



GRAND CANYON
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Shuqa

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CST-452

Capstone Project Requirements Document

Grand Canyon University

Instructor: Professor Mark Reha

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ABSTRACT

The Shuqa project, Shuqa is a Chaldean (Aramaic) word for bazar, is a web application that people can use to sell and purchase products locally in areas where bank cards are not widely used. Everyone can access the website with no need for credit/debit cards or any other online payment methods such as PayPal, as cash is the only accepted payment method. And buyers and sellers should arrange the location of the purchased item pick up. The users must register providing their information such as full name, email address, and phone number to create usernames to access the website. No membership or fees are required.

History and Signoff Sheet

Change Record

Date	Author	Revision Notes
10/12/2024	Soran Qiji	Initial draft for review/discussion, V 1
9/2/2025	Soran Qiji	Technical Requirements (Update user case), V 2
2/4/2025	Soran Qiji	Technical Requirements (Update user case), Logical System Design with diagram, Sitemap, Wireframes, adding Appendix A, V 3

Overall Instructor Feedback/Comments

Overall Instructor Feedback/Comments

Integrated Instructor Feedback into Project Documentation

Yes No

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Functional Requirements:

User Case:

For user cases please see sprint back log in Appendix A.

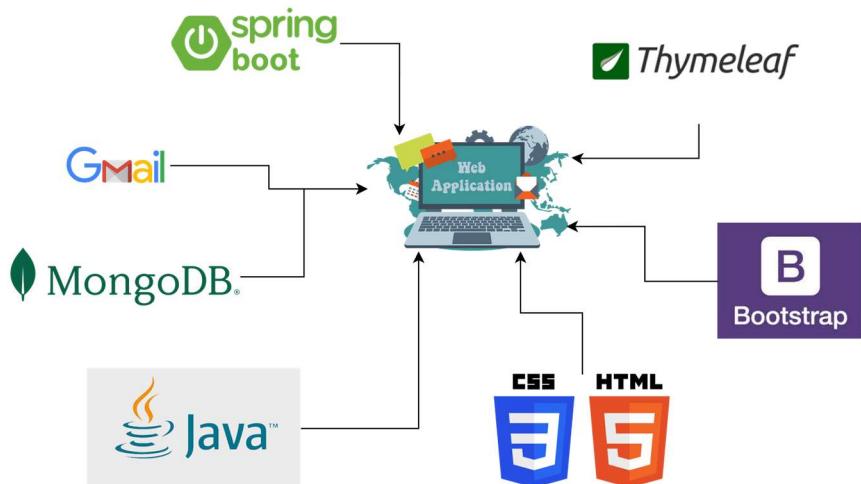
Non-Functional Requirements:

For user cases please see sprint back log in Appendix A.

Technical Requirements:

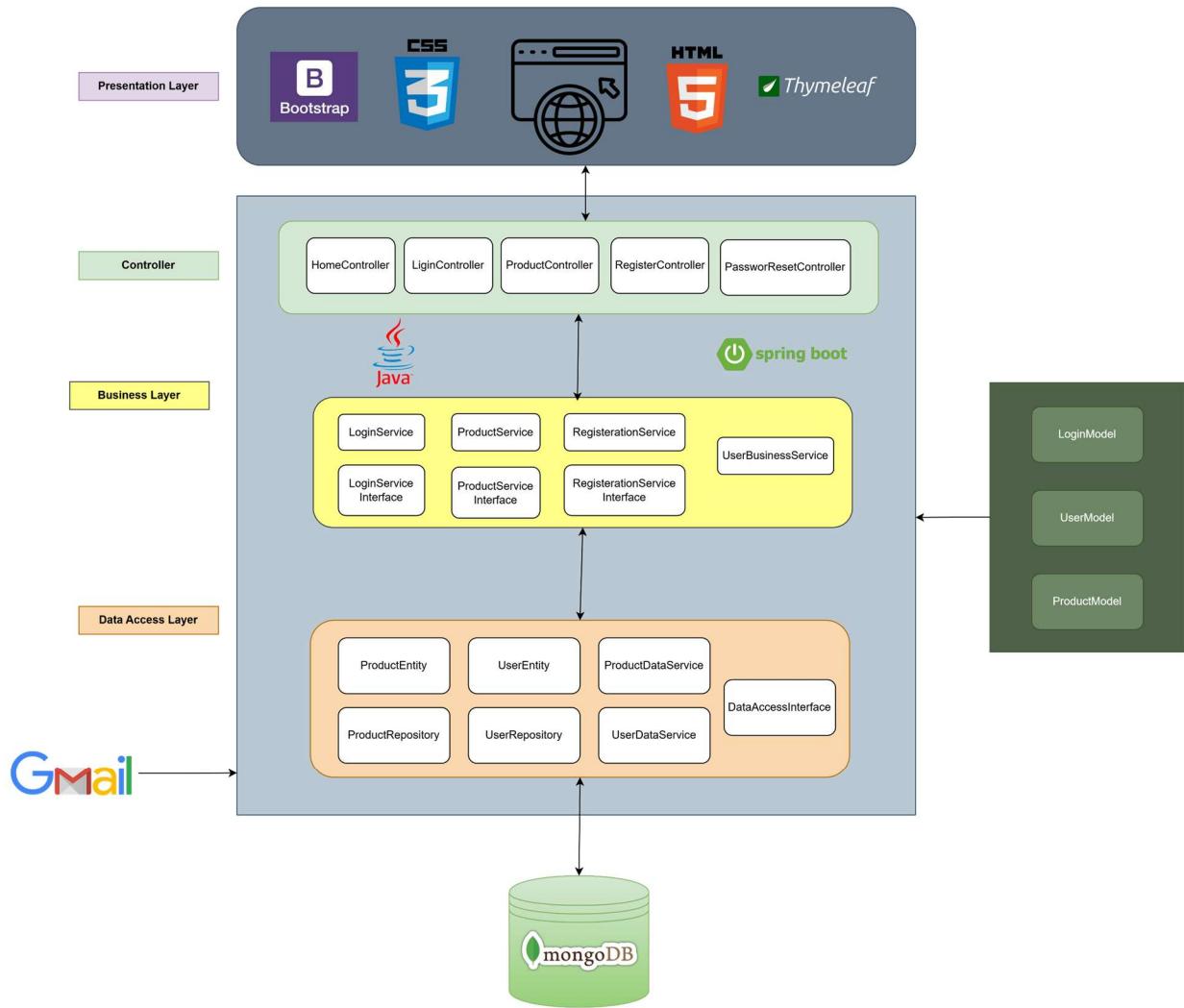
The table below describes the tools and technologies that will be used in the project.

Technology or Tool	Version	Justification
Java	17	Java is a widely used program language to create a web application
Spring Boot	3.2	Spring Boot is a popular framework for building a java application which provide many features such as automatically configure, and security.
Thymeleaf	3.2	Thymeleaf is server-side java template engine for web applications. It makes using maven easier
Bootstrap	5.3.3	Bootstrap makes web development much easier and fast. It includes HTML and CSS template such as form, buttons, nav bar,
CSS	CSS3	Applying extra CSS to styling the web pages.
MongoDB		MongoDB is a NoSQL database which is easy to use, that provides many features such as security and scalability.
Figma	--	Figma is a web base design tool, is used for design wireframes, UML, and flowcharts
Smtp.gmail.com	--	Gmail is used to send the reset password link to the user
Visual Studio Code	1.95	VS code is used to code the web application
Operating System	Windows 11	A PC with windows 11 was used to build and develop the web application



Logical System Design:

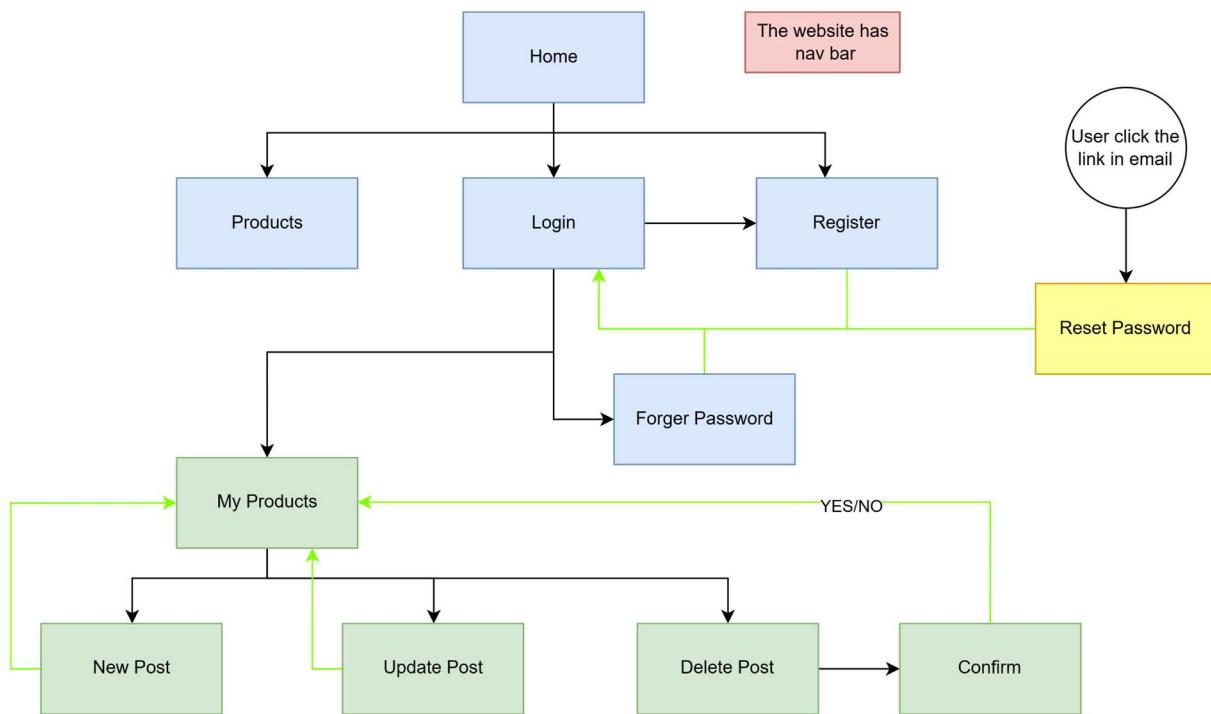
This is a logical system design for my project, that shows the front-end and back-end for the project. The user will interact with the front-end of web applications using devices such as personal computers or mobile devices. The web is using Bootstrap and Thymeleaf to build the application front-end (user interface) which Bootstrap provides CSS frameworks and the Thymeleaf provides HTML templates. The back-end represented by Business Logic and Data Access, Business logic is the layer that contains the logic and business rules of the application which is responsible for processing user requests and managing interactions between front-end and database via Data Access layer, which build using Spring Boot. Data Access is the layer that is responsible for interacting with the database to perform create, read, update, and delete (CRUD). Database (MongoDB) is used to store application data. Gmail (Smtp.gmail.com) was used to send email to users with a reset password link.



User Interface Design

Sitemap:

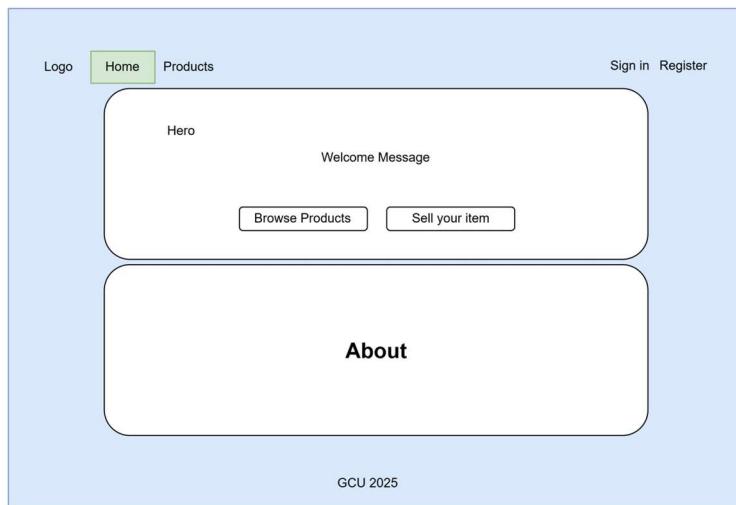
The figure below shows the sitemap for a web application. The pages in blue are available to anyone who visits the website, while the pages in green are available for authenticated users only. The website has a nav bar that will let the user navigate between the pages, while some pages will navigate the user automatically to other pages such as the register and reset password pages will take the user to the login page.



