**Mobile Application Development**

**Salon Application**

KARISHMA PATEL (2095078)

1. **System Planning**
   1. **Business Case**

The Mobile Salon Management System addresses the need to streamline and enhance the salon experience for customers and staff. The project justification is based on:

* **Convenience for customers:**
  + Providing a user-friendly platform for online appointment booking and access to salon information.
  + Meeting the increasing demand for digital solutions in the beauty and wellness industry.
* **Effective Salon Administration:**
  + Empowering salon staff and administrators with tools for efficient appointment scheduling, staff management, and service integration.
  1. **SWOT Analysis**
* **Strengths:**
  + User-friendly interface for both customers and staff.
  + Integration of online booking, enhancing customer experience.
* **Weaknesses:**
  + Initial setup and potential resistance to digital transformation.
* **Opportunities:**
  + Potential for increased customer engagement through digital solutions.
  + Business growth through positive customer reviews and improved efficiency.
* **Threats:**
  + Competition from other salon management systems.
  + Technological challenges during implementation.
  1. **Constraints**
* **Time Constraints:**

The project must be completed within a specified timeframe. Delays may impact other aspects of the project.

* **Budget Constraints:**

Limitations on financial resources allocated to the project. This includes funding for development, testing, and other project-related activities.

* **Technology Constraints:**

Limitations imposed by the technology environment, including compatibility issues, platform restrictions, and hardware/software dependencies.

* 1. **Feasibility**
* **Technical Feasibility:** The project aligns with technological requirements.
* **Operational Feasibility:** The system enhances operational efficiency for salon staff.
* **Economic Feasibility:** The benefits outweigh the costs, considering potential business growth.
  1. **Project Management**
* **Roles and responsibilities:**
* **Timeline:**

Phase 1 (User Login and Registration): Feb 19 – Feb 26

1. **System Analysis**

**New Implementation Details:**

**Home Activity:** A new Home Activity has been implemented to display the list of salon services, along with a toolbar and a "Book Appointment" button. This provides customers with easy access to available services and booking functionality.

**Fragments for Different Services:** Various fragments have been created to represent different salon services. Each fragment includes features such as displaying service details and integrating video service for showcasing service demonstrations.

**Firebase Database Integration:** The project has been connected with Firebase Database to store user registration and login data securely.

* 1. **Who, What, Where, When, How, and Why?**
* **Who:** Customers, Salon Staff, Administrators
* **What:** Salon Management System with online booking and detailed service information.
* **Where:** Mobile devices, accessible from anywhere.
* **When:** Real-time access to appointment schedules.
* **How:** User-friendly interface for ease of use.
* **Why:** Addressing the demand for digital solutions and improving salon efficiency.

* 1. **Requirement Modeling**

**Inputs:**

* 1. **User Registration:**
* User First Name (‘user\_fName’)
* User Last Name (‘user\_lName’)
* User Phone Number (‘user\_phone’)
* User Email Address (‘user\_email’)
* User Password (‘user\_pwd’)
  1. **User Login:**
* Entered Email (‘inputEmail’)
* Entered Password (‘inputPwd’)

**Outputs:**

1. **User Registration:** Successful Registration Confirmation Message
2. **User Login:** Successful Login Redirect to Home Page

**Processes:**

* 1. **User Registration:**
     + Collect user details from input fields in the registration form.
     + Validate and process the information, including checking for unique email addresses.
     + Create a new User object with the provided details.
     + Display a confirmation message upon successful registration.
  2. **User Login:**
     + Collect entered email and password from the login form.
     + Validate the input against predefined values or, in a real-world scenario, validate against a database.
     + Authenticate the user using the validate method in the code.
     + Redirect the user to the home page upon successful login.

**Performance**:

1. **User Registration:**

* Performance is measured by the time taken to process and store user information.
* Immediate feedback on successful registration contributes to positive user experience.

1. **User Login:**

* Performance is evaluated based on the speed of authentication and redirection.
* Real-time validation ensures a quick response to the user.

