn't' fit) in meetings for example
→ no speculation (like they were used too with their 2D plan)
pitch a journey
yabux
think about THE WHOLE JOURNEY
→ People who will plan the blueprint
→ People who will use the blueprint
yabux
2. Redefining the needs:
- Reintroduce the problem statement in one sentence:
" I'm___ who needs___ because___ "
christian.alexiev
maybe we won't have the time to do talk a lot, like focus straight to the point and not "selling" too much not too business like, idk if that's clear, we'll see with the time

Scenario


Les infos des marchandises sont reçu
Le plan est fait pour chaque marchandises
Les marchandises sont commandé
Les marchandises sont reçu
Les marchandises sont rangées dans l'entrepôt
Les marchandises sont utilisé
Les palettes/ déchets
Faire les trajets les plus rapides
Rentrer dans le logiciels
Rentrer dans le logiciels
Rentrer dans le logiciels

how do we make to organizarion space mor efficient by minimise time production and vizualing the final output ok i forgot already

yabux

Why is this challenge important?

- It holds the potential to increase the overall efficiency of the production line of the company.

christian.alexiev

(project) notebook : problems, frictons, what we did not work on → another document they want

yabux

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