



PICTURERAMA

<Vision>

Version 0.2

## Revision History

Date	Version	Description	Author
<19.02.2020>	<0.1>	Creating a plan for the vision document	Team 12
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## Table of contents:

<b>1.</b>	<b>Introduction</b>	4
1.1	References	4
<b>2.</b>	<b>Summary of problem and product</b>	4
2.1	Problem Summary	4
2.2	Product Summary	4
<b>3.</b>	<b>Project goals</b>	5
3.1	Efficiency goals	5
3.2	Result goals	5
3.3	Process goals	6
<b>4.</b>	<b>Stakeholder and User Descriptions</b>	6
4.1	User Summary	6
4.2	Stakeholder Profile	6
4.3	User Profiles	6
4.4	Key Stakeholder or User Needs	7
4.5	Alternatives and Competition	8
4.5.1	Photo Exif Editor	8
4.5.2	Exif viewer by Fluntro	9
4.5.3	metapicz	9

<b>5.</b>	<b>Product Overview</b>	9
5.1	Product Perspective	9
5.2	Summary of Capabilities	<b>Error! Bookmark not defined.</b>
5.3	Assumptions and Dependencies	10
5.4	Risk analysis	10
<b>6.</b>	<b>Product Features</b>	10
6.1	Use Case	<b>Error! Bookmark not defined.</b>
<b>7.</b>	<b>Constraints</b>	12
<b>8.</b>	<b>Precedence and Priority</b>	12

# 1. Introduction

This vision document is an in-depth description and summary of the project. The purpose of this document is to collect, analyze, and define high-level needs and features of Picturerama. It focuses on the capabilities needed by the stakeholders and the target users, and why these needs to exist. The details of how Picturerama fulfills these needs are detailed in the use-case and supplementary specifications.

The introduction of the Vision document provides an overview of the entire document. It includes the purpose and references of this Vision document

## 1.1 References

- Template from scrum project 2015 from blackboard.
- Software Vision Document template from blackboard.

# 2. Summary of problem and product

## 2.1 Problem Summary

Viewing information about pictures can often be a difficult task. People may want to be able to see where their pictures were taken. Creating photo albums can often be more complicated than necessary.

## 2.2 Product Summary

In summary, our problem consists of making an imaging application. The application must be able to take a link as input and register the image metadata in a database together with the link. It must have a search function where the user is able to find stored images by searches based on tags and metadata. Chosen pictures will show up in a PDF-file as a photo album. The user must be able to view a clickable map with pictures or image thumbnails. The application is also supposed to only let a user upload pictures if they are logged in and a user can only view their own pictures. Information about a user and picture is stored in a database in the cloud.

For	all ages, especially people with a huge amount of images, that are stored online.
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That	needs an application for storing image URLs, metadata and tags, for a specific user that defined by a password and username
Product	is an imaging application
That	stores image URLs, metadata and tags, and creates PDF-photo albums, for a specific user that defined by a password and username
The new product	easy to use, intuitive, and generally try to follow the principles of universal design.

## 3. Project goals

We have set up some project goals for our project, so we can have a constant workflow. We have divided our project goals into three short sections, where we describe efficiency, result and process goals.

### 3.1 Efficiency goals

Our most important efficiency goal is to work consistently over the period until the end of the project. Consistent work increases motivation, because we can see the progression of our product changing at a constant speed towards our result goals. Increased motivation helps with increased productivity and a more effective work process.

A good working environment and good team chemistry is also a vital part of our efficiency goals. This is why our team-members know each other well. It makes our workflow fast and consistent, and we try to always be open to each other when we hold meetings and conversations.

### 3.2 Result goals

The result of the project will be an image metadata storing system written in Java. The system will let users register images and save their URL and metadata in a database. They will also have an option to search for the images, tag them with different tags, and create a PDF photo album if needed. The system will be easily accessible by the user and easy to use. This allows people of all ages to be able to save their images safely. We will also try to make the application easy to use for people with color blindness, and avoid patterns in the GUI that can induce epileptic seizures. We will also avoid using sounds so that hearing impaired people can use the app fully.

The system is planned to be finished in April 2020, and this app will be available for everyone to use for free.

### 3.3 Process goals

The process goals in this project are mostly learning and passing the subject. This is a mandatory school project with a grade, and therefore we want to pass the project and preferably get a good grade as well. In addition to that, we think it is a good opportunity to get better at teamwork and git-flow, and learn more about writing good Java-code, using databases and creating a GUI using JavaFX.

