IDATG1002_2020_Group4

MetaImage
Vision

Version 0.1

Revision History

Date	Version	Description	Author
26.02.2020	0.1	First iteration	Martin Holtmon Martin Johansen Eirik Norbye Eilert Tunheim Erlend Johan Vannebo

Table of Contents (Incomplete)

Vision

1. Introduction

1.1 Purpose

The purpose of this document is to define the needs and features of the application, it focuses on the features and needs of the target user, and why these needs would exist.

1.2 Scope

This vision document entails to the MetaImage application, its surrounding project and all relevant documentation and considerations.

1.3 Definitions, Acronyms, and Abbreviations

"The application" or "Application" refers to the MetaImage application to which this document encompasses.

1.4 References

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1.5 Overview

[This subsection describes what the rest of the Vision document contains and explains how the document is organized.] Filled once document is more complete.

2. Positioning

2.1 Business Opportunity

The project, and in turn the application seeks to provide a tool for several categories of users to manage their digitally captured images, with a focus on being able to manage, view and categorise based on Meta-Data

2.2 Problem Statement

The problem of	Organizing pictures based on Meta-Data
affects	Individuals with large collections of digitally captured images, particularly phone and portable digital camera users.
the impact of which is	Unnecessary time spent searching through and organizing pictures.
a successful solution would be	An application that helps the user manage and organize pictures more easily, saving time.

2.3 Product Position Statement

For	Digital camera users
Who	Take large amounts of pictures
The (product name)	MetaImage
That	Helps organize and manage files
Unlike	Default file explorers
Our product	Organizes and lets you browse files based on categories of metadata and user defined tags, and allows the user to compile collections into albums and galleries.

3.   Project goals

3.1   Efficiency goals

Reduce time spent by users organizing and searching through digitally captured pictures.

3.2   Result goals

Develop an application enabling users to quickly and easily manage and organize their digital photos in an easy to use, easy to understand; Systematic manner.

3.3   Process goals

Further develop programming, project management and potential leadership skills amongst the group members, learning about how system engineering is done in practice.

4.   User Descriptions

4.1   Market Demographics

The market for this product is huge, with several billion people having a picture taking device where most of these devices can store thousands of photos, the need for a picture managing app is big. In the market there is a lack of applications that can receive a bunch of images and sort them into different collections and galleries. Our vision is to get every person with a picture taking device to use our application as it is easy to use and is very versatile in its uses so that every person has a use case for this application.

4.2   User Summary

Name	Description	Responsibilities
Users of all ages that has access to a computer and camera	The user is a user of the application	- Bug report - Feedback on how the application run

4.3   User Environment

The user environment for this application is very open. It requires one person on a windows computer with the application installed. The user can also decide how much time they want to spend on the application. If the user wants to quickly sort their pictures, they can do that in a minute, if they want to sort the pictures and look through them for hours, they can do that as well.

4.4   Key user Needs

Need	Priority	Concerns	Current Solution	Proposed Solutions
View and organize picture files	High	Effectivity	Standard file explorer	Efficient application saving the user time

5. Product Overview

5.1 Product Perspective

The application we are developing is a semi-independent, but not fully self-contained application. It is not a component of a larger system, but it requires access to folders where the images are stored. If those images are stored on an external drive, and that drive is removed, the program does not longer have access to those pictures, thus is reliant on another part outside of its application. The application will be designed in such a way, that it should not crash if a drive is removed and should update automatically to only display accessible images.

The application will need to interact with a database when pictures are added, and the metadata needs to be handled before its transferred over to the database. Even though the application needs to interact with a database, this will be integrated into the application and is not depending on another service, other than its own. As of now, we do not know how the application will interact with the database, or even if it's possible to not have a server that is running the database. If a server is required, even if it's local, the application will not be fully independent.

5.2 Summary of Capabilities

Photo Application

| Customer Benefit	Supporting Features
Reading metadata of an image	When you select an imported image, metadata will show in the right part of the application
Simple way to create a photo album	In the Create tab, there are a feature that creates a photo album of the selected pictures.
View a picture full-size	Double tap or right click on a picture will make it bigger.
Search after image	User can search after an image in the Search tab. User can either search after everything or select categories or labels.
Import image to application	User can import one image or all images from a folder into the application.
Remove imported images	User can remove image from application if they no longer want it imported
Sort images	User can sort images by different types, like date, location, date imported.
Labels	User can add labels to selected images by right clicking.

