Smart Tailoring Services

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COMSATS UNIVERSITY ISLAMABAD
ATTOCK CAMPUS – PAKISTAN

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SESSION 2019-2021

UNDERTAKEN

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FINAL APPROVAL

Certified that we have read this project report submitted by Mr. (Student/Students Name) and it is, in our judgment, of sufficient standard to warrant its acceptance by the Department of Computer Science, University of Wah, Wah Cantt, for the (BS/MSc degree) in Computer Science.

Committee:

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Dated:

Acknowledgment

It is usual to thank those individuals who have provided particularly useful support, technical or else, during your project. Your supervisor will be pleased to be acknowledged as he/she will have invested quite a lot of time overseeing your progress. In the name of Allah, the most caring and most compassionate, I would like to thank relatives and friends who kept backing me up in all the times, both financially and morally. I would also like to thank the technical helpers for their advice and for promising me to work hard and smart. I have found him very obliging while discussing the amendment issues in this essay work. His censorious comments on my work have made me think of new ideas and techniques in the fields of amendment and software simulation. I am thankful to Allah Almighty who provides all the assets of every kind to us so that we make their proper use for the advantage of mankind. May he keep provided us with all the assets, and the advice to keep helping humanity.

PROJECT BRIEF

PROJECT NAME	Smart Tailoring Services
ORGANIZATION NAME	Nil
OBJECTIVE	To ease the users in tailoring profession
UNDERTAKEN BY	Sheikh Muzzamil Iftikhar Muhammad Hussain
SUPERVISED BY	Anum Zahra Lecturer Department of Computer science COMSATS UNIVERSITY ISLAMABAD
STARTED ON	15- SEPT
COMPLETED ON	CONTINUE
COMPUTER USED	HP
SOURCE LANGUAGE	JAVA
OPERATING SYSTEM	WINDOWS
TOOLS USED	Android Studio,Figma,creately

Abstract

In this world and especially in our country the tailoring is the popular profession, and in any event, people usually go to the tailor shop and request the tailor to sew their desired dresses especially on Eid and marriage and every special event, besides events. The problem with the school uniforms of the children is big as well and the uniform of a specific organization as the readymade sizes differs from the actual size of buyers.

But there is one big problem when people go to tailor shop there is a huge crowd of people who are requesting the tailor to make their dresses and many tailors are not able to do so because of the burden of the work and it is much difficult in today's busy world to spare the time for such things.

For the solution to this problem, we will make an android based application for the ease of the user. We will create an android based application in which user can log in in application when the user is logged in he can request their orders of dresses or uniforms to the tailor shops which are registered with the application when the tailor's admin accepts the user order then the user can enter to the dashboard and he can set his personal information like Quantity, Gender, exact Measurement, payment options, and other personal information and then after this process user can send their order to tailor and when tailor receives the order the person of the shop will go to user home to pick up unstitched dress and when the job is done the order is delivered to the customer's house.

The basic purpose of this software is to save people time so they can easily order their dresses. The main purpose of this application is to take the tailoring system to an electronic level and to save users tons of time from the manual tailoring orders.

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Chapter 1
Introduction

1.1. Introduction:

Today there are many professions evolving and tailoring is also the best profession, People go to tailor shop for the dresses they want and for uniforms of students and the uniforms of specific organizations and for the events to fulfill their needs but analyzing this scenario there is a big problem and problem is that when people go to the tailor shops there is a big crowd of people who wants their clothes to be done on the dates they want and some people lose the chance because of the burden of the work or in such cases where the person was busy in some work and he wasn't able to make it to the shops for the order to make their dresses. so we are making an android based application for the ease of people the user can easily use this application and fulfill their needs in this application.

First of all, user can sign up and save his/her personal detail and after sign up user sends the notification to the tailor and when the shops that are registered with the app the tailors see user notification if they are ok with the order request they can accept the request of the user order after accepting the order the user will be able to enter the dashboard and enter details.

Next, the user enters his gender and then enters the number of dresses he wants, and when he clicks on the request order button and after this user will be able to upload the picture of the design that he wants to make and after this user will be able to enter the measurement details height and width, etc. and when a user enters all the information user will be able to see the total bill of his dresses and submit his order.

After this process, the shop will send a person to the users home to pick up the unstitched dress and when the work is done the dress will be delivered to the customers home,

On the other hand in tailor front, the tailor first signs up, and after they sign up in which he saved his name, phone number shop name and set his shop location and after sign up he can sign in in this application and accept the user order and make the dresses for his business and ease the user. If a user wants to make their dresses urgent basis then the tailor makes his dresses urgent and if an order is normal then he makes the dresses normally if the order is urgent the price of sewing dresses is high and if the order is normal then the price of sewing of dresses is low. And after setting the price of the dresses tailor will upload the information and the user will be able to see the information about bills and receiving date of their dresses.

1.2. Objective:

The objective of this app is based on Cost-effective and time saving and Responsiveness.

1.2.1. Cost-Effective and Time saving:

This application is saving the time of the customer as well as the tailors in an efficient manner. If the user's request is not fully fulfilled from a particular tailor shop then the user can search another nearest tailor shop for his order. The user can save his/her time via online ordering online delivery and online reviews. To save user time planning and go to the tailor shop and give all the information to the tailor. To improve the tailoring sector. To give a new way and direction to our user. To help the tailor to accept clients' orders easily. To help the user for making their suits according to their own will.

1.2.2. Responsiveness:

We use the Firebase DBMS to keep track of all the modules using the real-time database. Through managing documents, Firebase is much quicker and more reliable than other DBMS. It is really necessary for the system to keep all the documents and to efficiently communicate with the consumers and the tailors. For both the consumer and the customer, the system would respond as easily as possible for comfort.

