# Prudentia Bookstore
# Software Design Description

## 1. Revision History

| Version | Date | Author | Change Description |
|---|---|---|---|
| 1.0 | 18.05.2020 | İhsan Kürşad Ünal | Purpose and scope added, some terms and definitions added, constraints and decisions added |
| 1.0 | 21.05.2020 | Emre Hancı | User interface design part added and again for this part created a file that contains GUI views (DEL4_InterfacesSS.pdf) |
| 1.0 | 21.05.2020 | Muhammed Said Kaya | Drawing Sequence diagrams of requirements and Entity-Relationship |
| 1.0 | 21.05.2020 | Ali Kayadibi | Drawing Traceability Matrix, Sequence Diagrams and Class Diagram. Also They are appended to the appendix file. |
| 1.0 | 21.05.2020 | Muhammet Eren Taşdemir | Coding Standards file filled. |

## 2. INTRODUCTION

### 2.1 Purpose and Scope

#### 2.1.1 Purpose

The purpose of the Software Design Document is to provide a description of the design of a system fully enough to allow for software development to proceed with an understanding of what is to be built and how it is expected to build. The Software Design Document provides information necessary to provide description of the details for the software and system built.

#### 2.1.2 Scope

This Software Design Document is for explaining constraints, decisions; design details like, software file structure and communication between them, software behaviour, database structure, interface design. Also this document shows how constraints satisfy/unsatisfied.

### 2.2 Document Overview

The Software Design Document is divided into 6 sections with various subsections. The sections of the Software Design Document are:

- Revision History
- Introduction
- Design Constraints and Decisions
- Design Details
- User Interface Design
- Requirements Traceability
- Annexes

## 2.3 System Overview

Prudentia bookstore is a web based project which has a special purpose. The purpose that we give project is not just a bookstore properties, we really serve people a strong services like, recommend a book considering their mods and buying experience. One of the our other mission is making campaign for students and giving profit to charity campings

## 2.4 Definitions, Acronyms, and Abbreviations

| Term/Acronym | Definition |
| --- | --- |
| PBS | Prudentia Bookstore |
| MVC | Model-View-Controller design pattern |
| SDD | Software Design Document |
| SRS | Software Requirements Specifications |
| HEROKU | PaaS (https://en.wikipedia.org/wiki/Heroku) |
| GUI | Graphical User Interface |
| IDE | Integrated Development Environment |
| PIPL | Personal Information Protection Law |
| UML | Unified Modelling Language |
| JS | Javascript |

## 2.5 References

- *Personal Information Protection Law*
  - https://www.kvkk.gov.tr/Icerik/5389/Data-Protection-in-Turkey

- *Software Requirements Specifications*
  - Version 1.0, Last Updated on 02-04-2020
    - https://tinyurl.com/ybd589zx

## 3. Design Constraints and Decisions

- **Software Design Pattern**
  - MVC
    - MVC was chosen because it has a large scale of usage and other competitors using this pattern.
- **Programming Language**
  - Frontend

- ■ Javascript
  - ● React JS is chosen for developing frontend of the system.
  - ○ Backend
    - ■ Java
      - ● Java is chosen for developing the backend of the system.
- ● **Platform**
  - ○ WEB
    - ■ This is a web application.
  - ○ Cross Platform
    - ■ Backend of the system developed with JAVA because of that backend becomes cross platform.
- ● **Database Sql Type**
  - ○ SQL
    - ■ There is no need to use NoSql so we use SQL with MySQL.
- ● **Distribution**
  - ○ Git-Hub
    - ■ Document and source codes distributed on Git-Hub Repository.
  - ○ Heroku
    - ■ Also the system runs on Heroku cloud platform.
- ● **GUI**
  - ○ Ease of the use of the GUI is important, between 9 to 60 years old people should use it easily.
- ● **Protection**
  - ○ JAVA
    - ■ Java has an encapsulation feature, access protection provided with this feature.
  - ○ SQL
    - ■ SQL has access and data protection features also these features used in default order.
- ● **Security**
  - ○ SQL and JAVA
    - ■ SQL and JAVA provide attack protection on data.
    - ■ But there is no protection on other attacks explicitly, only default.
- ● **Developing Environment**
  - ○ IDE
    - ■ Backend
      - ● Backend development IDE is Intellij Idea from JetBrains .
    - ■ Frontend
      - ● Front End development IDE is PHPStorm From JetBrains.
    - ■ Data
      - ● Phpmyadmin is used for managing databases.
- ● **Documentation**
  - ○ Git-Hub
    - ■ At the end of the documentation documents published in Git-Hub.
  - ○ Google Drive
    - ■ While creating documents, Google Drive is used.
- ● **Deployment**
  - ○ Heroku
    - ■ System deployed in HEROKU, real time running.
- ● **In System Manipulation**
  - ○ Only the admin can make changes in the system, like adding or deleting products.
- ● **User/Admin View Constraints**
  - ○ Non-Member