Wireframes (User Interface):

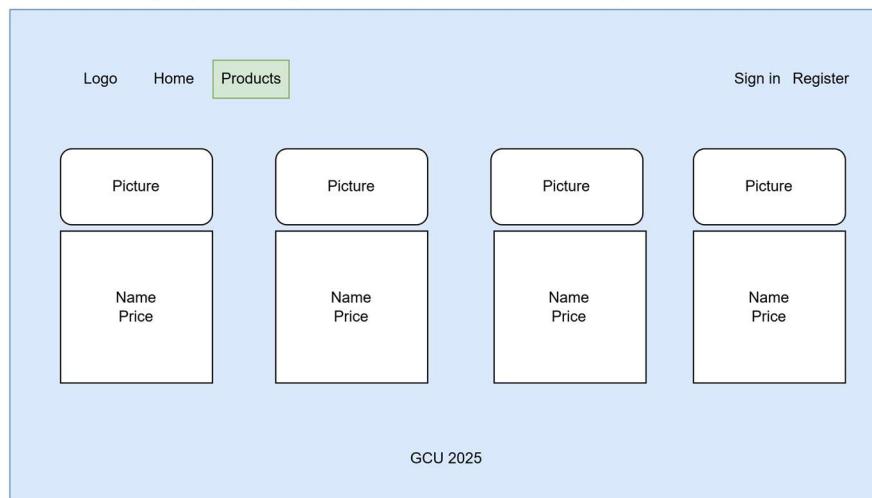
Home Page:

The home page will be simple, will include hero that display random pictures of the products that are posted on the website for sell, such as phones, cars, furniture Also, will include paragraph about the website.



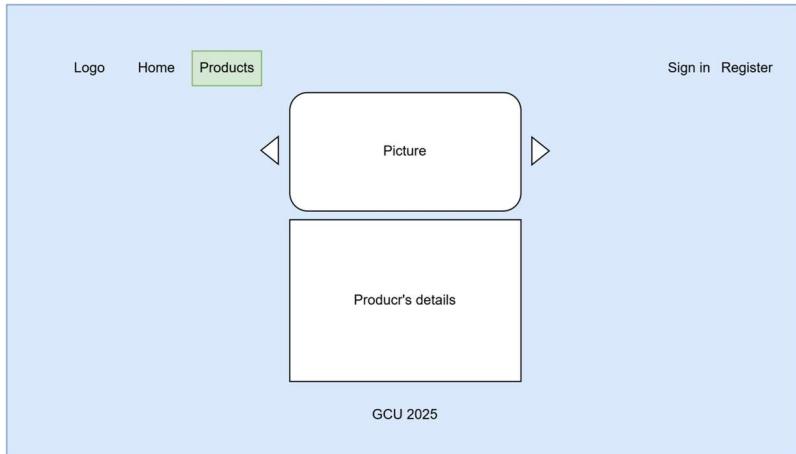
Products Page:

The products page will list all the products that are listed for sell. The user will be able to browse through the page and open each post and see the products' details.



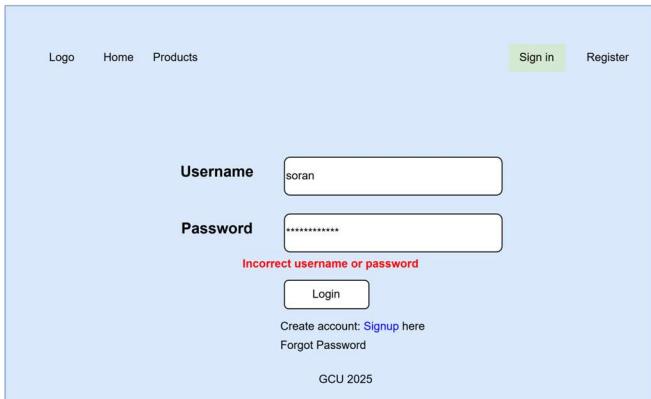
Display Single Product Page:

This page will display the item with all information after the user clicks in the specific item from the products page.



Login Page:

Login page is the page where the user can use it to login to the website after creating an account by providing correct username and password. Also, the page would display an error message if the user entered an incorrect username or password.



Register Page:

This is the page where the user can register to access the website features. The user can create an account by providing several personal information such as first and last name, contact information, username and password. In the Then signup page, all the fields are required, and the error message will be displayed if user entered invalid information. After the registration process is completed successfully the user will be directed to the login page automatically.

The screenshot shows a registration form with the following fields and errors:

- First Name:** John (Error: First name is too short or too long)
- Last Name:** Brown (Error: Last name is too short or too long)
- Email Address:** example@example.com
- Phone:** (123) 456-7890
- Username:** John_04 (Error: Username is too short or too long)
- Password:** ***** (Error: Password should include 1 special character)

At the bottom, there is a "Register" button and the text "GCU 2025".

My Product:

This page will display all posts that are created by a single user. The page will include the button to create a new post, as well as the user can edit and delete the post too.

The screenshot shows a list of products with the following details:

Picture	Name	Action Buttons
PlayStation 4	PlayStation 4	Update Delete
iPhone 13 128gb	iPhone 13 128gb	Update Delete
HP laptop	HP laptop	Update Delete

At the top, there are navigation links: Logo, Home, Products, My Products (highlighted), and Logout. There is also a "New Product" button. At the bottom, it says "GCU 2025".

Create New Post Page:

This is the page where the authenticated users can create a post to list their product for sale after successfully logging into the website. As the picture shows that the user should enter information about the product, such as name, description, color ..., also, the user must provide contact information and pick up location.

The screenshot shows a web page titled "Create post:" under the "My Products" section. The page includes fields for Item name, Price, Description, Email, Phone, Location, and Other Info. The "Item name" field contains "PlayStation 4". The "Price" field contains "\$150". The "Description" field contains "good condition it comes with 2 controller.". The "Email" field contains "example@example.com". The "Phone" field contains "(123) 456-7890". The "Location" field contains "Phoenix". The "Other Info" field contains "You can contact me on Instagram user123". There are validation messages: "Price can not be negative" for the price field and a red asterisk (*) next to required fields. Buttons for "Submit" and "Back" are at the bottom, along with the footer "GCU 2025".

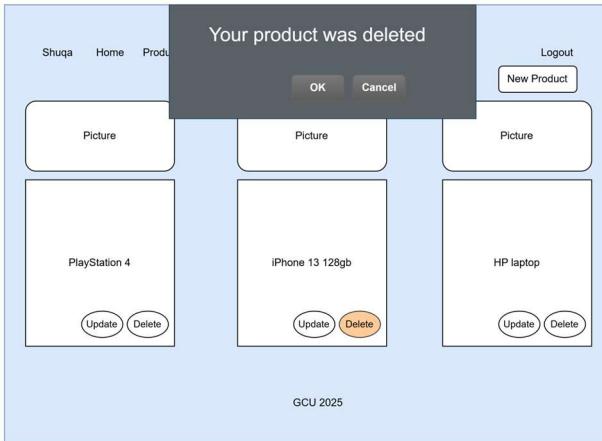
Update Post Page:

This is the page where the user can update listed products.

The screenshot shows a web page titled "Update post:" under the "My Products" section. The page includes fields for Item name, Price, Description, Current Images, Email, Phone, Location, and Other Info. The "Item name" field contains "PlayStation 4". The "Price" field contains "\$150". The "Description" field contains "good condition it comes with 2 controller.". The "Current Images" section shows three numbered boxes labeled 1, 2, and 3. The "Email" field contains "example@example.com". The "Phone" field contains "(123) 456-7890". The "Location" field contains "Phoenix". The "Other Info" field contains "You can contact me on Instagram user123". There are validation messages: "Image" and "Email" fields have red asterisks (*). Buttons for "Submit" and "Back" are at the bottom, along with the footer "GCU 2025".

Delete:

The website does not include a page for deleting. After the user clicks the delete button, a message will be displayed informing the user that the product was deleted.



Forgot Password Page:

This is the page where the user will request to change the password by entering the valid email address and the link for reset password will be sent to the email.

A screenshot of a web application showing a "Forgot Password" form. At the top, there is a navigation bar with "Logo", "Home", "Products", "Sign in" (which is highlighted in green), and "Register". Below the navigation bar is the title "Forgot Password" and a red "message" section. The message states "The reset password link will be send to your email". Below the message is a text input field labeled "Enter your email" and a "Send" button. The footer of the page says "GCU 2025".

Reset Password Page

This is the page where the user will enter a new password and confirm it. The user will be directed to this page by clicking on the link in the email.

A screenshot of a web application showing a "Reset Password" form. At the top, there is a navigation bar with "Logo", "Home", "Products", "Sign in" (highlighted in green), and "Register". Below the navigation bar is the title "Reset Password" and a red "Error message" section. The error message is empty. Below the error message are two text input fields: "Enter new password" and "Confirm password". At the bottom of the form is a "Reset" button. The footer of the page says "GCU 2025".

Reports Design:

The system does not produce any reports.

Appendix A

File	Attachments
Spring Back Log	See attached zip file