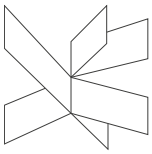

Project Description

HB Products Mobile Application

Version history

Description	Version	Init	Revised	Approved	Date
Draft of document	0.1.0	HS, KR, MD	POV	HS, KR, MD	20-08-2019
Small corrections	0.1.1	HS, KR, MD	POV	HS, KR, MD	09-12-2019
Final version	1.0.0	HS, KR, MD	HS, KR, MD	HS, KR, MD	16-12-2019

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ICT Engineering

7th Semester

December 16, 2019

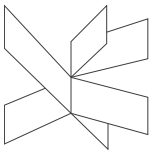
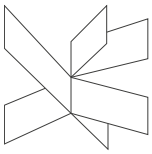


Table of content

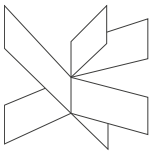


1 Background description

A mobile app or mobile application is a computer program or software application designed to run on a mobile device such as a phone/tablet or watch. Apps were originally intended for productivity assistance such as Email, calendar, and contact databases, but the public demand for apps caused rapid expansion into other areas such as mobile games, factory automation, GPS and location-based services, order-tracking, and ticket purchases, so that there are now millions of apps available. Mobile applications often stand in contrast to desktop applications which are designed to run on desktop computers, and web applications which run in mobile web browsers rather than directly on the mobile device.

HB Products is a development-oriented company (HB Products A/S, 2019), which specialises in the development and production of sensors for industrial refrigeration systems. Apart from expertise within oil and refrigerant control, HB Products have great know-how in the design and optimisation of industrial refrigeration systems.

Currently HB Products is expanding, and they need new and innovative ways of showing the customer how to use and interact with the sensors. That's why they need a mobile application. The application should read a barcode on a sensor and show 3D visualization of the product so that the customer could see it as it is in real life. The application should also show the sensor's specifications and give the customer the opportunity to order a new one from the same type.



2 Definition of purpose

Until now the products that HB Products present to their customers are only shown with diagrams and actual units. This in a way limits the customers knowledge about how the HB Products sensors work. For some customers the illustrative diagrams are not that easy to understand which can be changed with a digitized illustration of the sensor in a simulation environment.

The project about HB Products Mobile App would greatly improve the end user understanding about the product and their experience using the products.

3 Problem Statement

Nowadays efficiency is one of our main goals and HB Products is the company that is focusing on the efficiency in the refrigeration fields of business. The products that the company is selling are making the refrigeration systems “smart” and self-controlled, which on its side is reducing the used electrical energy of the system.

The customers do not have an easy to understand visual representation of how the system works and what benefits will they get when installing the HB Products sensors in their current refrigeration systems. Another problem that the customers are facing is that data and manuals about a certain product are not easily accessible/understandable and orders of spare parts can take time.

