DeveStyle

Final Year Project

Session 2018-2022

A project submitted in partial fulfillment of the degree of

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Department of Computer Science

Faculty of Computer Science & Information Technology

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Type (Nature of project)	[ ] **D**evelopment [ ] **R**esearch [ ] **R**&**D**
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Plagiarism Free Certificate

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Designation: Lecturer

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Project Report

DeveStyle

Change Record

Author(s)	Version	Date	Notes	Supervisor's Signature

APPROVAL

PROJECT SUPERVISOR	
Comments:	
_____	
Name:_____	
Date:_____	Signature:_____

PROJECT MANAGER	
Comments:	
_____	
Date:_____	Signature:_____

HEAD OF THE DEPARTMENT	
Comments:	
_____	
Date:_____	Signature:_____

Dedication

This work is dedicated to all those people in my life who supported me and prayed for me in my tough times. To all those people who wanted me to succeed in my life. Especially my parents who made me this much capable and helped me in my hardships. All teachers who helped us along the way.

Acknowledgements

Throughout the writing of this documentation, we have received a great deal of support and assistance. We would first like to thank our supervisor, Mr. Jameel, whose expertise was invaluable in completing the documentation and development of our Final Year Project. His insightful feedback pushed us to sharpen our thinking and brought our work to a higher level. We would also like to thank our teachers for their valuable guidance throughout our studies. They've provided us with the tools that we needed to choose the right direction and successfully complete our Final Year Project. In addition, we would like to thank our parents for their wise counsel and sympathetic ear. Finally, we could not have completed this Final Year Project without the support of our friends, who provided stimulating discussions as well as happy distractions to rest our mind outside of our work.

Executive Summary

DeveStyle is an app for both IOS and Android where barber and clients will register using phone number, Google and Facebook accounts. The User has to on his location and we find all best and available barber nearby him by using AI. The user can see the app's top barbers for ratings and nearby also discounted rates. User also has pre-visualize his self that how he is looking after hair cut or in different haircut styles and beard styles by using image processing and artificial intelligence of DeveStyle. User have ability to rate the barber according to his services. Then the user will make an appointment from the schedule and the schedule will be provided by the barber. Each customer can get the cutting service at a time in reasonable price and avail good services

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Chapter 1

Introduction

Chapter 1: Introduction

DeveStyle is an app where barber and clients will register using phone number, Google and Facebook accounts. The customer can see the app's top barbers for ratings and nearby also discounted rates. The barber will add hairstyles and prices according to his experience that he can do. The customer can see his future cut out using image processing and artificial intelligence of DeveStyle. Then the client will make an appointment from the schedule and the schedule will be provided by the barber. Each customer can get the cutting service at a time.

• Background

Before that, there was no system that would provide such services to us. People go to the barbershop and wait for their turn. If they were in a hurry, they would still have to wait their turn. If they have to save their time and they go to another barber. The Barber does not cut your hair good both your time and money are wasted.

• Motivations and Challenges

The biggest challenge for us was that no one has done it before and we have a lot of questions in our minds about whether people will use this app or whether it will make its place in the world of technology or not.

In fact, our motivation is that we're going to do something that nobody else has done before.

• Goals and Objectives

As we know that nowadays no one has time to wait and everyone wants to get the best service in less time and at a reasonable price.

Our main objective is to provide the best service at a reasonable price that will save people time and get the best barber nearby. The User will also pre-visualize his/her self-look after a haircut by using Artificial intelligence. And the barber will also get a good customer.

• Literature Review/Existing Solutions

In the existing system, people need to go to a barbershop in case the shop was closed or a long queue of people you have to go to another barber or wait for your turn. Or barber provides their numbers to customers but it is very limited.

• Gap Analysis

People need to go to a barbershop in case the shop was closed or a long queue of people you have to go to another barber or wait for your turn or barber did not provide good service to you and cut your haircut according to your requirement.

• Proposed Solution

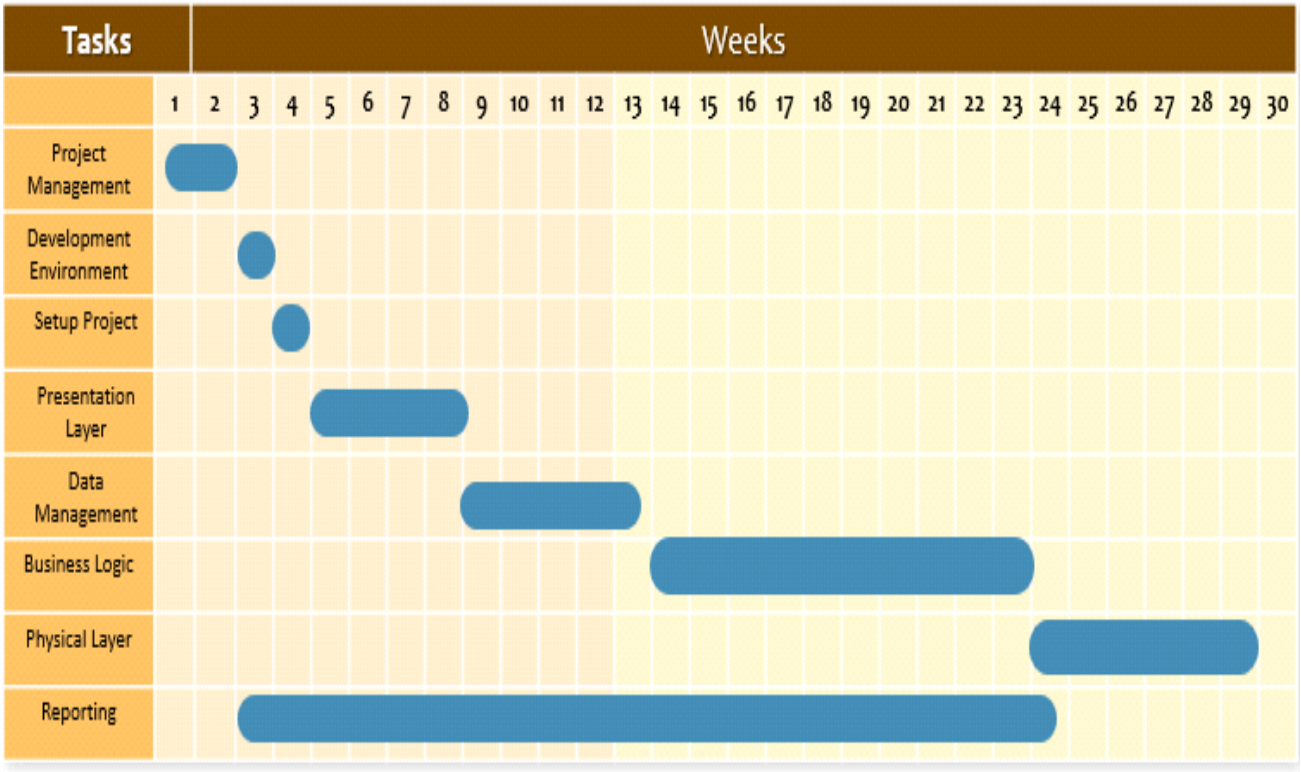
Has it ever happened that you went to a barbershop and saw a long queue of customers already waiting for your time? Has it ever happened that you wanted a cut from a specific barber but due to his unavailability you got a cut from another barber and returned unsatisfied? Have you ever thought that if a barber comes to your place for your cutting? Have you ever thought how I will look after a haircut? If these questions have ever popped into your mind, then we have a solution for you. We are introducing a mobile application named “DeveStyle”. In this app, you can set an appointment with a barber of your own choice. So there will be no unavailability issue. You can also set an appointment at your place, and the barber will track you and give you a cut at your doorstep. You can also visualize how you will look after a haircut. So now your barber is just one tap away.