## 4. Stakeholder and User Descriptions

To effectively provide our product, it is necessary for us to identify our possible stakeholders and users of our system. This section provides a profile of the stakeholders and users involved in the project, and the key needs that they perceive to be addressed by the proposed solution.

### 4.1 User Summary

Summary list of all identified users.

Student
Teacher
Photographer
Influencer

### 4.2 Stakeholder Profile

User type	Description	Role
Student	User of the system	View their image metadata
Teacher	User of the system	See if the program meets the requirements of the project

## 4.3 User Profiles

User type	Description	Role under development	Represented by
Student	Computer Science student from NTNU	Planning, programming and testing of the project result	No specific representative
Teacher	Software Development teacher from NTNU	Supervisor	NTNU, IDI
Photographer	A person with an obsessive interest in taking pictures, and therefore needs an easy application for saving the photos. With a lot of pictures it's also preferred if it is able to search based on metadata and tags.	None	No specific representative
Influencer	An online influencer who needs to save images somewhere safe.	None	No specific representative

## 4.4 Key Stakeholder or User Needs

Need	Priority	Concerns	Current Solution
Save image URLs	High	URLs are not saved properly	Store them in a database

Search for an image	High	Can not find image URL	Save the name or tag of the image
Image map	Medium	Map library in Java does not work	None
Create and download photo album as PDF	High	Can not find image URL	None
Upload locally stored picture	Low	How to store it	None

## 4.5 Alternatives and Competition

This short sub-section describes alternatives and competition to our product. We list three competitive choices that exist in the market already, and we also describe the major strengths and weaknesses of each competitor.

### 4.5.1 Photo Exif Editor

An application that allows the user to view, edit, and remove metadata. The application also allows the user to view the pictures geodata and also edit it. The strengths of this application is the ability to edit different datas for the images. It has gotten some negative reviews regarding its map feature, since some people were not able to edit the geolocation, or the geolocation was inaccurate. People have also reported that images have been missing after saving an edit for the metadata. This app is only available for Android.



### 4.5.2 Exif viewer by Fluntro

An application that allows the user to view, edit, and remove metadata. The application also allows the user to view the pictures geodata and also edit this. The strengths of this application is the ability to edit different datas for the images. It has 4.7 out of 5 stars on 1.7 thousand reviews on the app store. Where this app falls short is that it is only available for iPhones and iPads. It also does not create photo albums in a pdf format.

### 4.5.3 metapicz

This is a website where the user can upload their own pictures or enter an URL and then view all the picture's metadata. If the metadata includes location, the website also displays a map with a marker where the picture was taken. It doesn't have any other features than viewing metadata, but when it comes to displaying metadata, it is quite good.

## 5. Product Overview

This section provides a high level view of the product capabilities, interfaces to other applications, and system configurations. This section consists of four subsections, as follows: Perspective, Capabilities, Dependencies, and Risk analysis of the product.

### 5.1 Product Perspective

The product is an independent and self-contained application.

### 5.2 Summary of Capabilities

Capabilities	Description
Store image	Storing images(will only save the path to the file).
Store metadata	Images will be stored together with their metadata.
Store tags	Tags will be stored in the database.
Search	Able to search for images based on metadata and tags.
Create map	Return a clickable map with pictures and thumbnails.
Create user and login	A user will be able to register themselves and login, and that way only watch their own images.
Upload	A registered user will be able to upload an image with a URL, metadata and tags.

Create a album	The user will be able to create albums from the images they have uploaded and they are also able to download their albums in the form of a PDF file
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## 5.3 Assumptions and Dependencies

The computer has to be able to run JavaFX 11 and Java 12.

## 5.4 Risk analysis

- The image URLs are being stored in a database which can be vulnerable to attacks. This means that unwanted people might get a hold of the pictures. Therefore they can view other people's geodata and potentially locate their homes.
- Since we store passwords, having them being leaked is a huge problem. People might be able to log in to another person's account if they are able to decrypt a sha-256 hash but at the moment this is not possible. But if it happened, it would also create a problem for other sites, because people often use the same password at multiple sites.
- The amount of users might grow more rapidly than expected. Therefore leading to a database overload, that will hinder users from logging in and retrieving their pictures.
- The amount of users could also be low, because our application will only be available as a desktop application, and not in a web browser.
- Bad code and poorly setup database might lead to a slow response time meaning that users won't be able to get a hold of their pictures

# 6. Product Features

This section briefly describes the product features.