- - ■ Can only view products, home page, login and register pages
    - ○ Member.
      - ■ Can view products, profiles, home page, profile page, login, register, bucket page.
    - ○ Admin
      - ■ Can view analysis and manipulating pages for every system component.
  - ● **Performance**
    - ○ Request loads shouldn't make trouble for users.
    - ○ Response times should be under 8 seconds.
    - ○ Situational response times, like making payment or decreasing sold product amount, should be instantly.
  - ● **Access**
    - ○ Maximum number to reach desired where there should be 8 triggers.
  - ● **Privacy**
    - ○ System and user should make a PIPL agreement on data manipulation and usage.
  - ● **Modeling Tool**
    - ○ Visual Paradigm should be used for documenting and visualizing the system.
  - ● **Modelling Type**
    - ○ Database Modelling
      - ■ ERD
    - ○ System Modelling
      - ■ UML
  - ● **Framework And Plugins**
    - ○ SpringBoot Framework
  - ● **Keep Log**
    - ○ System should keep log in every enter, leave times

## 4.   Design Details

### 4.1   Software Components

Class diagram in Diagrams_APPENDIX.pdf file

### 4.2   Software Behavior

Sequence diagrams in Diagrams_APPENDIX.pdf file

### 4.3   Data Model (E-R Diagram)

ER diagram in Diagrams_APPENDIX.pdf file

### 4.4   User Interface Design
All interface pictures on DEL4_InterfacesSS.pdf

#### *4.4.1   Explanation of Graphic Interfaces*

4.4.1.1 Login
    You should use a valid email for login to the system, if the email is not valid, you will see an error on screen. If your email is valid but you haven't registered to the system, you will see an error too. If there is an user with email and password infos, the system lets you enter the authorized page, and if you are an admin you will be able to manipulate system datas via web apis.

4.4.1.2 Admin Home Page
    In this page you will see some statistics like daily product sales, total amount of sales, number of products that have been on a specific status, but development on this page hasn't been done yet.

4.4.1.3 User Home Page

In this page not admin users will see a generic home page with products. Like an slide, top salers, recently published products, and campaigns

### 4.4.1.4 Products List Page

In this page admin sees products with those infos:

4.4.1.4.1         Product Name

4.4.1.4.2         Product Author

4.4.1.4.3         Product Stock

4.4.1.4.4         Update Link

4.4.1.4.5         Delete Link

### 4.4.1.5 Product Update Page

Only the admin can access this page.To access this page admin should list products and select desired product with "Edit" button, this button opens selected products update page. This page includes only one specific product's information. These information are product name, product printer house name, writer name, product volume, product current stock amount, product current price, current category, current product brief and product picture. These current information can be viewed from changeable blocks, temporarily. That means we can change this information. At the bottom of the page we can visualize changes with changed and unchanged information. To save changes between change side and preview side there is a "UPDATE PRODUCT" button. Also there are some navigator buttons: "List Product" button, opens list of the products page; At the top right "PRODUCTS" and "LOGOUT" buttons, "PRODUCTS" button opens list of the products page; "LOGOUT" button ends the user session and opens login page.

### 4.4.1.6 Product Addition Page

Only the admin can access this page. This page shows what system needs to add a new product. These needs are: Product name, printing house name, writer name, product volume, stock amount, price, category, brief and product picture. All these needs are specifically decorated with titles and place holders. Also categories are predetermined so while adding a new product user uses dropdown tab to select predetermined categories. To save a new product there is a button at the bottom of the page named "ADD PRODUCT". After adding a new product using the "ADD PRODUCT" button automatically goes to the products page, we can see added new products from this page. Also in this page at the top of the page there are two buttons: "PRODUCTS" and "LOGOUT". "PRODUCTS" button opens the list of products and the "LOGOUT" button ends the user session. Under these buttons also there is one more button to go to the list of products page named "LIST PRODUCTS".

### 4.4.1.7 Navigator Buttons

In the admin page there are two buttons "PRODUCTS" and "LOGOUT" : "PRODUCTS" is for opening the list of products. "LOGOUT" button is for andind the session

4.4.1.8  Products Manipulate Buttons

Admin is able to navigate the editing page via "edit" button, and also be able to delete products via "delete" button. Which button is "edit" which button is "delete" shows in the top row.Also with symbol, for "edit" square with pencil and "delete" with trash bin. While deleting a products system warns and asks to be sure with a message, if the user responds by clicking on the "yes" button system deletes the product, else does nothing.

### *4.4.2 Error Messages*

4.4.2.1  In-valid Email Message

If any type user enters non-valid email format, that message is  shown

4.4.2.2  Non-existing User Message

If somebody try to login with not registered email or wrong password that message is shown

## 5.   Requirements Traceability

Traceability matrix in Diagrams_APPENDIX.pdf file

## 6.      Annexes

Diagrams_APPENDIX.pdf contains all non text representations under titles

DEL4_InterfacesSS.pdf contains GUI views