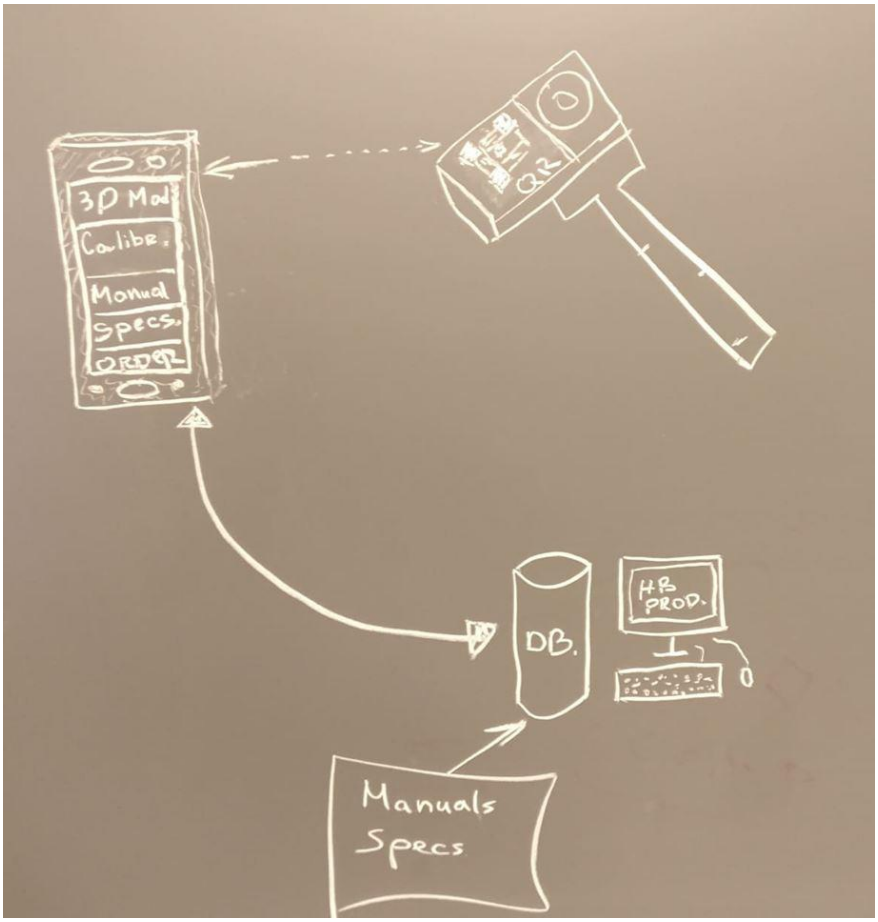
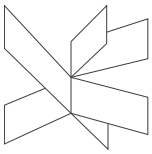


Figure 1 - Initial Rich Picture



4 Delimitation

The following will not be included in the project to assure a reasonable release of the application within the project period.

1. The concept will not have the data for all products.
2. The visualization of the data will not be 100% accurate and will be used only for illustrative purpose.
3. Code optimization for broad range of devices will not be considered. The application will be tested only on devices that the team has access to.

5 Choice of models and methods

The mobile application should be delivered as easily expandable software product which can be accessed from wide range of users.

The application will be implemented in C# using Xamarin because it can be delivered on iOS and Android mobile devices. The application will contain 3D objects which will use a graphics engine. For the project's process management Kanban was chosen. Kanban is event-based process management method. The outcome the analysis and design system architecture phase will determine the core of the application. This will act as a foundation of the project which will then be improved in the Iterative phase (design, implement, test).

6 Time schedule

The project is 20 ECTS which equals to 550 working hours per group member. This equals to 1650 working hours for the whole group. Starting date for the project is September 01, 2019 and the deadline is until December 20, 2019.

Goals are part of every aspect of business/life and provide a sense of direction, a clear focus, and clarify importance. By setting goals for yourself, you are providing yourself with a target to aim for. A SMART goal is used to help guide goal setting. SMART is an acronym that stands for Specific, Measurable, Achievable, Realistic, and Timely. Therefore, a SMART goal incorporates all of these criteria to help focus your efforts and increase the chances of achieving that goal. (CFI Education Inc, 2019)