1.3. Problem Statement:

In daily life, we see that every person is too much busy. And people usually think of doing any kind of work electronically, the whole process of tailoring is a big issue buying a cloth going to tailors shop giving them your measurements sometimes the tailors are busy because of the burden of the work and they deny stitching the dress of the customer. People are busy in day to day life and everything is moving towards the world of online systems

On the other hand, when kids take admissions in school and the first big issue is their uniform. Some parents don't get the uniform for their children and some parents don't know the suitable shops where they can find the uniforms of the exact size they want. so they keep searching for the perfect shop for their children uniform And the same issue is faced by the new employees of the organizations that have a specific uniform when they are selected as an employee in any office the first thing is to buy a uniform exactly of their size as it is a difficult task to find the

uniform so there should be a proper system where we can process our work with the help of a system that will connect us to the shops where we can get our needed dresses.

1.4. Proposed Solution:

So in this android base application, we solve all these problems. First of all the user login easily in this application and give the order to the tailor and then if the tailor accepts the order of his clients the customer can easily send his measurement to the tailor and upload the design picture of his suits and send his order so the tailor can easily make his suits according to the customer needs. And after making the suits he can easily send the suits to his customer.

On the other hands when parents admit their children to schools they don't know about the uniform of these schools so through this application the parents can directly order the uniform or the school principal can easily log in and book his order to many students uniform and get the 20% discount on 100 uniforms and 10% discount on 50 uniforms and thus on. The same thing is with office and any organization when an officer is selected by any office or any organization they can directly order the uniform or the CEO of the company can order as many uniforms as required with discount offers according to the order.

1.5. Scope of the System:

The scope of this android based application is that we are making an android based application that collects the data from the user and sends the user information to the registered tailor and then after the tailor accepts the order the Tailor sends the person to the user home to collect the unstitched dress and make the user dresses according to his need and then deliver it when the job is done. If the user wants to make his dresses urgent basis he can also order and also the normal delivery option is available. At the point when dresses are prepared to tailor can send a message to the client and settle on a decision to a client for accepting his dresses. So client and tailor both are at ease. In this manner, this android application is exceptionally accommodating for businessperson just as a client

1.6. Hardware Requirements:

This application “Smart Tailoring Services” is used to help customers book their tailoring orders online and help the customers and tailors to communicate with each other with the help of a smartphone, our application is totally android based. The communication between the parties is done via Google Maps. An Android smartphone or emulator with a secure Internet connection is needed for the application to operate. You need an Android Simulator or Android Smartphone to try or run any software in Android Studio.

1.7. Software requirements:

The Android version of the device must be a lollipop or above this.

1.8. Tools:

1.8.1. Android Studio:

For designing all Android apps, Android Studio is the official Optimized Development Environment (IDE). It is much quicker than most and has several built-in applications to facilitate the development of Android apps. Java or JavaScript is used in this tool to enforce logic and XML is used to construct the interfaces. To test the app that you have built with different sizes and designs, it has different kinds of emulators.

1.8.2. Figma:

As a backend method to build interfaces, we use Figma. In Figma, all backgrounds are built. The Figma has several built-in context architecture and development functions. Text, as well as photographs, may be inserted. It offers facilities for drawing various sizes of circles, triangles, ellipses, rectangles, etc.

1.8.3 Firebase:

As a real-time database, the firebase is used to store all the app data. Data is stored in the Firebase as JSON. The Firebase helps you to construct a sensitive, effective, precise program. To be used as a client, the firebase includes your e-mail address and Internet access.

1.8.3. Creately:

Creately is an online drawing tool that we are using to create diagrams for the system being developed. Use cases, Data Flow Diagram, ERD and Activity Diagrams, etc. can be drawn efficiently in an easy way in this tool.

Chapter 2
Literature review

2.1. Literature Review:

This "Smart Tailoring Services" application conveniently automates the whole process of the tailoring profession. It is meant to attract customers and tailors. Customers who need tailors of their own requested style for their clothes can look for the closest tailor shop registered with the application. The Customer will request the order and the registered tailor will receive the request and then will notify the customer with the further details of delivery and other processes. user can send their order to the tailor and when the tailor receives the order the person of the shop will go to the user's home to pick up the unstitched dress and when the job is done the order is delivered to the customer's house. This software's basic aim is to save people time so that they can order their clothes quickly. To save time, the main objective of this application is to take the tailoring system to an electronic level. The app is entirely Android-based and only runs on the Android Smart Phone or Android Emulator.

2.2. Existing System:

There is an application named “My Tailor” but it's based in a local area and the billing option is not comfortable and the app is not responsive as it should be the measurements details are not complete. The existing Application named “My Tailor” has many deficiencies as this app does not provide the Concept of edit order as if the user wants to change something like the design of the dress he can edit his order in the given amount of time Another thing is the concept of details reusability if the customer wants to request his order again then the customer cannot reuse the previously-stored record he has to write it again so it is very time-consuming and the users won't like it. in this application, the service provided was in a limited area and the user wasn’t able to search his/her order history or pending orders The flow of the system was ambiguous as some of the measurements were missing.

2.3. Proposed System:

We have developed our "Smart Tailoring Services" application to address the issue of the existing system. For both the buyer and the tailors, our proposed system has several services. Both users connected to the application will register themselves for different templates via the same application. The Tailors can easily handle customer orders through the database and customers can even manage their records at any time to update their information. The customers can Also reuse their last entered measurements for their future orders as the information will be saved in the database it can be retrieved by the registered

user at the time of need. The user can easily move to another registered tailor shop if he/she is not satisfied with the services. The users can add, delete or update the record in the database.

2.3.1 Comparison Table between My Tailor Application and our Smart Tailoring Services Application.

Functionality	Smart Tailoring Services	My Tailor
Male and Female Variety	✔	✔
User Manual	✔	✘
Order History	✔	✘
Home Delivery	✔	✔
Edit Order	✔	✘
Detail Reusability	✔	✘

Chapter 3
Requirements Specification

3.1. Requirement:

A requirement is a necessity for the desired structure to be constructed. A necessity is an assertion that one person expressly and indirectly demands another. It is the most important aspect which must be fulfilled to meet the criteria of all the organizations participating in the scheme in full. The most critical aspect is the compilation of device specifications since no other part is as complicated as this. It's a device operation assertion or a constraint. Requirements Engineering is defined as the process of determining the resources the customer needs from a system and the restrictions under which it functions and is created.