5.3 Assumptions and Dependencies

Assumptions:

- The application will be able to run on all computers that is supported by Java and MySQL.

- All the team members are available and have the necessary skills to work on the project.

- The set deadlines and milestones are achievable, and the project can be finished on time.

Dependencies:

- We will learn necessary programming skills in the Programming 2 course.

5.4 Risk analysis
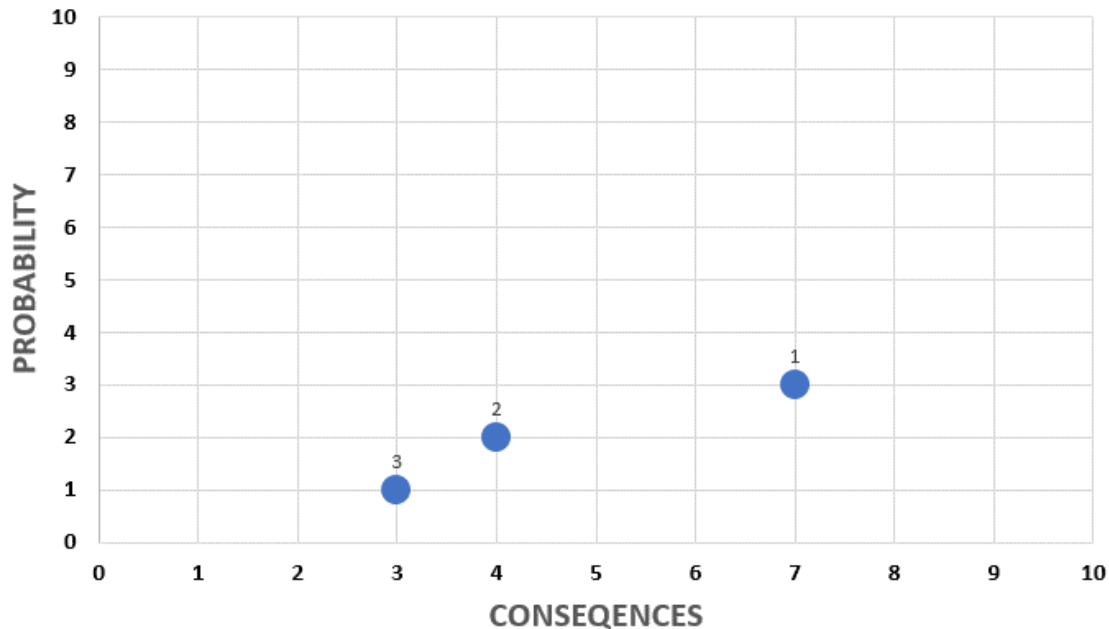
There are risks involved in the process of creating this application. Above, you can see a graph showing our assessment of the likelihood that the various risks occurring, and the consequences if they occur.

1. **There may be difficulties in obtaining the expertise or resources in the project team.**
   The creation of this application is new to everyone in the group, and we do not have any experience with MySQL or how databases work. If this occurs, we will seek experience from outside of the group. Worst case scenario, we will leave out functionality for the best user experience and to make sure the application works.

2. **There may be delays in other projects that we rely on.**
   Most of what we learn in the other course, Programming 2, will be used while creating this application. If that process is delayed, this one will as well. There is not much we can do to combat this, other than delay.

3. **JavaFX might not be able to do what we are planning on doing.**
   As far as we know, we will be using JavaFX to create our GUI or rather, the user interface. There is a possibility that what we have planned will not work. The consequences will be that the application might not do exactly what we want. Our plan is to work around any issues, or might leave out noncritical functions, if they are not supported.

6.   Product Features

The application contains several features. The user is able to import one or several pictures. With the pictures selected the user can filter and sort by a number of metadata. For example: Date and/or location.
After sorting and selecting the pictures, the application will be able to create a photo album based on the previous actions.

6.1   Import

The user will be able to select wanted pictures to import into the program. This import features do not copy the files, instead it saves the path of the file to avoid duplication. If a user selects thousands of pictures, the program could suffer from speed issues caused by copying all the pictures selected. There could be storage problems as well from essentially doubling the space needed from creating 2 files instead of 1 file.

6.2   Search

The Search feature enables the user to filter through their files in an organized manner, based on various MetaData parameters and user created tags. Examples could be searching for pictures taken at a specific location, and/or during a specific time frame.