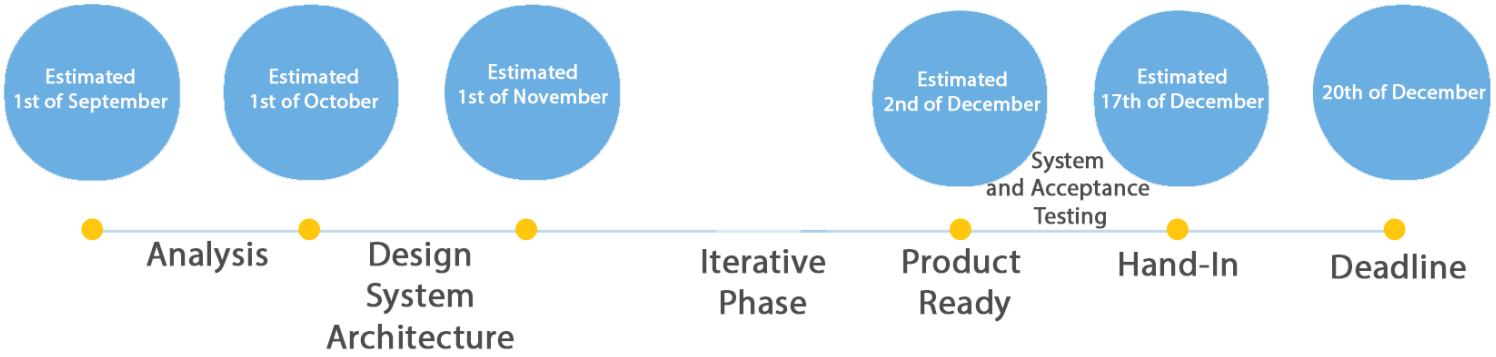
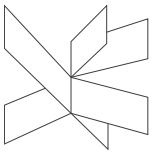


Figure 2 - Estimated timetable



Broad goal: Understanding the concept

The team should educate themselves with the help of HB Products representatives about how and in what environment their products work.

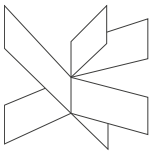
Specific: The team will have a meeting with HB Products representatives to understand the idea of the devices and clear all doubts.

Measurable: The progress will be measured in the end of the meeting and more meetings will be scheduled if needed.

Attainable: We will attend the meetings and take notes and then start the next phases of the development process.

Relevant: Getting a good understanding of the products will enable us to develop a better application.

Time-based: We want to achieve the goal in less than two weeks.



Broad goal: Development environment and version control setup

Specific: The team should setup the development environment and test a blank application on the different platforms iOS, Android.

Measurable: Success is considered if the application works on all platforms and all the group members have their development environments set-up and working.

Attainable: We will accomplish the goal by starting with Android tests and then continuing with testing on the iOS platform.

Relevant: Having a stable development environment and version control will be crucial for further development.

Time-based: The goal should be achieved in less than a week after *Understanding the concept.*

Broad goal: Design and approval

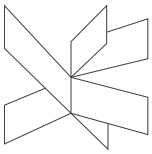
Specific: The team should design an early-stage prototype with basic UI functionality and get it approved by the product owner.

Measurable: Success is considered if the product owner approves the prototype.

Attainable: We will accomplish the task by laying down a simple idea on paper and translating it into UI.

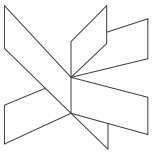
Relevant: Having a finalized UI will be a starting point to the development.

Time-based: The goal should be achieved in two weeks.



7 Risk assessment

Risk	Description	Likelihood	Severity	Risk mitigation	Identifiers	Responsible
Not finishing the project on time	Bad organization that will cause big issues with finishing the project on time	2	5	Spend more time on planning	More than one takes not being finished before deadline	Whole team
Failing to agree on decision	Not being able to agree as a whole team on a technology or solution	2	4	Consult with supervisors to receive opinion/criticism	Task distribution becomes impossible, too much time spent on discussions	Whole team
Not understanding a task/requirement	Failing to see the purpose task/requirement objective	1	4	Consulting with supervisor/product owner, discussing the task in the team	The project starts to strafe away from the initial purpose set out in the start	Whole team
Health problems	A group member becoming ill	3	4	The team members help his current tasks before the deadline	The team member doesn't show up for meetings. And does not updare his task's progress	Team member who is sick



8 References

CFI Education Inc, 2019. *SMART Goal - Definition, Guide, Importance.* [Online] Available at: https://corporatefinanceinstitute.com/resources/knowledge/other/smart-goal/

HB Products A/S, 2019. *HB Products - refrigeration industry sensor specialist.* [Online] Available at: https:/www.hbproducts.dk/en/hb-products-link/about-us.html