3.2. Functional requirements:

A functional requirment is a specification of actions between outputs and inputs that specifies a function of a system or its component**.**

3.2.1. Sign Up:

Name:	FR-1: Sign Up
Description:	To use this application, any user must sign up for the application to register themselves.
Rationale:	No one will use this application without signing up. The basic part of the system is authentication or signing up.
Fit Criterion:	The following data is mandatory for the framework for Signing Up. • All the fields must be empty until something in the fields is written by the user. • The user would then type their proper name and password. The device would then allow access to the app after verification or validity. • • When the user types the wrong name or password, or both, the device would not allow the user access to the application.
Dependencies:	If the user does not log in or sign up with the application, the user would not be able to use the other functions.

3.2.2. Sign In:

Name:	FR-2: Sign In
Description:	If the user of the application needs to use this app again for the services, the user has to Sign In to the app by entering their valid Name and Password.
Rationale:	The authentication technique will be done by the system to ensure that the name and password entered are accurate or not for pre-existing system users After verification and checking that the name and password entered are correct, the system can allow access to the system to pre-existing users, whether they are the owner of the Tailor Shop or the customer. If the authentication is invalid, i.e. the user enters the incorrect name and password, the device will not allow the app access.
Fit Criterion:	For Signing In, the user has to enter the following details into the system. **i. User Name:** The string is the datatype that will be used for the User name. The users can enter their Names in different formats i.e., in lower case, in upper case, or toggle case, etc. The Name should have no more than 25 characters. **ii. Password:** The data type that will be used for the Password is also String. The user can enter a different password consisting of alphabets, numbers, or any special characters. The password should have no more than 25 characters.
Dependencies:	If the user does not sign on to the system, the other tasks will not be done and the user will not be able to enter the system to get the proper services.

3.2.3. Request Order:

Name:	FR-3: Request Order
Description:	The customer can request the orders of the desired dresses to the registered tailor shops and can send their measurements.
Rationale:	The Order that the customer wants and the measurements of the desired dress will be sent to the tailor based on which tailor will accept or reject the request customers can also send the required designed picture attached with the order request.
Fit Criterion:	The customer will be able to send the information of the requested order and the tailor will be able to see the request the customer if the tailor accepts the order it will notify the user that the order has been accepted and if the request is rejected due to any reason it will notify the user as well
Dependencies:	This functionality depends on The Tailor that he accepts or rejects the order request

3.2.4. Order Amount:

Name:	FR-4: Order Amount
Description:	This functionality will help to calculate the total bill based on orders
Rationale:	The Order that the customer wants will have rates uploaded by the tailors and when the customer will request different orders this functionality will help in generating the total amount accurately based on described rates by the tailor.
Fit Criterion:	The customer will be able to see the total bill of his requested orders
Dependencies:	This functionality depends on The Tailor that will enter the rates of different orders like male and female varieties.

3.2.5. Information Reusability:

Name:	FR-5: Information Reusability
Description:	This previously stored information of the customer can be re-used for future order requests for the ease of users.
Rationale:	If the user wants to request the new order he should use his previously-stored record which will be more efficient instead of writing the measurements, again and again, this will save a lot of time for customers.
Fit Criterion:	The customer will be able to use his previously-stored record for his new order he can also modify the details.
Dependencies:	This functionality depends on the database management system as the information will be stored in the database.

3.2.6. Edit/Modify Record:

Name:	FR-6: Edit Record
Description:	The users can edit their personal information as well as they can edit the order details.
Rationale:	If the customer wants to change his information like his address phone no or any details regarding the order they can edit that and if the tailor wants to change some information like to extend the delivery date of dress or their account information they can also edit or modify that.
Fit Criterion:	The users will be able to edit their information regarding their accounts and the orders.
Dependencies:	This functionality depends on the database management system as the information will be stored in the database.

3.3. Non-Functional Requirements:

A non-functional criterion is one that defines parameters that can be used to assess a system's performance rather than individual activities. Technical specifications, on the other hand, specify basic actions or functions.

3.3.1 Performance:

Name:	NF-1: Performance
Description:	It must be very easy to store and retrieve data. The performance is calculated in the time of response.
Rationale:	If data is not stored and recovered easily, time is wasted and the user will stop using the app. Also, a drop in performance would reduce the app's efficiency.
Requirement:	If the Internet is available then retrieving/storing information would be measured in 2s to 3s.

3.3.2 Reliability:

Name:	NF-2: Reliability
Description:	The system should be reliable that a load of data in the database should not disrupt or crash the system.
Rationale:	If the system is not effective, the system's complexity will be enhanced and the whole record will be put at risk. Because of any load in its database, the application should not crash.
Requirement:	The system should have the best hardware and modern best tools.

3.3.3 Accuracy and consistency:

Name:	NF-3: Accuracy
Description:	All data contained in the database must be reliable, i.e., all information must be right and the information should be clear beyond any doubt.
Rationale:	If the stored data is not reliable, so the device would have inaccurate and unreliable user accounts. As a result, success will be lost to the app. The Tailor stores would not be able to accommodate the records of customers. • If the customer wants to use his previously saved record the system should provide the same record efficiently. • The bill on the order basis should be accurate without any errors • Orders history should be in a sequence of orders.
Requirement:	The system should have a specialized tool for storing accurate information.

3.3.4 Availability:

Name:	NF-4: Availability
Description:	Ensure that this app is accessible at any time. The application should be accessible with an active Internet connection 24/7 a day,
Rationale:	If the device is not accessible 24/7 hours a day, so the need for any user can not be fulfilled. As a result, the application would stop being used by many users.
Requirement:	Due to having an external database, i.e., firebase, the system should be online.

