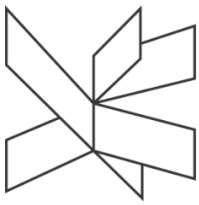

VIA University College

Project Description

Museum Conditions Monitoring System

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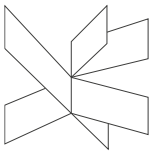
ICT-Engineering

4th semester

4/3/2020



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1 Background description

The Brukenthal National Museum is a museum located in Sibiu, Transylvania, Romania. The museum is housed in the palace of Samuel von Brukenthal and established its first collections around 1790. (Brukenthalmuseum.ro, n.d.)

The museum hosts 1200 works of art from the most important art schools of Europe dating from 15th -16th century. (Sibiu Hermannstadt Turism, n.d.) In general, the artworks that need similar conditions are located in the same room.

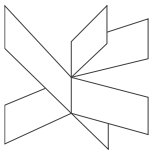
It is known that artwork in museums is damaged by environmental factors like humidity and water, pollution, sunlight etc. These damages not only reduce the lifespan of the artwork but also the price value. “In some cases, objects in excellent condition are valued at a 25-30% premium as compared to similar objects in fair condition, whereas an object in poor condition may be discounted 40-60% in value as compared to other objects similar in likeness, kind, and quality.” (Rigaud, 2014)

In order to limit the effects of environmental factors, preventive conservation is applied. This implies environmental monitoring and control, pest management, storage and display provision. (Museum Galleries Scotland, n.d.)

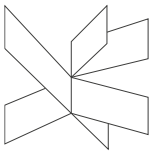
Currently, the Brukenthal National Museum is based on human collection monitoring of the artworks using methods like checks of the thermometers, manual window control and regular checks of the air conditioning. As a result, the data is not consistent and prone to human errors, employees lose time on monitoring and the museum needs more employees to manage the collection monitoring.

According to Sibiu’s Declaration Strategic Agenda 2019 – 2024, investing in culture is listed as a priority. (Culture Action Europe, 2019) Consequently, the museum is interested in investing in a better monitoring system.

The Brukenthal National Museum from Sibiu expressed their need for a product that will help them to keep track of measurements(temperature, humidity and light) needed for



specific collection rooms. The museum also stated that they want a collection of data about all different categories of artwork and their needs for preservation and ensurance of their lifespan.



2 Problem Statement

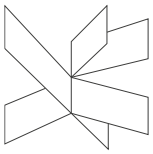
The Brukenthal National Museum is facing challenges regarding environmental conditions and associated sensors, being in need of reducing human errors and centralizing all the information in one place.

Main question

What would help the museum to keep the works of art in good conditionin in terms of humidity, light expousure, temperature and CO_2?

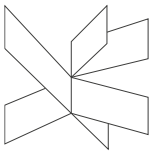
Sub-questions

1. What kind of sensors the museum needs?
2. How many units of deviations are allowed from the standard values of an indicator (temperature, CO_2, light, etc.)?
3. What happens if the system fails?
4. How the system should behave in case of environmental deviations?
5. How the system is going to centrelize the data?
6. How is the system to differentiate between different types of collections or types of artpieces?



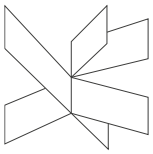
3 Definition of purpose

The purpose of the project is to help the museum staff to protect the artwork from diffrent kinds of damages, and at the same time extend the lifespan of their exhibits.



4 Delimitation

- The system will only be implemented in English.
- The room can only have one of each sensors.



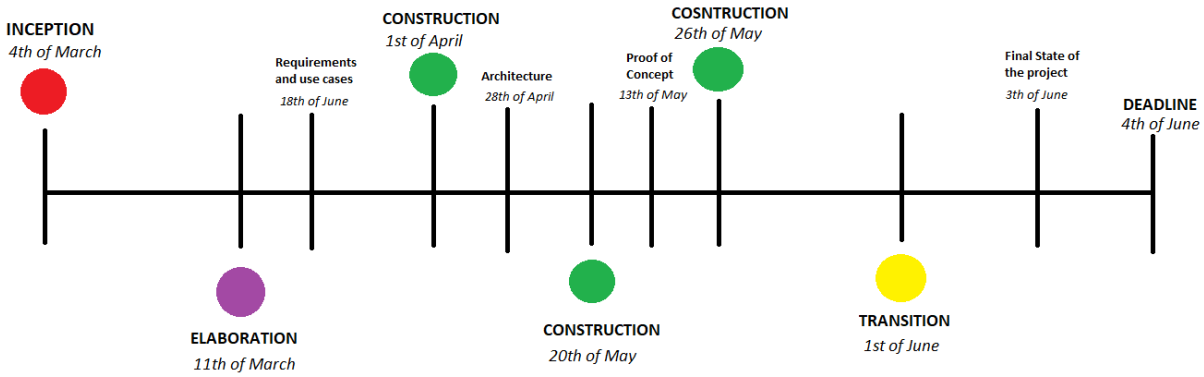
5 Methodology

During this project, the team uses the Scrum framework and Unified Process to develop the software. That means that the work is split into sprints consisting of the number of workdays, that the team decides to have. After each sprint, the team reviews what has and has not been done and re-evaluates the progress. The product owner then decides on which features to focus on in the next sprint and this is repeated until the project is finished.

In each sprint, the team uses the unified process to design and implement each feature, to ensure that the feature fits the requirements laid out and to make cooperation easier.

Speaking of cooperation, to handle working in parallel, the team uses Github and OneDrive for sharing files, Facebook Messenger for communication and lastly Trello to manage all the tasks and activities regarding the project.

6 Time schedule



7 Risk assessment

Risks	Likelihood Scale: 1-10 10 = high risk	Severity Scale: 1-10 10 = high risk	Product of likelihood and severity	Risk mitigation e.g. Preventive- & Responsive actions	Identifiers	Responsible
Not doing tasks on time	6	7	42	Asking for help from the group members	Being behind schedule	Jaume
Inability of one or more group members to do their task	7	7	49	Ask for help from the group members or the supervisors	Being behind schedule	Sabin
Steering of the course	4	8	32	Constantly get feedback from the supervisors	Supervisors say that we are focusing on wrong things	Valera
Increasing the complexity of the project	4	6	24	Stick to the requirements	Implementing functionality that is not a requirement	Justinas
Spreading of Coronavirus (COVID-19)(340 cases the current day 11/03/2020)	10	7	70	Notify the team and administration about health situation	People sneezing/coughting, having fever and not showing up at meetings.	Valera Rusu

8 Sources of Information

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