- # Project Plan
- **Work Breakdown Structure**
- **Project Management**
- Work Breakdown Structure (WBS)
- Roles & Responsibility
- **Reports / Documentation**
- Final Documentation Introduction
- Literature / Markey Survey
- Requirements Analysis
- System Design
- Implementation
- Testing & Performance Evaluation
- Conclusion & Outlook
- End User Documentation
- **System**
- Development Environment
- IDE
- Version Control
- Server
- Database
- Presentation Layer
- Business Logic Layer
- Data Management Layer
- Physical Layer

- **Roles & Responsibility Matrix**

Sr.	WBS Deliverable	Activity	Activity to Complete the Deliverable	Days	Responsible Team Member(s) & Role(s)
1	Project Management	1	Analyze Requirements And divide work	14	All
2	Development Environment	2	Selecting Environment and Version	7	All
3	Setup Project	3	Setting Connection to Database and Setting Project	7	Shazaib Danish & Abdul Raheem
4	Presentation layer	4	Designing Front –End	28	Shazaib Danish & Abdul Raheem
5	Data Management	5	Design Datasets	35	All
6	Business Logic	6	Code the project	70	All
7	Physical layer	7	Placed app in play store & app store	42	Abu Bakar
8	Reporting	8	Report about the project	154	All

- **Gantt Chart**



- **Report Outline**

In this chapter, we've discussed various aspects of our project like its Introduction, Background, Motivation, Goals, and Objectives. From comparing our system with existing solutions to providing gap analysis to have a better understanding of our system. What is our proposed solution and our project plan as well as roles and responsibility matrix, everything is well explained?

Chapter 2

Software Requirement Specifications

Chapter 2: Software Requirement Specifications

• Introduction

• Purpose

DeveStyle will be used for haircut appointment. Customer not need to wait for their turn. Pre-visualize his self how they look after cut.

• Document Conventions

Describe any standards or typographical conventions that were followed when writing this SRS, such as fonts or highlighting that have special significance. For example, state whether priorities for higher-level requirements are assumed to be inherited by detailed requirements, or whether every requirement statement is to have its own priority

• Intended Audience and Reading Suggestions

This documentation will be readable for developers' team, managers, marketing team and supervisor of FYP. Every reader will understand the whole flow of app by reading the introduction of the app.

• Product Scope

The main objectives of the app to find best barber for cut and save your time by taking appointment of barbers. Customer will not have any hesitations while choosing the barber for cut. Because DeveStyle will provide the experience of barber using ratings and reviews.

• References

List any other documents or Web addresses to which this SRS refers. These may include user interface style guides, contracts, standards, system requirements specifications, use case documents, or a vision and scope document. Provide enough information so that the reader

could access a copy of each reference, including title, author, version number, date, and source or location.

• Overall Description

• Product Perspective

DeveStyle have beautiful and user-friendly UI and developed according to customers' requirements. The main aim to save users time and fulfill their satisfactions. When customer will take an appointment, it will immediately be updated at barber's side. User should have eligibility to make an appointment with barber. DeveStyle will not require high qualification for using this app. Every person can use it easily.

• Product Functions

Following function of DeveStyles:

- Customer/Barber can register themselves
- Barbers/Customers will add
- Barbers will register their shops.
- Barbers will add hairstyles and prices for customers
- Barber will add location and their availability schedule.
- Customers can take an appointment.
- Customers can find nearby top barbers
- Customers take a look of their hair cut by applying filters.
- Customers can see their history
- Customers can leave review after cutting.

• User Classes and Characteristics

In the DeveStyle there will be 3 users Barbers/Customers/Admin. Barber will register themselves and also register their shop for customers cut. Customer can find top barbers nearby and will

take an appointment. Admin will lock after all activities so admin can stop illegal and unusual activities.

- **Operating Environment**

DeveStyle will able to run in android 8+ & nuget 5+ OS.

- **Design and Implementation Constraints**

In the DeveStyle we want to take complete information of Barbers/Customers like addresses and ID's for more satisfaction of users. But due to security issues in Pakistan we cannot add these requirements.

- **User Documentation**

DeveStyle team will provide videos, Screenshots and help section to use app easily.

- **Assumptions and Dependencies**

This plan might be already developed by someone they can take an action for their idea.
But DeveStyles depends on Barbers usability.

- **External Interface Requirements**

- **User Interfaces**

In this app user required to login/signup using their phone number, google and Facebook. No any other option available for login. Also user required to verify themselves using OTTP and email confirmation. Tracking, live status and stunning UI of Dashboard is more preferable.

- **Hardware Interfaces**

All android and IOS devices will be compatible for this app.

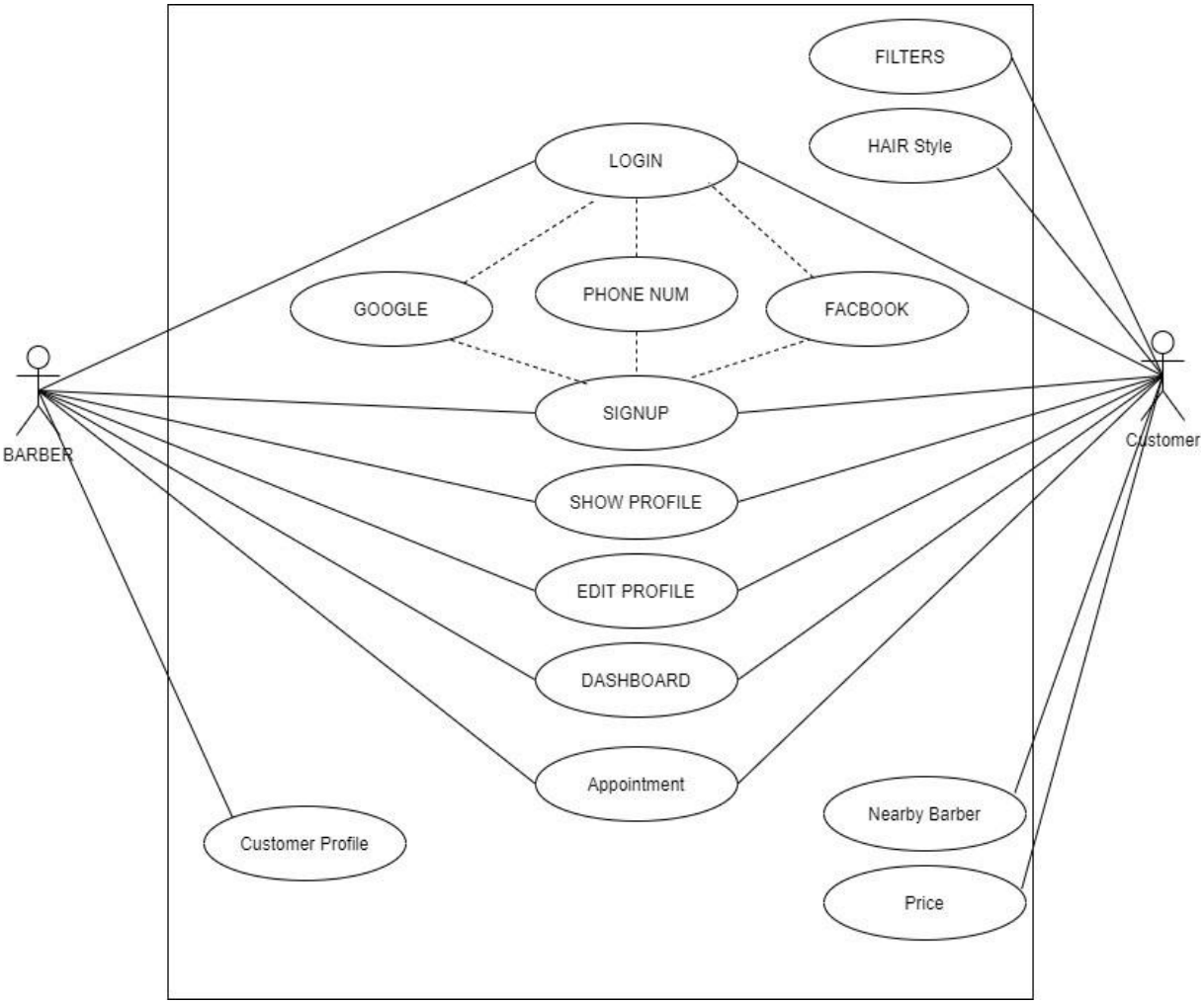
- **Software Interfaces**

This app will be developed using Flutter 2.5+ framework. In the backend will be used firebase database for storing user information for long time and securely. For user registration will be used Google Auth, Facebook Auth and Firebase Phone Number Authentications.

- **Communications Interfaces**

In this app we will use Firebase Database designed by Google. It Provide us communication between end-to-end users.

- **System Features**



- ## System Feature

- **Description and Priority**

Feature	Priority
Login/Signup	9
Appointment	9
Reviews/Rating	5
Hair Style Filters	9

- **Stimulus/Response Sequences**

When user will make an appointment barber will immediately get appointment verifications, once barber verified user will immediately get response.

- **Functional Requirements**

REQ-SF1-1: Login

REQ-SF1-2: Signup

REQ-SF1-3: Profile Completions

REQ-SF1-4: Finding Nearby Barber

REQ-SF1-5: Allow Location to app

REQ-SF1-6: Finding top barber

REQ-SF1-7: Rating/Review

REQ-SF1-8: Set Appointment

REQ-SF1-9: Check History

REQ-SF1-10: Check cut using Hair Style Filters

REQ-SF1-11: Check Favorite hair style price

- ## System Feature 2

  - **Description and Priority**

  Customer can see their style after cutting user image processing. It's priority is 9.

  - **Stimulus/Response Sequences**

  When user will point their face in front of camera they can see their hair cut, User can change filters, all these filters available by barber.

  - **Functional Requirements**

  REQ-SF2-1: User need to allow camera of their mobile.

  REQ-SF2-2: User need to select filter first

  REQ-SF2-3: User can Save their Image after Processing

  REQ-SF2-4: User can save their image.

• Other Nonfunctional Requirements

• Performance Requirements

User can change mode of app like dark/light themes. User will get best and fast response on every click. The UI is amazing user will satisfy from the app.

• Safety Requirements

User data will be secured and we need to use admin to lock after every time whenever get any unusual and illegal activities protect user from that activity.

• Security Requirements

User need to enter to app using their official email, Facebook account and using there personal number. User will be verify through email and OTTP so that will be secure environment of app for everyone.

• Software Quality Attributes

The app will have adaptability, availability, correctness, flexibility maintainability, portability and reliability.

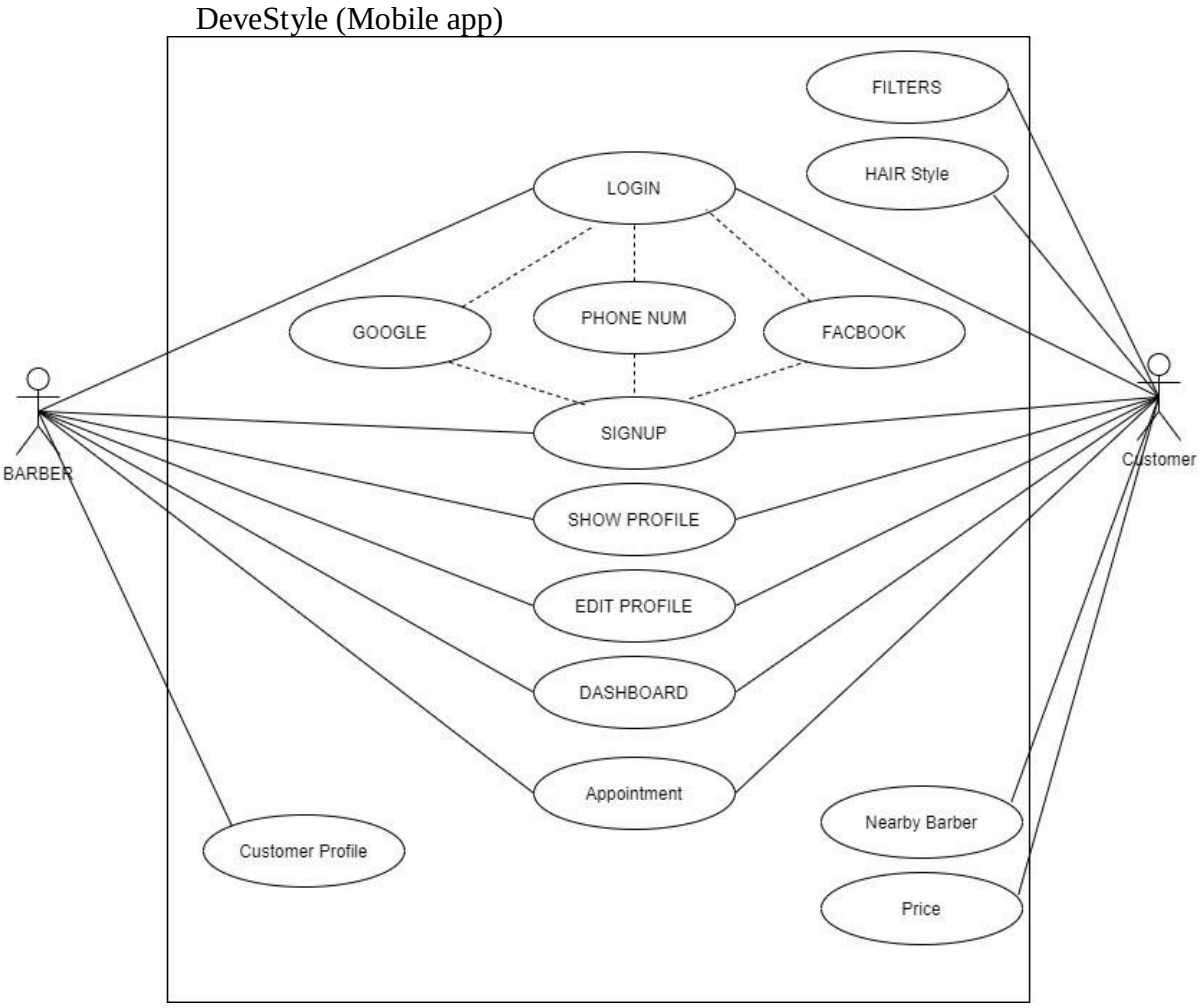
Chapter 3

Use Case Analysis

Chapter 3: System Analysis

DeveStyle Use case model described in this app. All features that will perform by app are mentioned using hierarchal diagram.

- **Use Case Model**



- ## Use Case Descriptions

In this model all features are mentioned. Barber and Customers are the two main entities of the app. Barber and Customer will register themselves first. Same Screen will used for both entities. Then Barber will add shop details and hair styles and prices. Barber will have dashboard where he can see the total number of customers have done today. How much appointment completed and how much for tomorrow? He also can see his earning details on Dashboard.

Customer will see all barbers' shops list on his dashboard. Customer can see his style before cutting using hair style filters. Both entities can update their profile whenever they want. Customer also have feature to find nearby top barbers and best price for style and his budget.