3.3.5 User Friendly:

Name:	NF-5: User Friendly
Description:	This application should be user-friendly, i.e., it should be easy to use for any application-related user and users should not experience any trouble using the app.
Rationale:	If the application is not user-friendly, it cannot be used by anybody. When using the app, it would build problems for the users and the app will be of no benefit for certain users. • The user should easily use it • The user should be able to understand the flow of the system
Requirement:	The system should only support the English language and meaningful words. It should use certain terms and phrases that are convenient for any user connected with this app to understand.

3.3.6 Security:

Name:	NF-6: Security
Description:	This app should be secure for users, i.e. only valid and authorized users with proper authentication should use the app. • Only signed up users should be able to use the system due to security issues • The personal information should be secured so no authorized users can access it
Rationale:	If the system is not safe, its security will be endangered. As a consequence, the unauthorized users will have access to the data • To secure the system i.e. only a valid user can view and change data, this constraint is included. • Non-register user cannot access the data
Requirement:	Before accessing the app, the user has to state their right name and password.

3.3.7 Portability:

Name:	NF-7: Portability
Description:	This software should be portable to the smartphone of any person. It can run on all smartphones running Android.
Rationale:	If the application is not portable, so certain users of different Android devices may decline to use the software or stop using it.
Requirement:	The system should be designed in a way it should run on all Android-based devices.

Chapter 4
Design Systems

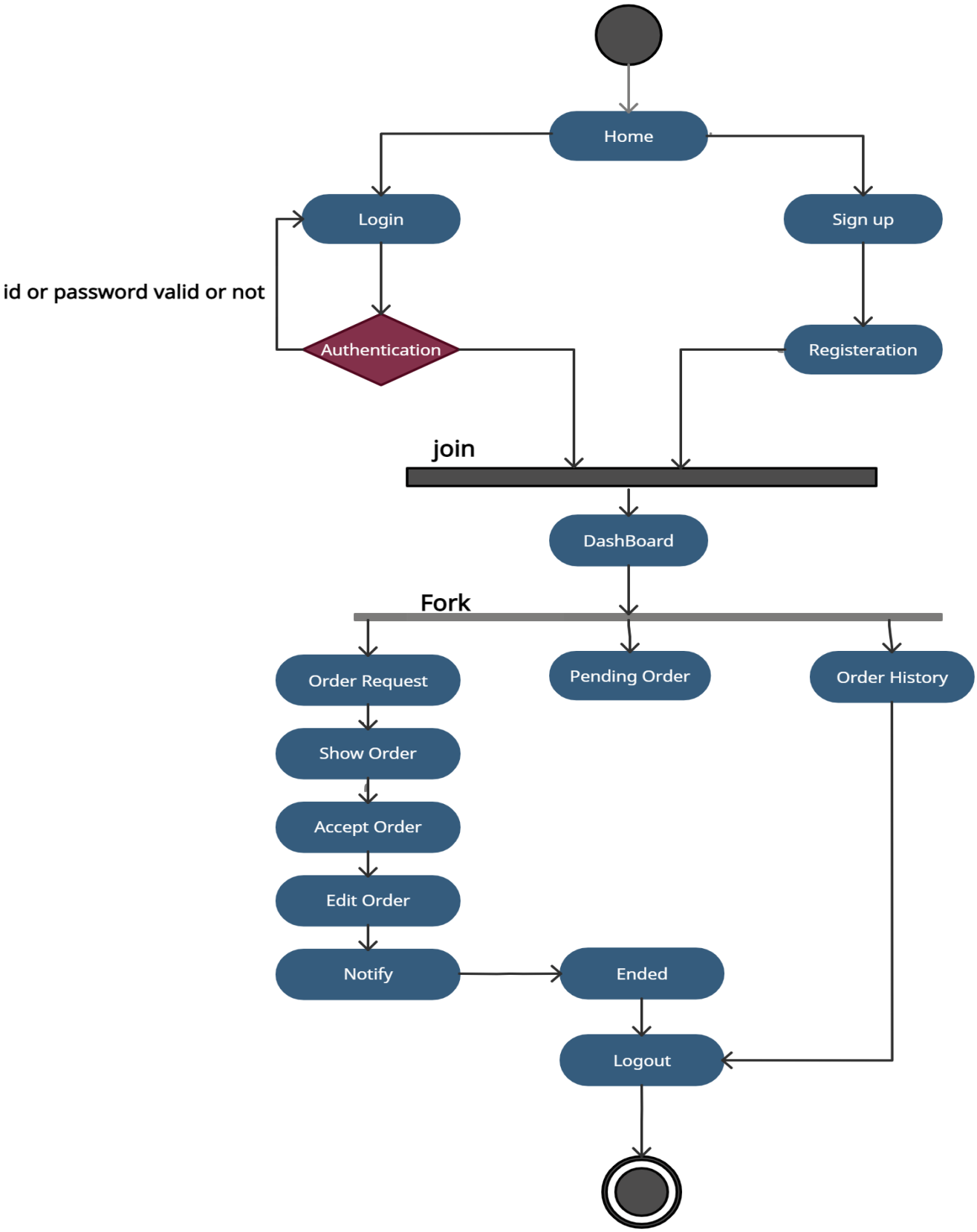
4.1 Design System:

The design system is a framework of software engineering used to evaluate the system being built. It is associated with IT where, due to the architecture and markup, the operating system needs a full review. In the research process, all modules, knowledge interfaces, etc. are analyzed to satisfy the requirements. This chapter would explain the system analysis model. The system specifications, problem areas, use cases and actors, data flow diagrams, sequence diagrams, and system activity diagrams are explained in this chapter. The best approach is to collect the criteria and identify them without any uncertainty, disagreement, or inconsistency. It reduces the system's uncertainties and risks, meaning that when the final iteration of the software is delivered to the user, users can access the app with complete satisfaction.