6.3   Create

This feature lets the user compile his or her collections of pictures into albums and galleries for ease of viewing.

6.4   Labels

Labels allow the user to create their own tags for each image. These labels can be used as a filter to sort for labels with the same tag.

7.   Constraints

Our number one constraint is time. Time limits what functionality we are able to produce within the deadline. Our other constraints link up with the constraint of time.

Knowledge is another constrain which limits what we are practically able to create. Knowledge about coding is our first limiter. If we have an idea about what the final product should do, but do not know how to code it, we have to tweak the design to fit our capabilities. Knowledge about programs and how to work with them are another constraint. It takes time to get used to and figure out how to use the program efficiently. By using an application we have previous experience with, we save a lot of time, compared to using a brand new program.

Other constrains is cooperation and communication within the project group. If a group member does not show up for an arranged meeting, this will limit the group member's knowledge about tasks and how the final product will look like and function, as well as how to create it. Another constraint can be if a group member does not finish their task within the given deadline. By not completing their part, will this mean that other group members will have to work more than other group members, or it will delay/constrain how much functionality can be created for the application.

8.   Quality Ranges

Our goal is to create an application with very few to none bugs and we want to make it impossible to crash the application.

9.   Precedence and Priority

The most important feature will be the «import» and «sort» feature, which are the two features that describes this whole app essentially. Second after that, the view option comes into play, where you'll actually be able to see the pictures that you've imported. Then the search option which enables users to filter through their files in an organized manner, based on various metadata. After that the create button, where you can make albums of your pictures. Then comes the last prioritized feature, which is the label button.

10.   Other Product Requirements

If the application posed a significant risk to the environment we would have to submit an environmental impact statement(EIS), but in this particular case we don't. Since the app is merely for educational purposes. The only requirements which are required for this application is a computer, with at least 4GB memory for the file processing.

10.1   Performance Requirements

User load factors won't be a problem for this, cause our application is meant for dekstop only, which means there will be no web-application issues happening. The user of the application doesn't need bandwidth while using the app, the entire app is seperated from the internet, which means it's the performance of the computer that matters. We want to deliver accurate response times when it comes to loading the app and it's features, so we will make sure to optimize the application. We want the response time to for different features to be accurate and between 0.1- 1 second, which is about the time users feel that the system is reacting instantaneously. 10 seconds is about the limit for keeping the users attention focused on the application, which in those cases they will be given feedback during the delays.

11.   Documentation Requirements

11.1   User Manual

The user manual will explain every option the application has in a fairly detailed manner. The user manual will be a complete guide, like a tutorial for the whole application. We will also include a glossary of terms that we deem to be difficult or unknown, like geolocation and other technical metadata terms. The user manual will also use indexation that correspond to the different tabs in the application, like import, search, create etc. The user manual will include both test and images to make it as easy to understand as possible.

11.2   Installation Guides, Configuration, and Read Me File

We will include an installation guide in a tutorial style to make it as simple and user friendly as possible. We will also include a readme file with known bugs (if any), a changelog and configuration instructions if new settings are added.

12.   Feature Attributes

12.1

The coding behind the application and it's features, as well as integrating this application with a framework is what's going to be the toughest challenge. So for the second iteration we have to give ourselves at least a month, considering the new prospects of this task we've been given. This is all new to us, so it's hard setting a timeframe, but with the expertise of other teachers and et cetera, we'll be able to pull it through.

12.2

Our application is pretty straight forward, so we don't see there being that many changes in the features of the application. The «Sort» feature might be up for some change, if we decide to integrate some more parameters to the list, making it even more advanced. The import feature as well could advance to videos , so that you can not only import pictures, but videos as well. But even if those things were to happen, that still wouldn't change our approach towards our main objective.

12.3   Assigned To

Features:

Import - The user will be able to select wanted pictures to import into the program.

Create - This feature lets the user compile his or her collections of pictures into albums and galleries for ease of viewing.

Search - The Search feature enables the user to filter through their files in an organized manner, based on various MetaData parameters and user created tags

Labels- Labels allow the user to create their own tags for each image. These labels can be used as a

filter to sort for labels with the same tag.

Assigned to - - -

12.4   A.6   Reason

Source of the requested feature:
6 Product Features
6.1 - import
6.2 – search
6.3 – create
6.4 - labels