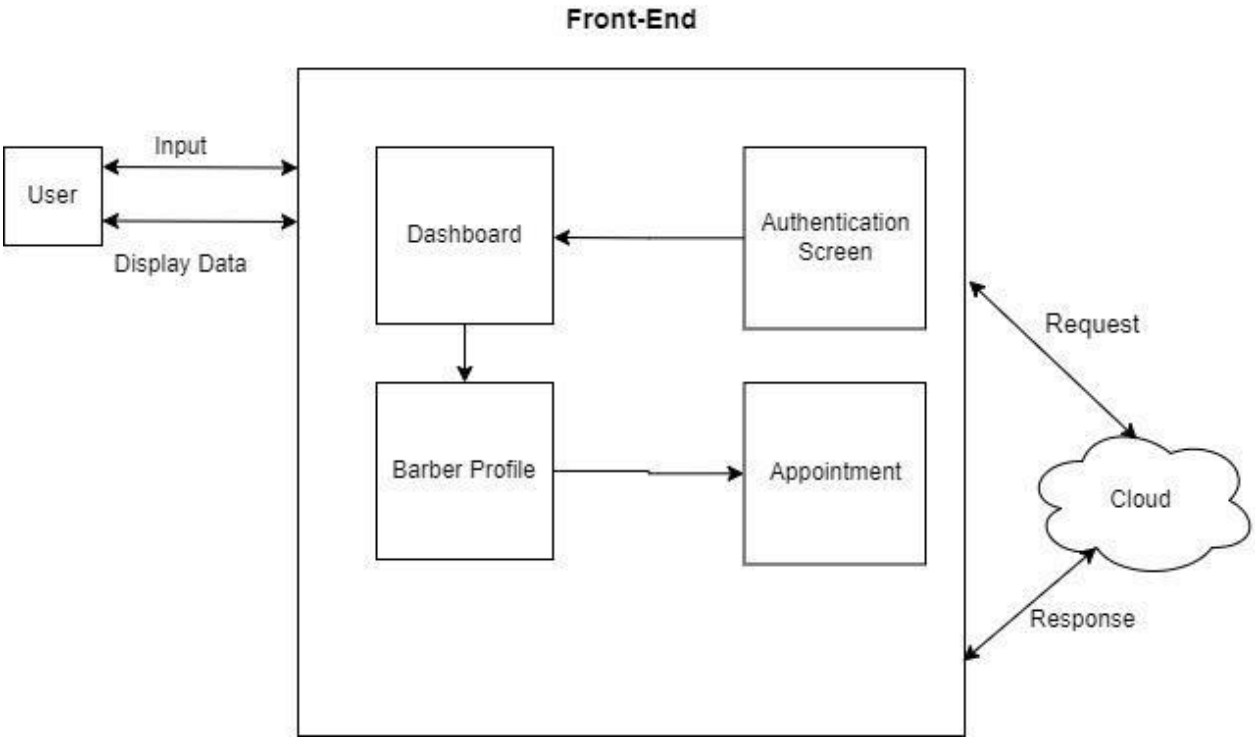
Chapter 4

System Design

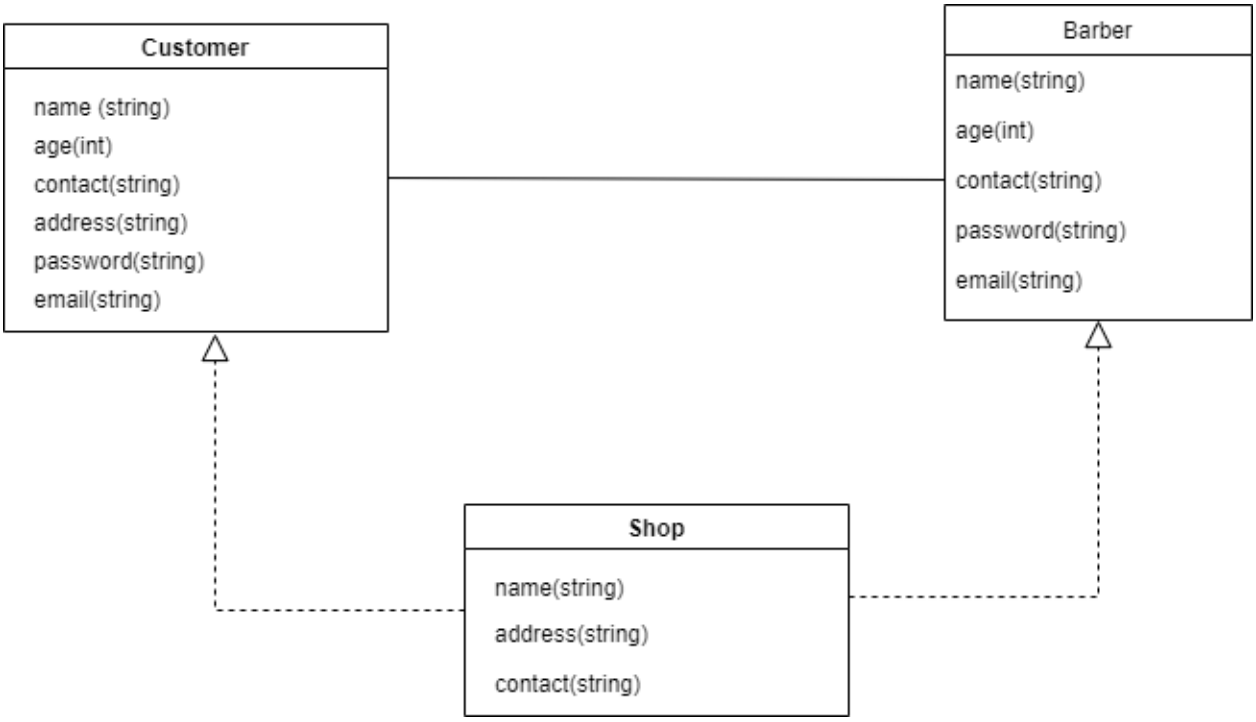
Chapter 4: System Design

In this chapter we analyzed our project with the help of diagrams & designs. And make models of that can described our project working in very easy way. The design will show flow of DeveStyle and will show all stakeholders.

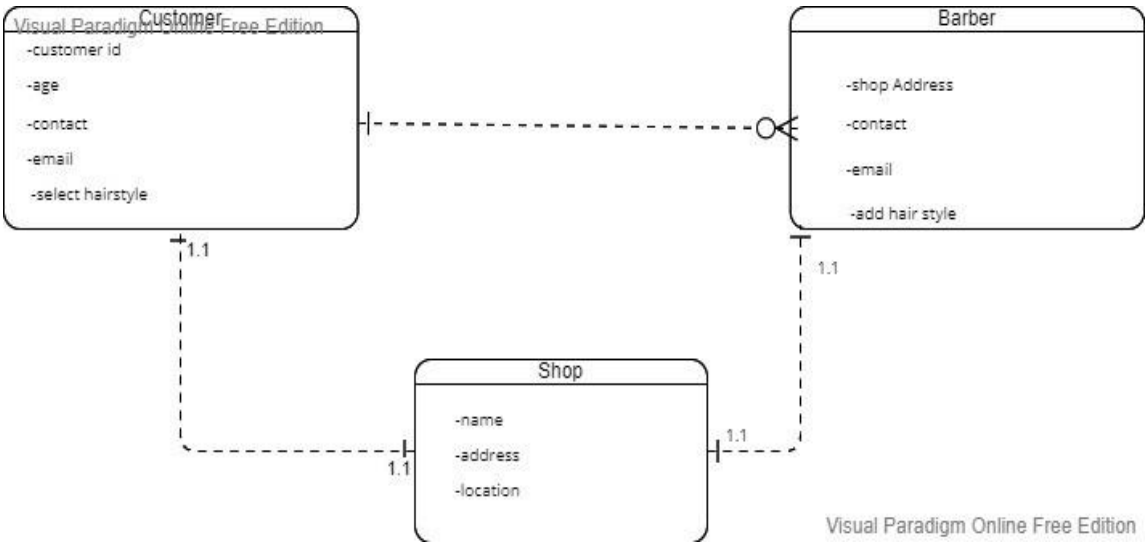
- **Architecture Diagram**



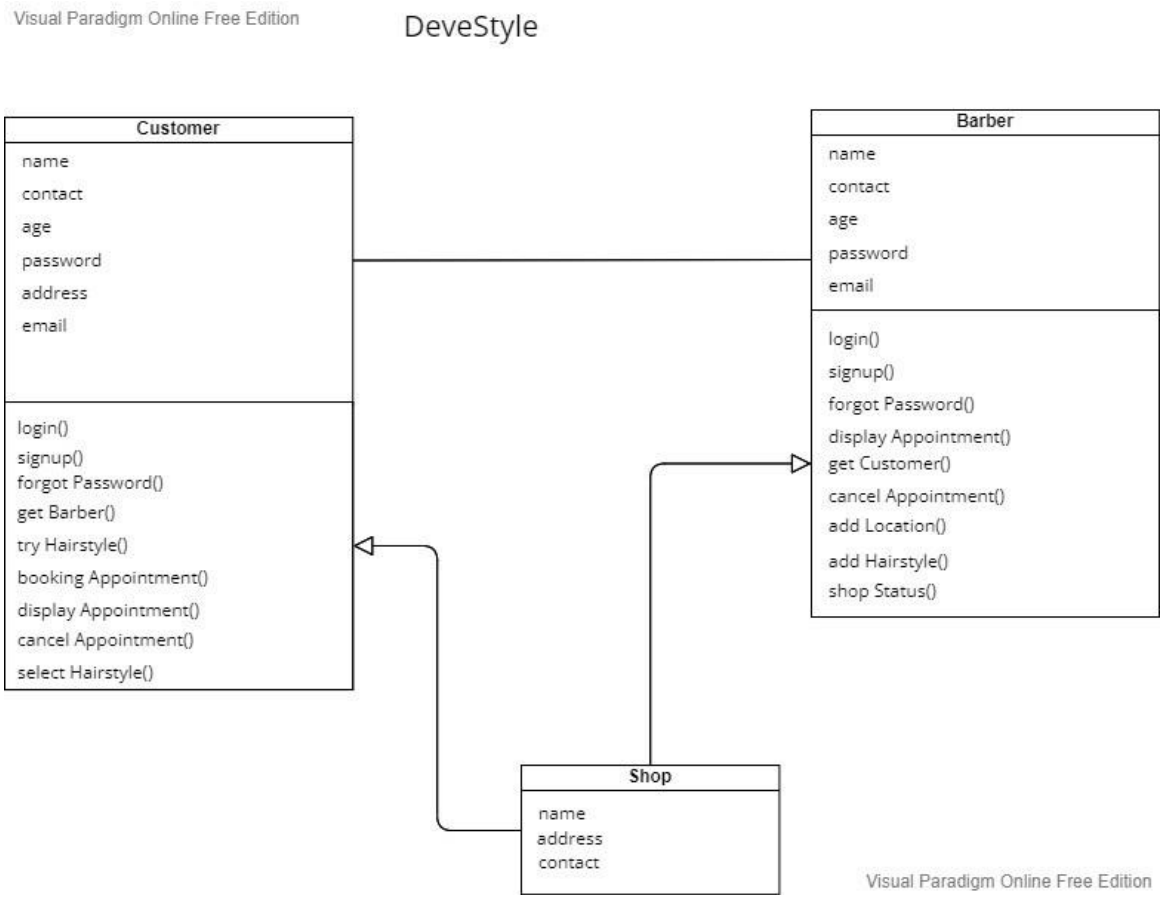
- **Domain Model**



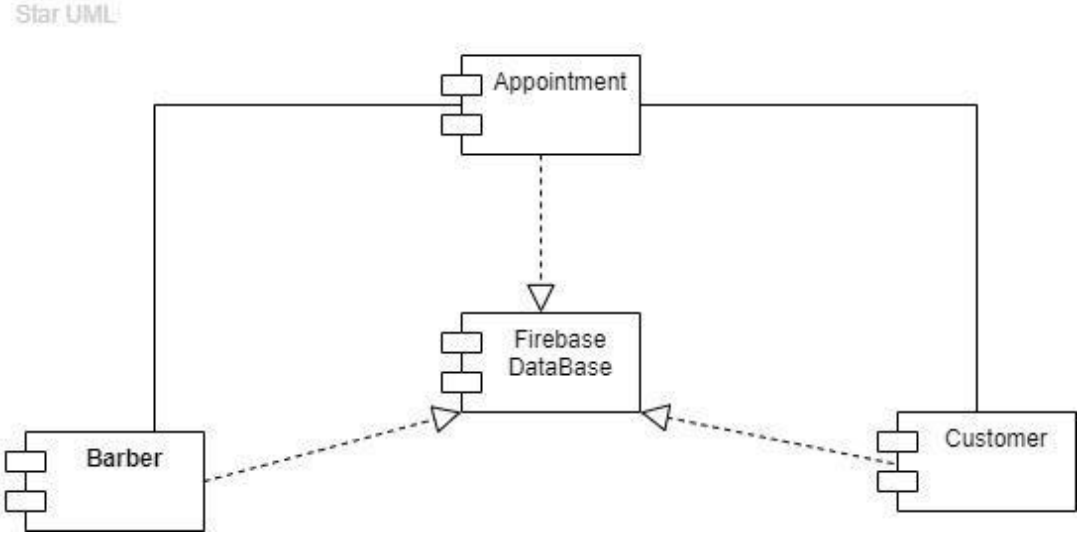
- **Entity Relationship Diagram with data dictionary**



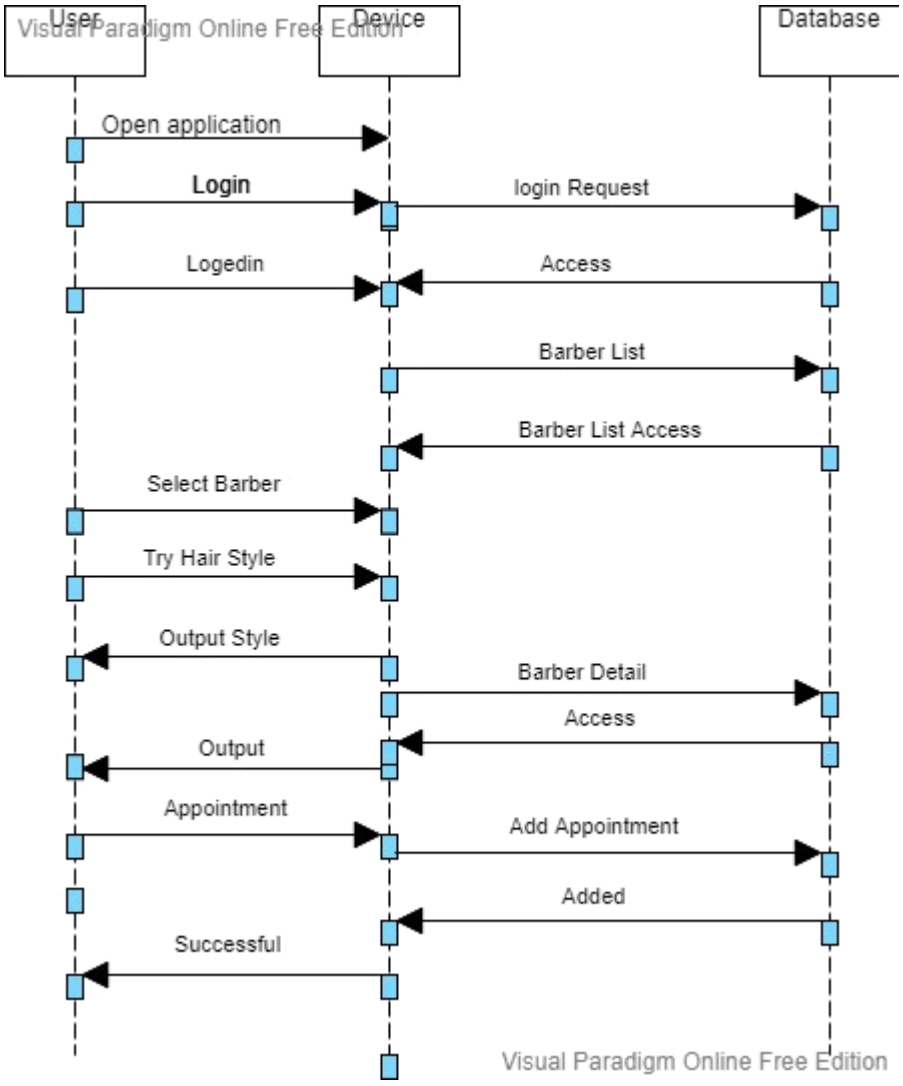
- **Class Diagram**



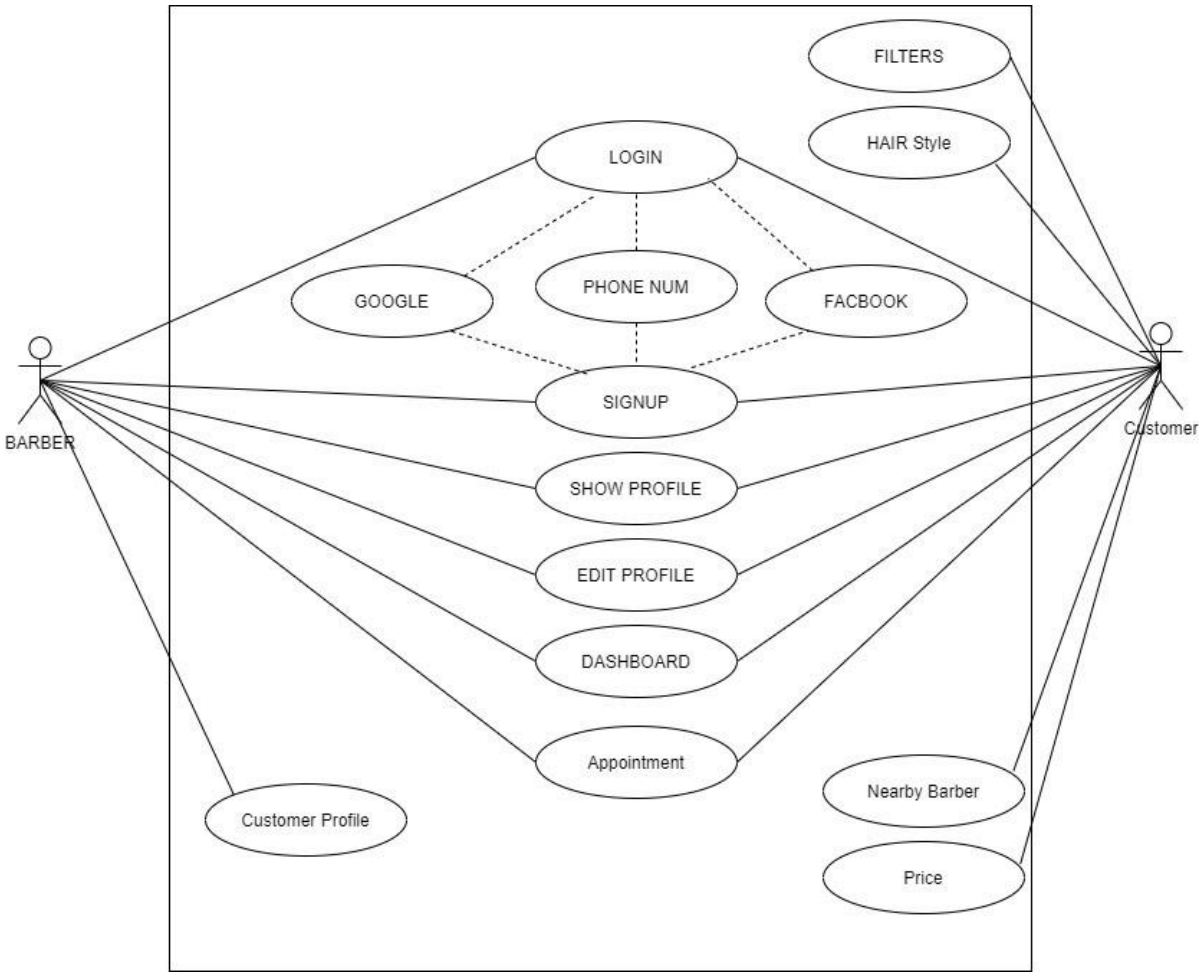
- **Component Diagram**



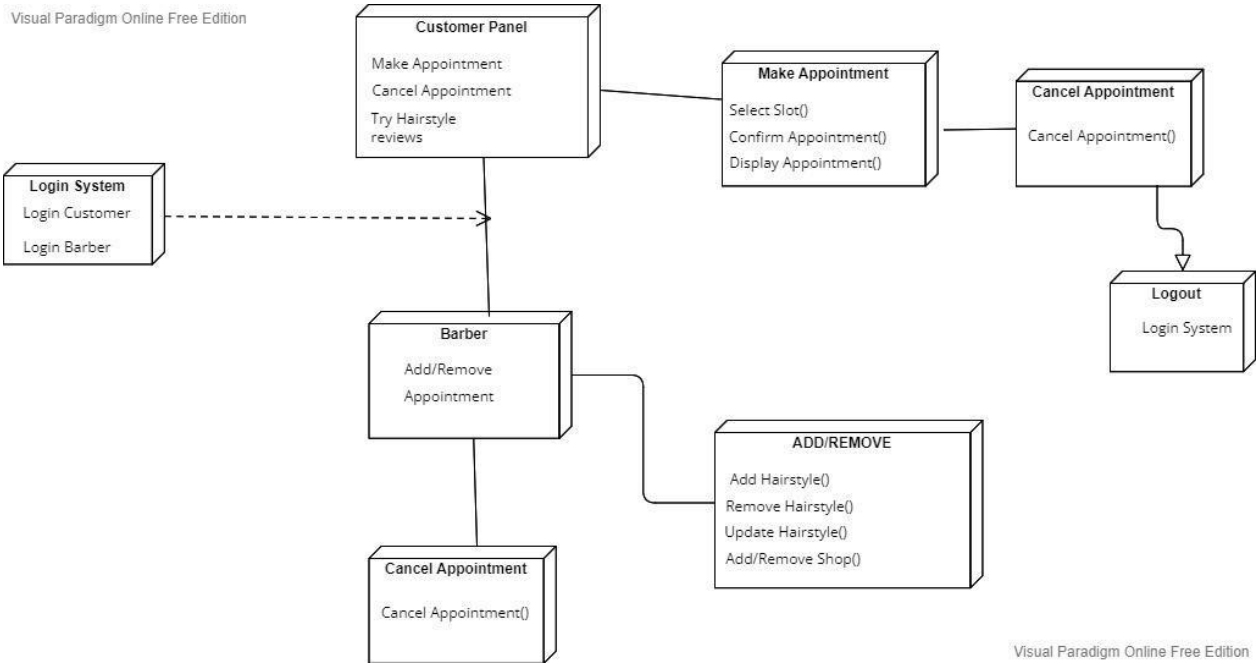
- **Sequence / Collaboration Diagram**



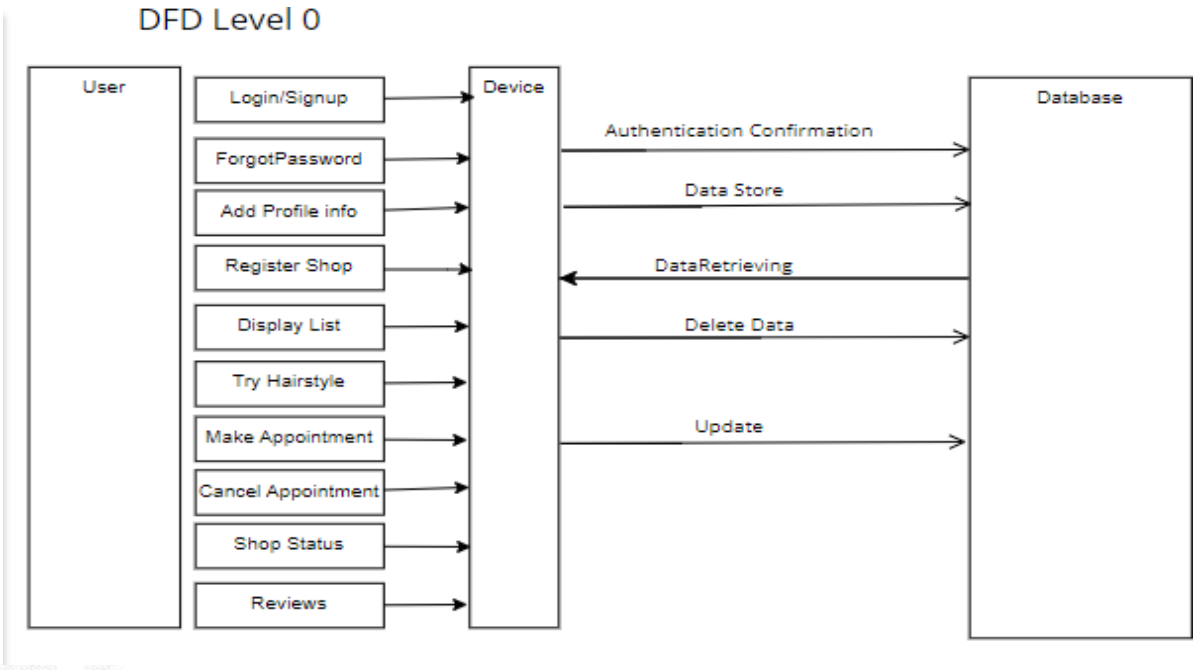
- **Activity Diagram**



- **Deployment Diagram**



- **Data Flow diagram**



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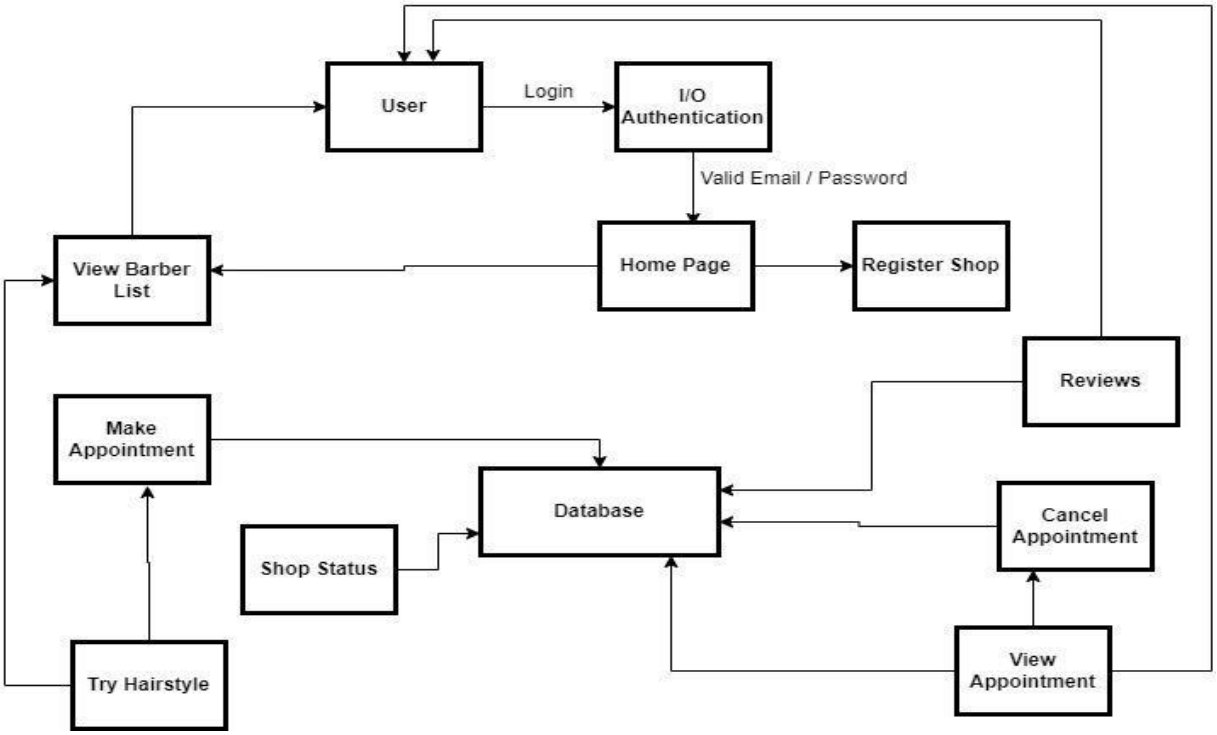

Chapter 5

Implementation

Chapter 5: Implementation

We will do DeveStyle using latest framework Flutter and firebase and will use 2.5+ version. The app will be developed by flutter team using Dart language. Then will upload it to google Play Store and Apple Store. DeveStyle will provide first month free membership then will take 10% commission from barbers.

• Important Flow Control/Pseudo codes

- User will login and signup using their credentials.
- After successfully login user will able to see dashboard
- On the dashboard user will able to see list of all registered barbers and can search.
- User will select barber to see details of barber and can see all style of hairs that will be added by barber.
- User will able to see all cutting style's prices as well
- Use can try that hair style using camera filter and Image processing.
- After user satisfaction user can make an appointment for cutting.
- User also able to see all appointments list.
- Barber will be registered themselves and their shops as well
- Barber will see all appointments on their dashboard.
- Barber will add hair style by choosing from available by systems there will be almost 300+ styles.
- Barber can change status of shop like Open/Close
- Barber also can cancel the appointments in case of any emergency and will also leave comments with it(why barber canceling).
- At the end after completing order customer will leave feedback for barber(how was the cutting).
- Rating also will show on every barber profiles.

- ## Components, Libraries, Web Services and stubs

    - Flutter state management (Provider)
    - Image processing library (Flutter)
    - Machine Learning API (Firebase)
    - Firebase cloud database for Storing data of DeveStyle
    - Firebase Authentications for registration (Email/Phone)

- ## Deployment Environment

    It will be uploaded on Play Store and Apple Store, so user can get this app easily.

- ## Tools and Techniques

    For DeveStyle development we will user Flutter framework provided by Google and Firebase database also provided by Google. We will develop this application using these tools.

    - Android Studio,
    - Visual Studio Code
    - Firebase website.

- ## Best Practices / Coding Standards

    This application will be developed using MVC and flutter reusable widgets with the 250 lines code technique of each dart files.

- ## Version Control

    GitHub & Bitbucket version control will be used for DeveStyle development.

Chapter 6

Testing and Evaluation

Chapter 6: Testing and Evaluation

After development final stage is to test and evaluate the app before deploy on Play Store and Apple Store. Testing face will be done by Quality Assurance agent.

- ## Use Case Testing

In the first case QA will check all the stakeholder are able to perform main functions in the app or not. Like login/signup, dashboard and appointments.

- ## Equivalence partitioning

Then it will be divided into 3 parts Admin, Barber and Customer modules and will be tested all module separately.

- ## Data flow testing

This test will be done to check all the screens and flow of app and flow of data is working good or not. When user entering to app using credentials user getting data from firebase is true or not.

- ## Performance testing

Performance test is very important in this face. Test Firebase authentication quickly. Data storing and retrieving from firebase is fast or slow. When 2000 user using app crashing or not. Will be measure speed of app and flow speed of app.

- ## Stress Testing

  Test If user increase from expectation like we assume that maximum 1000 user will use application but increase to 2000 users then how application behave.

Chapter 7

Summary, Conclusion and Future Enhancements

Chapter 7: Summary, Conclusion & Future Enhancements

• Project Summary

DeveStyle is a mobile app for barber appointment. It will save customers times and Barbers can provide best services to their customers. Customers can find best barber using their profile rating, services and values. There is not any app in the Play Store and Apple Store for barber appointments. So we analysis in the market everything improving and converting to digital systems, providing services online and using smart ways. But for barber there is not any system not any service online that can save time and help of customers.

Reference and Bibliography

Reference and Bibliography

Devestyle

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