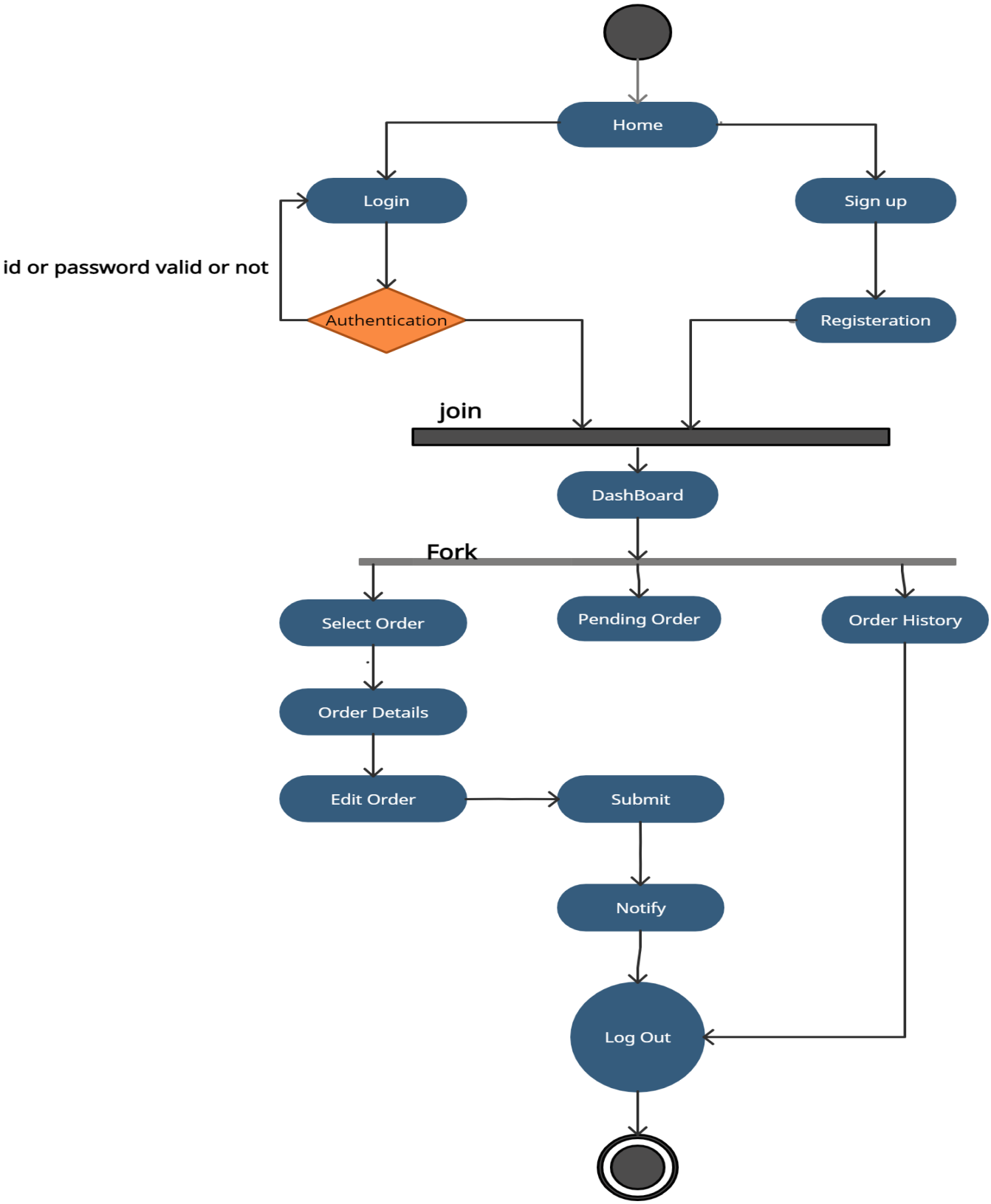
4.2 Activity Diagram:

The activity diagram is used to denote the flow of the system's operations. For various operations, it uses various symbols such as circle for starting, circle for end filled with another circle, input/output parallelogram, rectangle for basic argument, diamond for comparisons and fork and joins, etc. To move from one activity to another, it utilizes arrows.

