VARLAB +
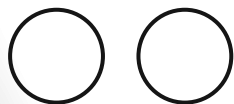
RVA 2024/2025 - Final Presentation

2025

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INTRODUCTION

Project Context

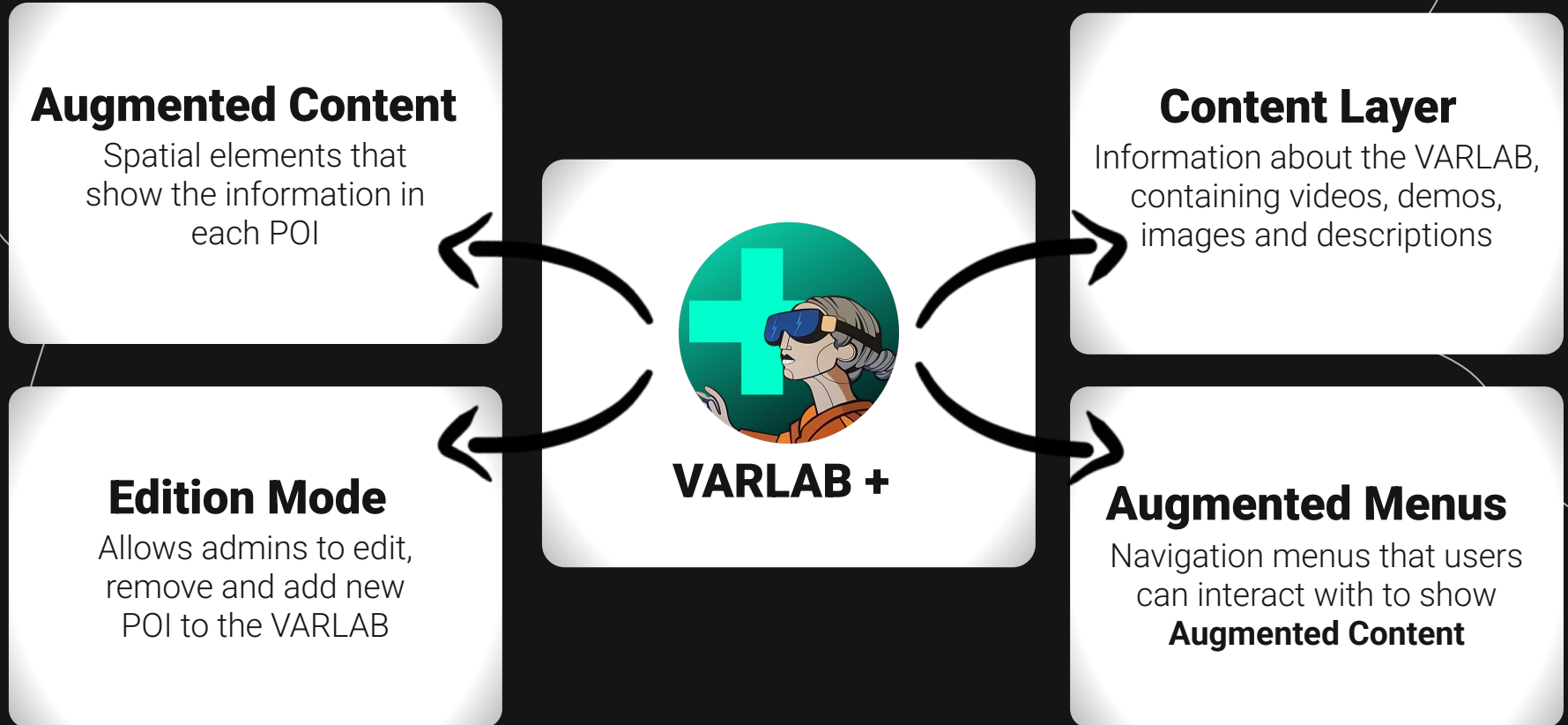Use the VAR Lab logo as a visiting guide in IEETA (VR or AR --- combine with 3D reconstructions of the environment)

Motivation

Give users more information about the VARLAB, by providing a solution for them to interact with

PROJECT MAIN MODULES

Augmented Content
Spatial elements that show the information in each POI

Content Layer
Information about the VARLAB, containing videos, demos, images and descriptions

VARLAB +

Edition Mode
Allows admins to edit, remove and add new POI to the VARLAB

Augmented Menus
Navigation menus that users can interact with to show **Augmented Content**
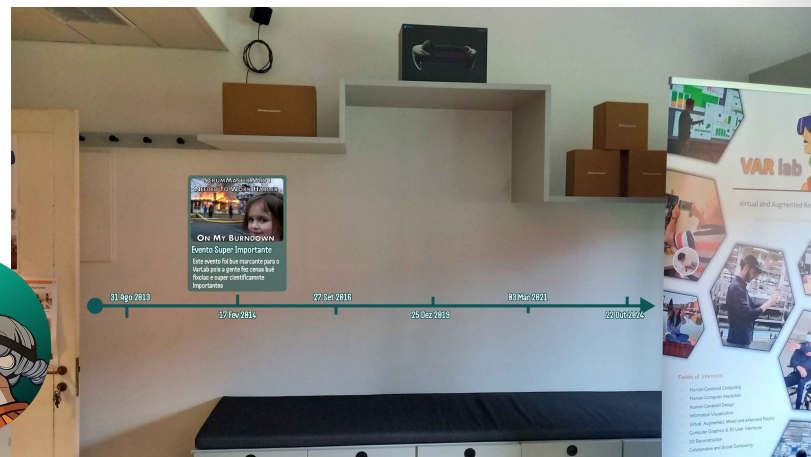
PROJECT OVERALL VISION

