Project Plan

Capstone 2022

Team Aistikattila

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Introduction

This is the project plan documentation for the Aistikattila Experience project created over the course of the Capstone course in 2022-2023. Within the scope of this document are the target and scope of the project, its tasks and deliverables, project organisation, schedule, budget and risks. In the end, we will present our findings and thoughts on the results of our project.

Team members

The Aistikattila team consisted of the following members:

- Eva Zorman
- Heidi Laine
- Jasperi Sivenius
- Joona Wiik
- Xuexian Chen

Target and Scope

The project was based on the following problem: right now Aistikattila consists of multiple completely disconnected components. Our solution was to create a simple user-interface that combines all the separate components in the Aistikattila room into a single more usable entity.

Our initial targets for the final project were the following:

- Includes pre-made audiovisual sceneries and relaxing environments
- Aims on expanding the area to accommodate other fields and studies
- Interface allows small adjustments to the experience
- Having a slightly different experience for each study group
- Possibility to add own experiences later on
- Scent machine can be used simultaneously with the experiences

The original plan of the project target was to include VR sceneries, however the final deliverable does not include VR sceneries and interfacing with the scent machines. VR sceneries were not created due to the fact that we wanted to make the sceneries intractable for more than one person at a time, and since we were given a large research room to experiment in, we wanted to ensure that all the equipment in it (such as the 5 projectors) would be used. It was also decided that interfacing with the scent machines in the room is out-of-scope, as they were mostly non-production grade, proprietary equipment that would generally need to be hacked to be used, as well as that no APIs for the machines were known.

Project Tasks and Deliverables

The most pressing tasks identified by the Aistikattila team were the following:

- Getting familiar with the Aistikattila room and its technology
- Creating a program with a UI that will help researchers easily use different environments
- Connecting the visual, auditory and olfactory assisting equipment with the main program
- Create a user friendly UI for customers which allows for experience customisation
- Provide modular integration for future experiences
- Document program capabilities and contents
- Generate different relaxing sceneries for customers to use

All of the tasks identified by the team were successfully completed during the course of the project. As stated in the original plan, the final deliverables of the Aistikattila Experience project are:

- Source-code and documentation of the program and any API connections

- A number of generated sceneries (forest and space scenery) that can be run in the Aistikattila room

Project Organisation

As mentioned before, the Aistikattila team consists of 5 members, which is a mixture of interaction design and software engineering experts. The team also used the following technologies to keep work organised for the duration of the project:

- WhatsApp / Discord for communication between team members as well as keeping in contact with the client
- GitHub and GitLab (as desired by the client) for hosting the source code of the project

Additionally, the team held weekly Scrum-style meetings to ensure that everyone was up-to-date about the project status.

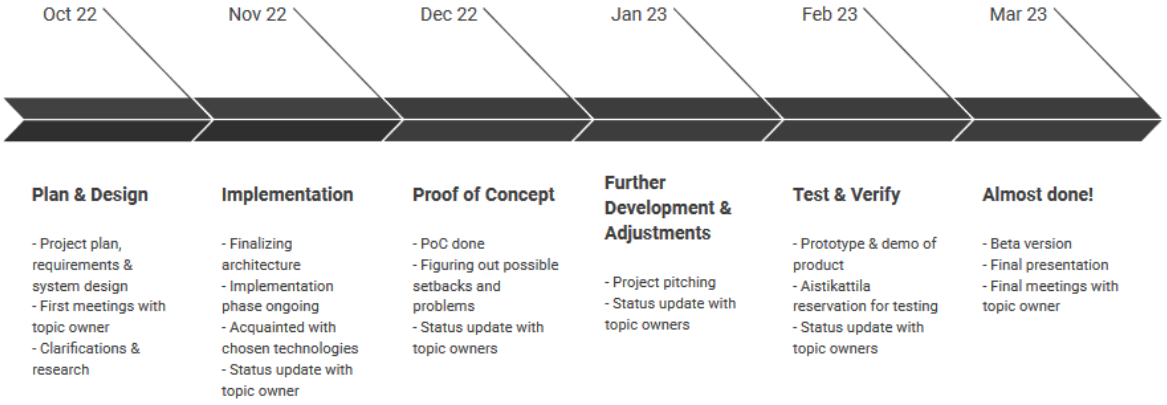
Team Ground Rules

After the final capstone team meeting, the following ground rules were set into place for the whole team to respect and uphold.

1. Please inform the team on time if a problem is coming up.
2. Decisions will be made only after hearing the opinion of each relevant member.
3. We will use Github/Gitlab, Whatsapp, Discord and Google Drive to keep everybody up-to-date with our project. Each member will check Whatsapp and Discord daily.
4. Inform the team as soon as possible if you cannot make a deadline or have trouble with a task given to you. You can also ask a team member for assistance.
5. We will solve problems by analysing the root of the problem and then decide on a solution together.
6. Everybody should contribute to decision making at least once per decision/discussion.
7. Ask when something is not clear.

Project Schedule

The project schedule, together with its phases can be found below.



Additionally, the team also set a number of milestones, which were generally always met:

- Milestone 1: Project Plan v1.0 accepted by customer (Tue 18.10.)
- Milestone 2: Project architecture finalised
- Milestone 3: Proof of Concept ready
- Milestone 4: Prototype including 1 example scene, ready for Aistikattila testing
- Milestone 5: Beta version including all example scenes ready for field testing
- Milestone 6: Release candidate has passed field tests

Budget

The original hour budget for the project can be seen in the table below, however certain changes made during the duration of the project changed the budget, such as deciding that there will be no 3D modelling done by the team, in-turn only using freely available 3D models already created or purchased by the client.

Research & Project Planning	50
System Design & Architecture	75
Program Implementation	300
3D Modelling	100

First Scenery Package	125
Second Scenery Package	75
Third Scenery Package	75
Field Testing & Verifications	100
Customer Communications & Project Management	50
Risk Reserve	150
Required Asset Purchases	-
Borrowed Equipment & Equipment Purchases	-
Total Hours	1100

Project Results

As previously mentioned, we have reached the planned estimates and have delivered the Aistikattila Experience which contains Unity software for launching audiovisual sceneries. The full list of our deliverables is:

- Two sceneries included in the final product, i.e. the forest and space scenery.
- Users can select from two different pre-made sceneries or add their own sceneries made with Unity.
- Settings of the forest scenery can be adjusted accordingly
- Software connects projectors, sound and the lights in Aistikattila
- The product works as it should in Aistikattila

Our primary user group are the researchers and other Aistikattila visitors. As such, we believe we have reached our goal of helping researchers to study the effects of virtual environments hassle-free. Below you can find pictures taken in the Aistikattila room displaying our customisable forest scenery.

Some notes we have considered after the ICT showroom are:

- We used more time than expected for project planning
- We had difficulties deciding what we are doing since were not familiar with the technology used in Aistikattila
- It was hard to assess what would actually be possible to implement and in what schedule.
- We had some ideas that we had to abandon (interactivity)
- Otherwise we followed the plan quite strictly.

To conclude, if we would run the same project again we would know better how to conduct the design phase (the given goal was a bit vague), how to make sense of customer needs and how to decide what to do without a strict goal. We are very happy with how the communication worked inside the team well throughout the whole project and everyone did their part. We worked both as individuals and as a team.