4.2.1.Activity diagram for tailor



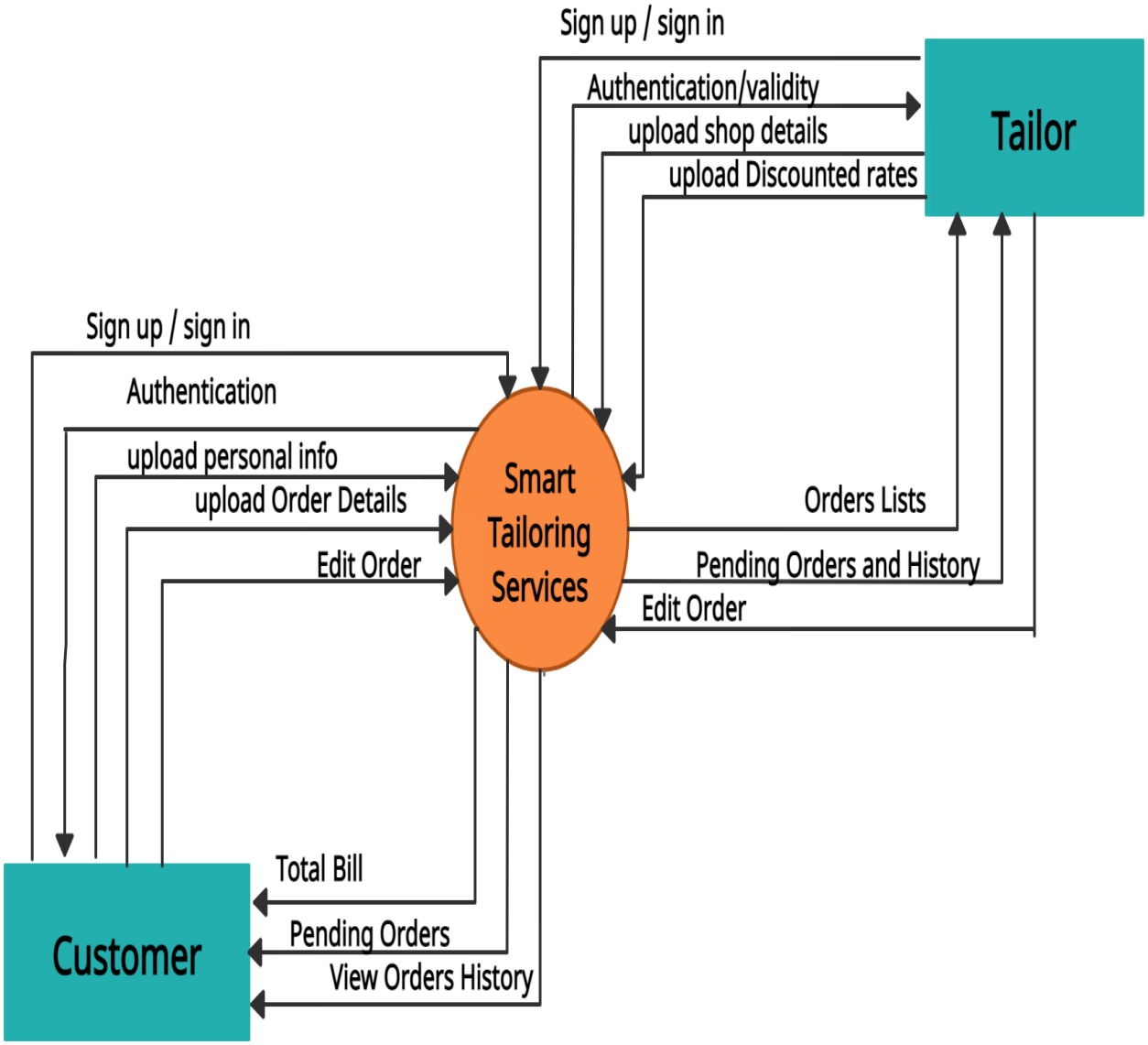
4.2.3. Activity diagram for Customer



4.3 Data Flow Diagram:

The data flow diagram is used to represent the flow of data or information between the various modules involved in the project. The Data Flow Diagram is a short-term DFD. DFD has degrees that vary. It requires data inputs, data outputs, data stores, and separate sub-processes by which the data travels.

4.3.1 0-Level DFD :

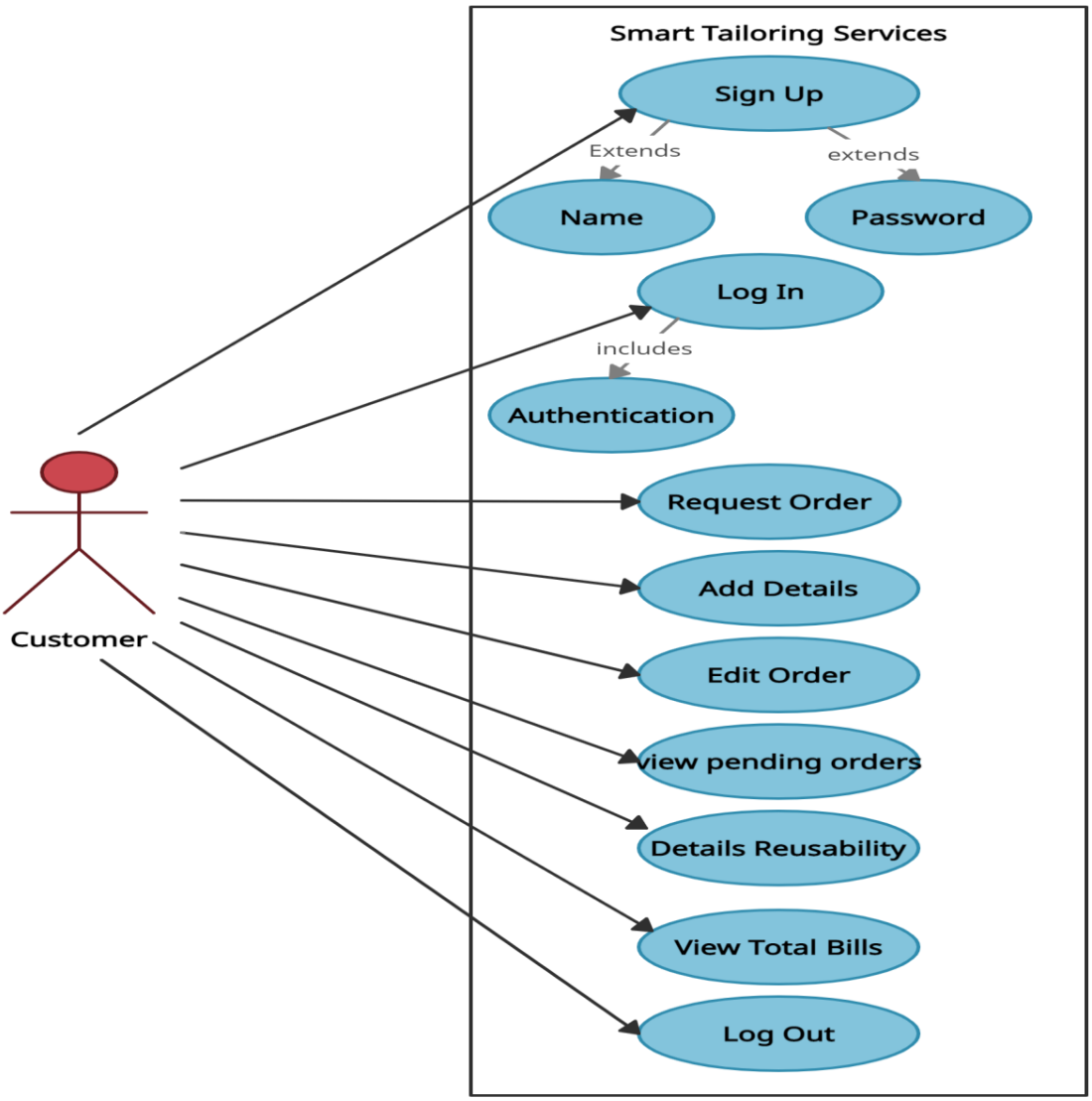


4.4. Use Case Diagram:

Using a use-case diagram to show the system's actions. It is used to graphically describe the framework being created. Actors use instances to classify the method. Actors may be external to the structure or internal to the structure. It is used to describe the borders of the whole structure. There are two distinct actors used in our system:

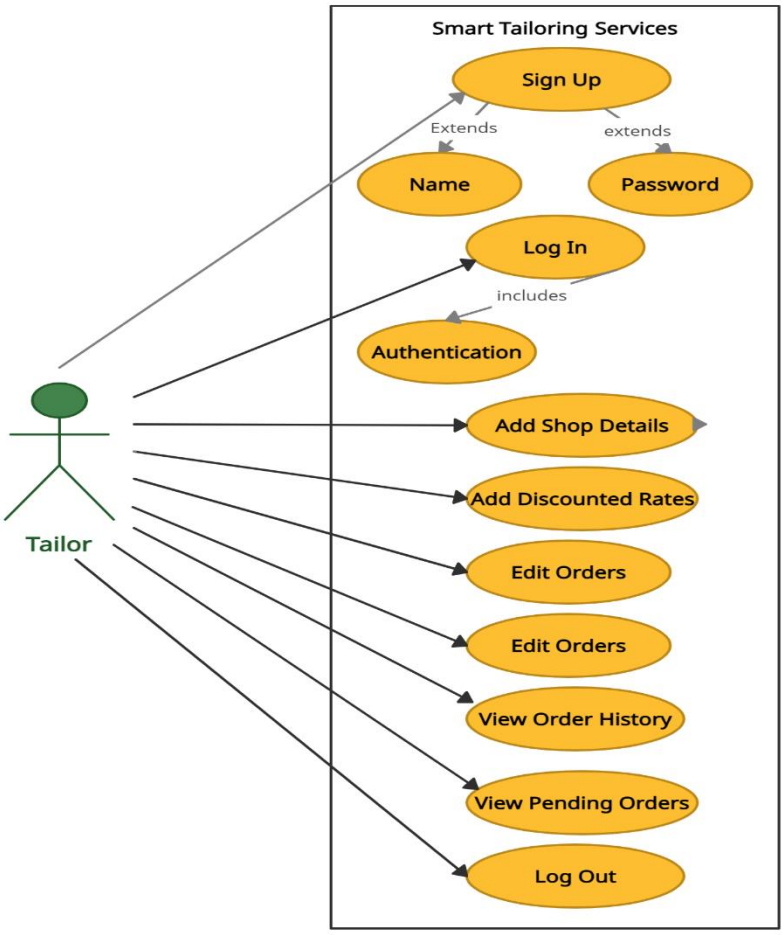
- Customer
- Tailor

4.4.1 Customer Use Case



Use Case Id	UC-1
Actor	Customer
Pre Condition	Signup/sign-in is a must to get into the system
Functionality	• Request Order • Add Details • Edit Order • View Pending Orders • Details Reusability • View Total Bills
Post-condition	Log out from the system