- Create a VR experience for VARLAB's visitors

- Provide users an interactive way of learning more about VARLAB and its history

- Allow VARLAB owners to edit /add /remove each POI

STORYBOARDS

USER STORIES

As a **Visitor** I want to **know more about VARLAB's projects** so that **I can decide if I should collaborate with them.**

As an **Administror I** want to **setup the project views** so that **visitors can see the projects developed in VARLAB.**

As a **Visitor**I want to **learn about the equipments used at VARLAB** so that **I can try a piece of equipment that I've always wanted to use.**
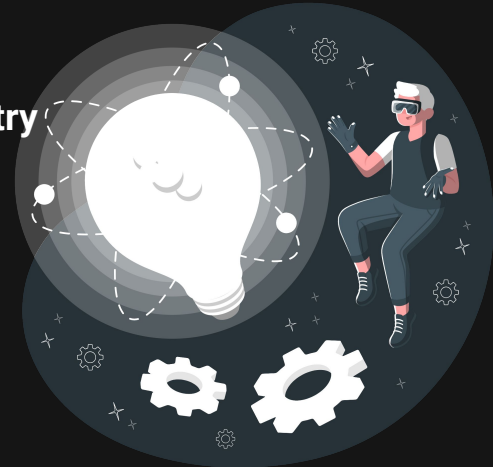
FUNCTIONAL REQUIREMENTS

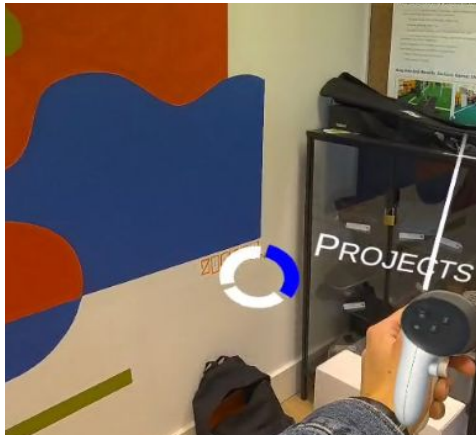**User Interaction**

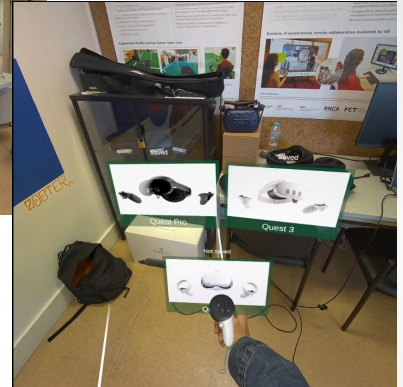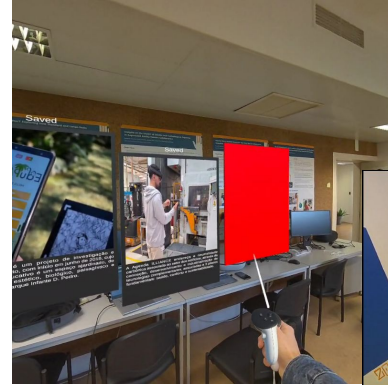**Display Images and Info**

Present a Timeline

Prototyped Developed

Display images with information about the Varlab like:

- Equipment
- Project Pictures

Menu that allows the user to interact with the different sections of the project

Prototyped Developed

Timeline with important events of the VARLAB

Tools Used

- Meta Building Blocks
- OVR Spatial Anchors
- Mixed Reality Utility Kit (MRUK)
- Room mapping feature of the Quest Pro

DEMO VIDEO

User Evaluation

- **4 Participants**
    - Age between 20 and 23

- **5 Tasks**
    - 2 for the administrator persona
    - 3 for the visitor persona

- **Objective**
    - Evaluate the usability of our system for both the personas created

User Evaluation - Results Admin

	Task 1	Task 2
Participant 1	4 - 39s	5 - 36s
Participant 2	4 - 48s	4 - 47s

- **Task 1-** Define 3 spots to place the projects

- **Task 2 -** Define a space to place the Timeline

Analysis of the Admin Results

- For the menu instead of having it place on a wall, have it always accessible through a button in the controllers

- Timeline instead of the entire component being 2D we decided to make its shape 3D and cards that display the information 2D

- Add a preview object for the placement of the timeline

- Add some elements to help the user know how to interact with the application

User Evaluation - Results Visitor

	Task 1	Task 2	Task 3
Participant 1	3 - 1min06s	5 - 47s	4 - 51s
Participant 2	4 - 53s	5 - 39s	5 - 42s
Participant 3	3 - 1min10s	4 - 52s	4 - 55s

- **Task 1-** Look for the projects from the VARLAB, name one project

- **Task 2 -** Now select the equipments part, how many exist?

- **Task 3 -** Finally select the history part, name the event that happened in the day November 7, 2024

Analysis of the Visitor's Results

- Timeline instead of the entire component being 2D we decided to make it's shape 3D and cards that display the information 2D

- Add videos for the projects

- Add some elements to help the user know how to interact with the application

Expectation vs Reality

We initially intended to:

- Support for videos
- Team overview section
- Initial tutorial UI
- Direction cues

We had to reduce the scope:

- Radial menu to change sections
- Room-aware project placement
- Absolute position equipment placement
- Store information between sessions

Main Difficulties

We faced some difficulties:

- Learn unity

- Save different types of spatial anchors in the headset

- Change information dynamically inside a rendered prefab

- Rendering and hiding elements on demand

- Controller's accuracy

- Time constraints

Future work

- Setup tutorial UI

- Add more interaction to project previews

- Add more interaction to the timeline

- Show teams

- Directional cues

THANKS!

DO YOU HAVE ANY QUESTIONS?

Daniel Madureira - 50%

José Gameiro - 50%

2025