<b>Functional Characteristics</b>
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When you open the program you have log in and sign up to be able to access the features of the program.

The Program starts with a main menu site where you get four options on what you can do. You can Upload an image, search for an image, view their albums and you can exit the application.

On the upload page you are met with a forum where you can type the name of the picture that you are going to upload, and the image URL. After all the information is filed inn you can hit the upload button which sends your image to the database. You can also click on the home icon which sends you back to the main menu.

On the search page you can search for an image you want and then you can add this image to a photo album you can download in the form of a pdf. You can also click on the image to see information about the image itself.

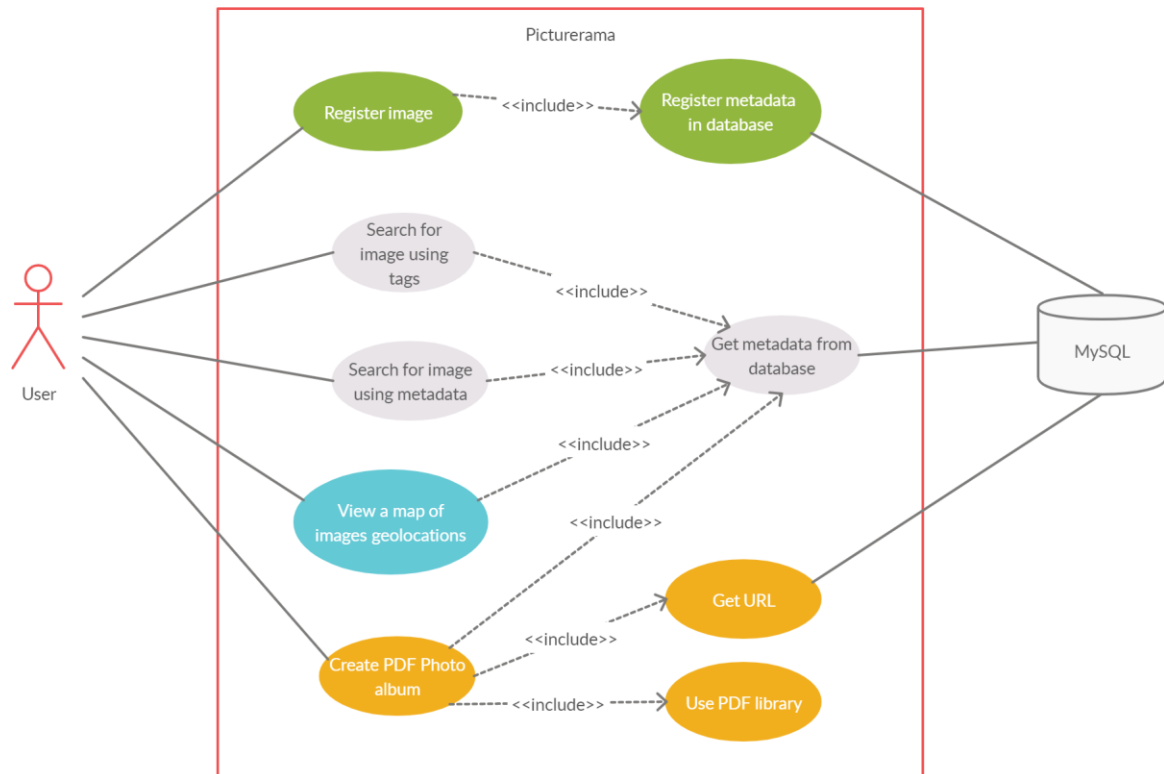
On the album page they can create new albums, they can also download the albums they have created

The program is written with the programming language Java, and all the GUI is created with the Java library JavaFX. The database where the image URL is saved is a mysql database

The program does not store the images themselves, it only stores the image url in the database along with the image metadata.

## 6.1 Use-case

We assume that the user is registered and logged in.



## 7. Constraints

The program is constrained by the fact that we could only use Java as a programming language, and that limits us to the Java GUI libraries. Using Java makes it difficult for users to use the application, because they have to download the program instead of just opening a website. This is a barrier that will prevent many from using the application.

## 8. Precedence and Priority

Priority of the different system features:

1. Upload image
2. Search for an image and view information
3. Log in and sign up
4. Album viewing
5. Create a pdf photo album
6. View a map of the image's geolocation