**c. Data and Process Modeling:**

Structured Analysis techniques are applied to model the data and processes involved in user login and registration.

**Data Modeling:**

1. Entities:

* User entity with attributes (user\_id, user\_fName, user\_lName, user\_phone, user\_email, user\_pwd).
* Relationships: Relationship between user registration data and the authentication process.

**Process Modeling:**

1. User Registration Process:

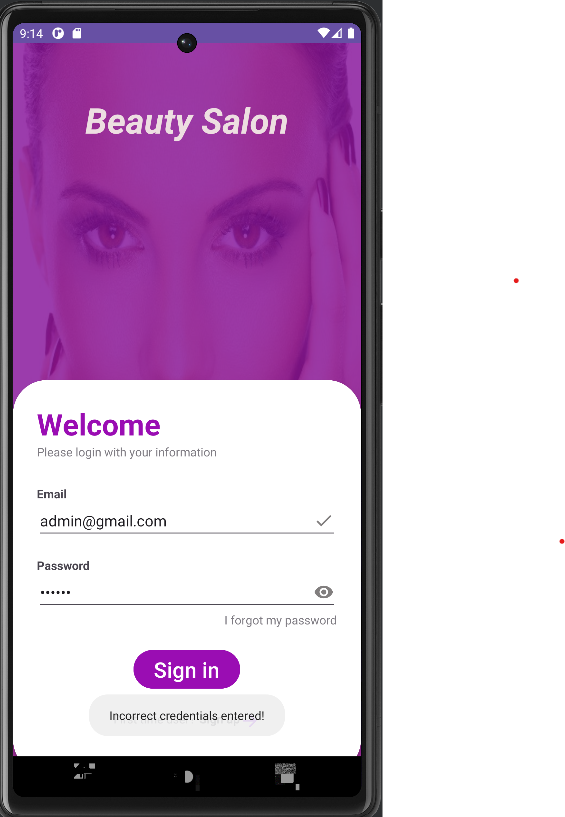
* A structured flowchart or diagram illustrating the steps involved in user registration, from data input to confirmation.

1. User Login Process:

* Flowchart or diagram showcasing the login process, including input validation, authentication, and redirection.

1. **System Design**

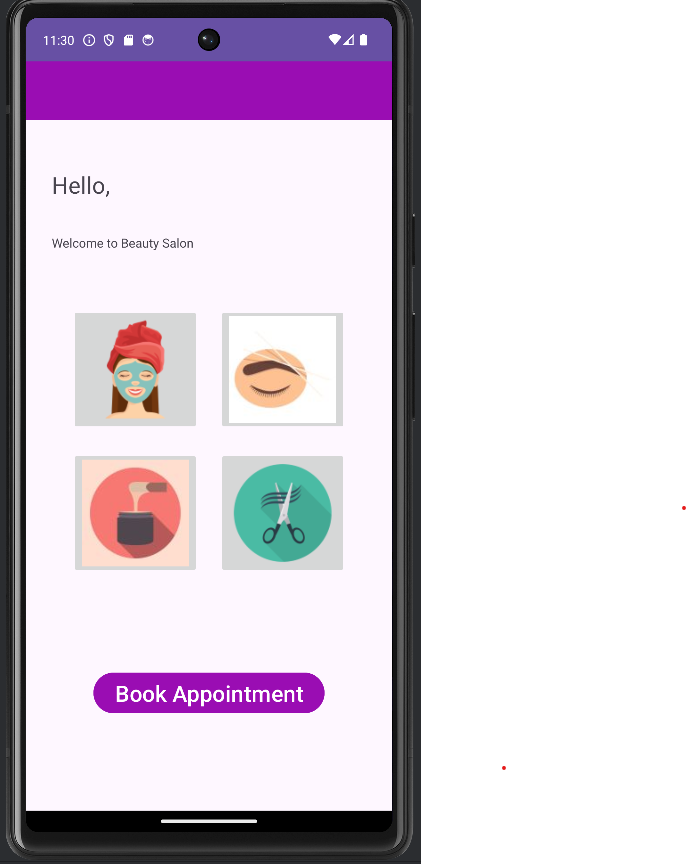
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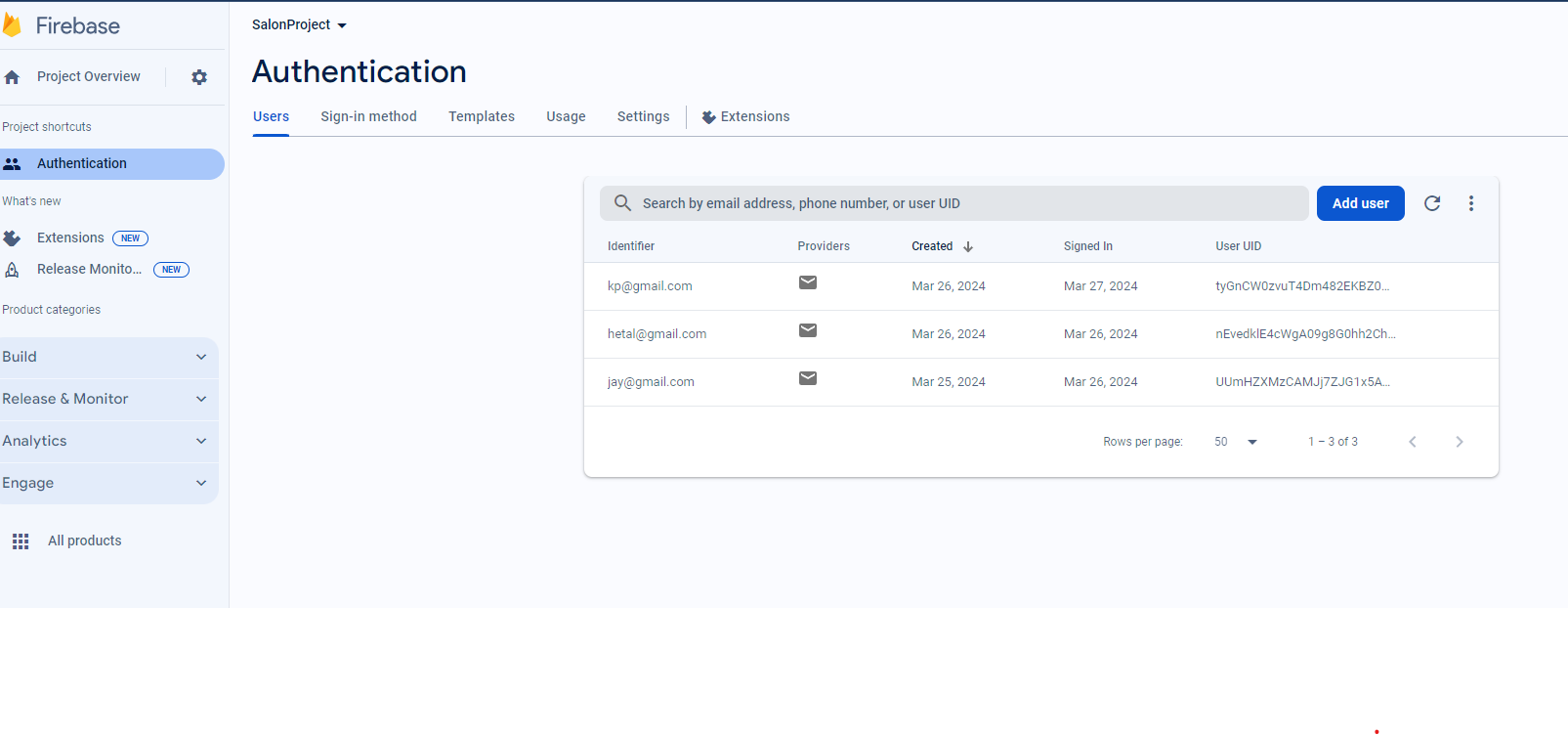
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1. **Diagrams**

