# Software Engineering Analysis and Design



Group members:

Klei Jahaj

Xhesjano Halla

Angjelos Goga

Department: Computer Engineering

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Accepted by: Dr. Igli Hakrama

Table of Contents

1. SUMMERY OF THE PROJECT1

1.1 Project Overview2

1.2 Purpose and scope of this specification 3

1. Type chapter title (level 1)4

Type chapter title (level 2)5

Type chapter title (level 3)6

1. **Summary of the project**

**1.1 Project overview**

To keep track of all the stocks of the school throughout the whole supply chain that the university has can be rather challenging and tiring if done by hand. Noting everything in a piece of paper can also bring up many mistakes that can lead to many situations that the university does not want to be in. In order to keep track of every good and possession that the university has it is very useful to have a system that sorts everything in classes, offices of the professors and in the storage rooms.

The Inventory System web application is the best solution to sort all these problems. The information will be stored in a protected server which would be very flexible in the way of modifying it.

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* 1. **Purpose and scope of this specifications**

The main focus of our program will be **STOCKS**. Everything will be related to the stocks of the university.

Stocks will be divided in **Classes, Offices, Storages** and **Special Classes** (laboratories, etc.)

This program will help to keep track of the stock of the university via the web-application which is easier to manage rather than doing everything by hand. This web-application will save time, will make the inventory system more efficient and the departments will be informed of the stocks the university has and what is in need of.

**2.1 User characteristics**

This program will be used by these users:

* + HRS
  + Finance
  + IT
  + Professors
  + //may be more

1. HRS

Another important administrator is the HRS which will decide which stock will be removed, where the stock will be placed and in which storeroom it will be held.

This administrator will manage the inventory system, also will keep track of inventory status.

1. Finance

One of the main administrators will be the Finance Department which will have the role of read only user.

This department can get a report from the web-application of what is missing and they can add what they will provide for the university and whether the objects will be held in the Storage or be used in one of the above mentioned places.

1. IT

The department of IT will get requests from different faculties and will be aware if any stock is needed that is related to the IT.

This administrator will decide where the stock will be placed and it will also be updated in the inventory web-application system.

1. Professors

The person that will report in the application about offices will be the professor that utilizes the office. The reports on the special classes will be made by the professor that is in charge of the special class

(for instance for the Physics lab the Physics professor will make the report). Classes have no one in charge, but the professor that detects the problem can submit the report via the web-application.

**//to be continued**

**2.2 Assumptions**

* It is assumed that the and registered will be fully confidential and it will be

available only for the specific departments of the university.

* It is assumed that every user has the appropriate equipment to use the program.
* It is assumed that the users of this program have general knowledge on how to use the internet effectively.
* It is assumed that every change that happens should be updated ion the program for better organization and better usage of this program.
* It is assumed that every user of the program has his/her university email activated and working properly.
* It is assumed that the stock is already registered by the service department.
* It is assumed that we have all the barcodes for each product registered.

**2.3 Constraints**

The system will be constrained by:

* Having every user to understand how this system works and making sure they do

not do any mistakes.

* Problems with access management or security.
* Other constraints can be found during the way.
* The system does not allow the user to make customizations regarding the system name components as it make cause anomalies.

**2.4 Dependencies**

List of dependencies that affect the requirements:

* The user should always have internet access.
* The need of at least moderate internet speed.
* There should be a user from HRS department to make changes such as adding or deleting a user, adding or deleting stocks etc.
* The response time is depended on the volume of requests and the number of users that are currently using the system.

**3.1 Functional Requirements**

**(vazhdoje)**

**3.2 Non-Functional Requirements**

**3.2.1 User Interface Requirements**

* The software will be web-based which means it can be accessed by any browser, such as Google, Safari etc.
* The interfaces must be user-friendly and should be easy to learn.
* Each role in the system has its own graphical user interface.
* The interface for the other users should be protected and only accessed if the correct email and password are taken as input.
* If the login is successful, the system will direct the user to their main page.
* Management page, where the users that have the permission can manage other lower-ranking users.

**3.2.2 Usability**

* The program is restricted to some specific users which means that it will know when a particular activity is prohibited.
* Must be easy to use, navigate and to remember even for users not familiar with similar applications.
* Must allow for easy and quick completions of tasks.
* This program will be available to use any time either day or night.

**3.2.3 Performance**

This particular application will be a web-application and will be stored in a web server. The performance of this application will depend on:

* The internet connection
* The efficiency of retrieving data from the database
* The number of active users accessing or using the application
* (continue)

**3.2.4 Availability**

The availabilities of this application are:

* This software is supposed to cover everything physical that the university possesses
* This application will be accessible any time during the day and night which means that it will be accessible 24/7
* If something goes wrong or if an action gives an error, messages related to that action will be displayed

**3.2.5 Latency**

The latency of this application will depend on:

* The size of the database
* The internet connection data transfer rate
* The speed of which data is retrieved from the specific database

**3.3 Manageability/Maintainability**

**3.3.1 Monitoring**

* This application will be built to be secure, and trustworthy
* For every error that occurs a message will pop up and the user will be notified about the problem and its possible causes
* The user should put the correct and corresponding email and password in order to proceed and use this application, and if the login credentials are not valid an error message will pop up and the user will get notified about that
* This application will also be built to be reliable and all information entered by the users will be validated

**3.3.2 Maintenance**

In case this application crashes the system will restart and redirect the user to the homepage. Everything that the user has done in the application will be saved. If the error occurs it’s safe to restart the web-page. If the application crashes again a maintenance break will occur and the users will get notified for this.

**3.3.3 Operations**

* All data of the users will be validated
* Each user has his own unique credentials and they are the only ones that can access their page
* The password of the user will be encrypted, and can be modified only by him
* (continue)