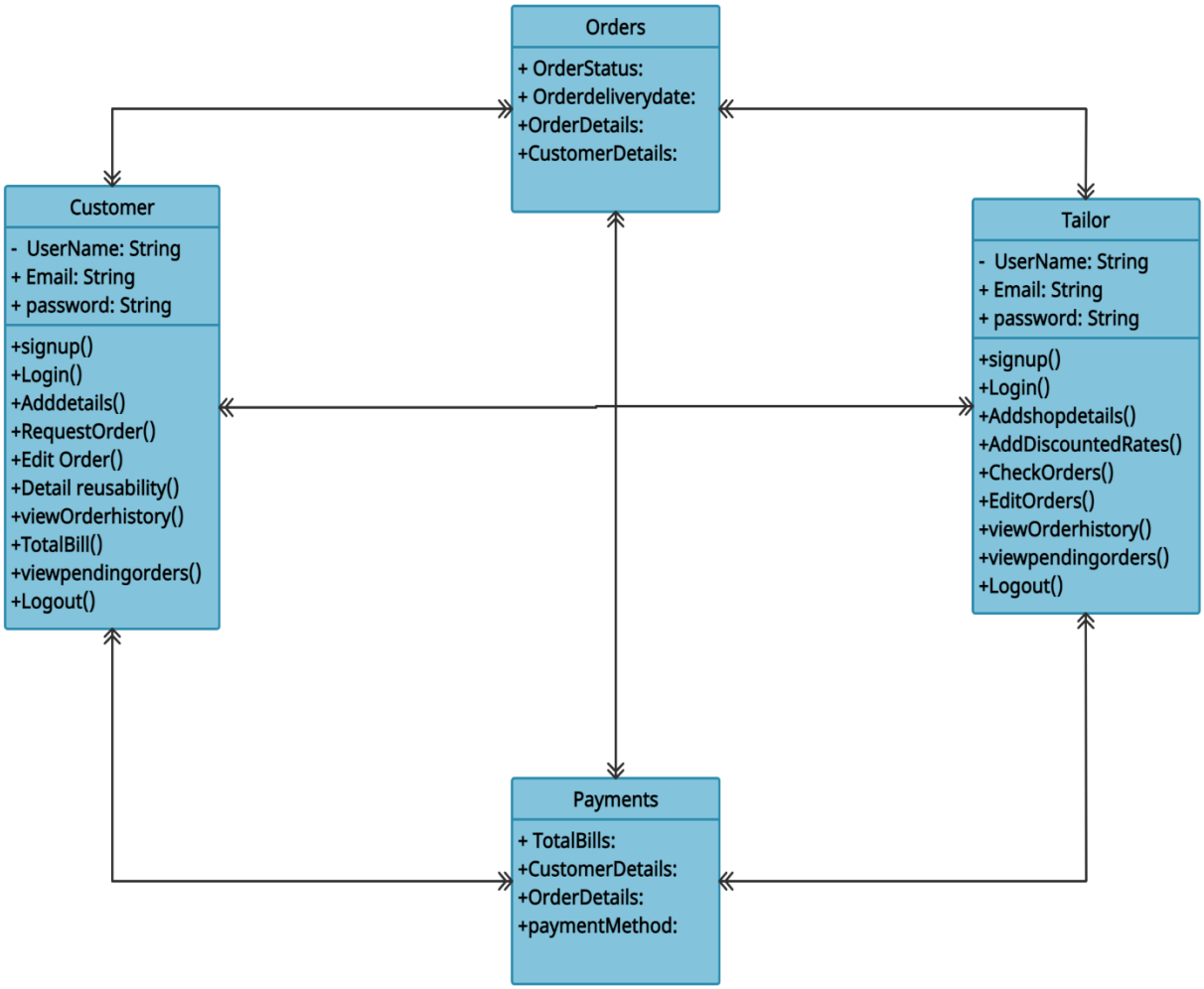
4.4.2 Tailor Use Case



Use Case ID	**UC-2**
Actor	Tailor
Pre Condition	Sign up/sign-in is a must
Functionality	• Add Shop Details • Add Discounted Rates • Edit Orders • View Order History • View Pending Orders
Post Condition	Log out from the system

4.5. CLASS DIAGRAM

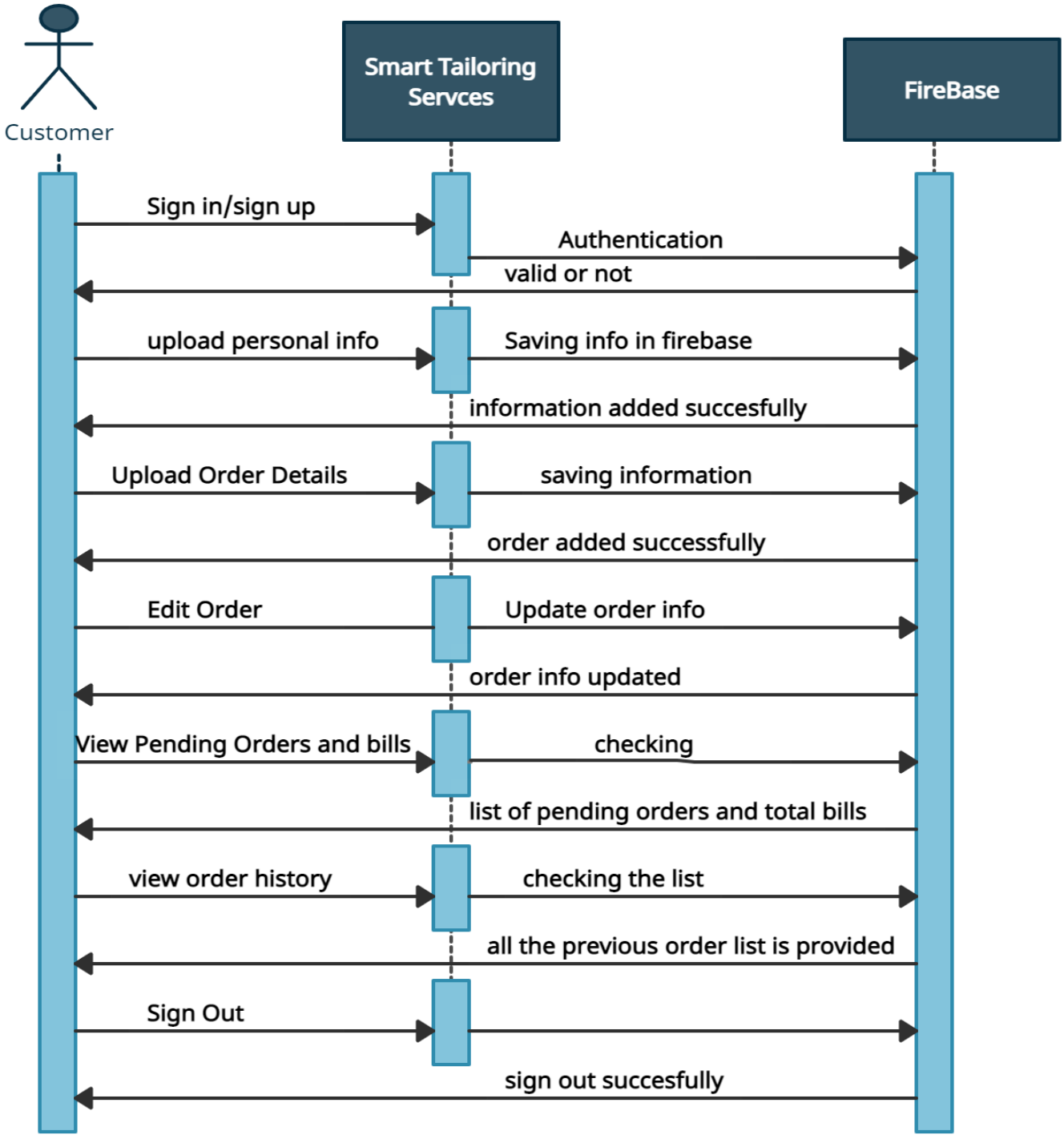
To display the characteristics, processes, and all the limits enforced by the method, the class diagram is used. The class diagram is used to show the relationship between the



4.6. Sequence Diagram

To represent all operations in a sequence, a sequence diagram is used. It explains how and in which order the system's various artifacts operate together in close cooperation.

4.6.1. Customer Sequence Diagram:



4.6.2. Tailor Sequence Diagram: