Department of Computer Science

University of Gujrat

Chullah : Ghar Kai Zaike, Ab Har Darwaze

Submitted By:

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DECLARATION

I certify that project title **Chullah** is under my supervision with students of **BS-21-C (Morning)**, Faculty of Computing & Information Technology, University of Gujrat, Pakistan, worked under my supervision.

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Dated: _____

FINAL YEAR PROJECT PROPOSAL

Abstract

Chullah is a mobile app connecting home chefs with individuals seeking nutritious, home-cooked meals. Chefs can register, list meals, and manage profiles, while users browse, purchase, and rate dishes. Key features include AI-based meal recommendations, in-app messaging, secure payments, real-time notifications, and an admin dashboard. **Chullah** fosters a community around healthy eating, providing a platform for chefs to earn income and users to enjoy personalized, home-cooked meals.

1. Introduction

Chullah is a mobile app connecting people who seek healthy, home-cooked meals with local home chefs. It offers a convenient alternative to fast food by providing access to nutritious, homemade meals. Users can order takeaway or get meals delivered directly from these chefs. **Chullah** promotes healthy eating while empowering chefs to earn income. It focuses on convenience, transparency, and community, creating a platform for people longing for the comfort of home-cooked food.

2. Project Title:

Chullah : *Ghar Kai Zaike, Ab Har Darwaze*

3. Project Overview statement:

Individuals who are away from home for work or studies often face significant dietary challenges, leading them to rely heavily on fast food and unhealthy takeout options. According to the World Health Organization, poor diet is a major contributing factor to health issues such as obesity, high cholesterol, cardiovascular diseases, food poisoning and digestive problems like diarrhea. Fast foods are often high in saturated fats, trans fats, sugars, and sodium, which can lead to serious health complications over time. Additionally, unhygienic cooking practices and the reuse of cooking oils in some establishments can increase the risk of foodborne illnesses and other health hazards. Moreover, many students and staff face income challenges, struggling to balance rising living costs with limited earnings and difficult to manage education expenses.

Chullah addresses these concerns by offering a practical and wholesome alternative. The mobile application connects individuals seeking nutritious, home-cooked meals with local home chefs who prepare food with care and attention to health. Users can browse a diverse range of home-cooked dishes that suit various dietary preferences and nutritional needs. Home chefs can register on the platform to showcase their culinary skills, ensuring meals are prepared in hygienic conditions using fresh, quality ingredients. A potential solution is providing flexible job opportunities, such as part-time work or freelance roles, allowing students and staff to earn additional income while managing their education expenses. Platforms like **Chullah** can also offer a way for individuals to monetize their cooking skills, providing a convenient source of extra income.

4. Targeted Audience:

Home Chefs (Student and Staff):
including passionate cooks, health-conscious chefs, and sustainable food enthusiasts looking to monetize their culinary skills.
Consumers:
Students and staff avail healthy food.

5. Project Goals & Objectives:

Project Goals:
The goal of **Chullah** is to connect home chefs with individuals seeking nutritious, home-cooked meals. It aims to provide a platform for chefs to monetize their skills while offering consumers a healthier alternative to fast food with personalized recommendations.

Project Objectives:

1. **Provide Access to Healthy Home-Cooked Meals:**
   To offer individuals an easy and convenient platform to access nutritious, delicious home-cooked meals, thereby promoting better health and well-being.
2. **In-App Communication:**
   User and Chef can Communicate through app message to resolve food related queries.
3. **Income Opportunities:**
   To create income opportunities for passionate home cooks by providing a marketplace where they can monetize their culinary skills and share their homemade dishes with a broader audience.
4. **Rider (Optional):**
   Chullah's riders will facilitate the delivery of meals from home chefs to consumers, ensuring timely and efficient service.
5. **Chatbot for Customer Support:**
   An AI-powered chatbot will provide 24/7 support, helping users place orders, answer FAQs, and resolve issues quickly.
6. **Meal Recommendation System:**
   AI-based recommendations will suggest meals based on user preferences, past orders, and dietary needs and location.

6. Application Architecture:

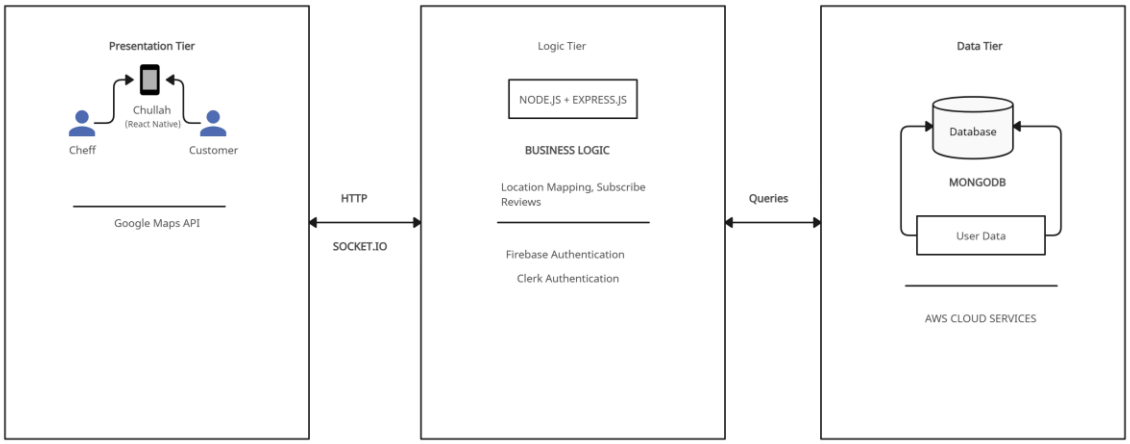
Chullah is designed as a scalable, **three-tier architecture** to manage the user interactions, business logic, and data flow efficiently.

Presentation Tier (Front-End):

The front-end will be a **React Native** mobile app, enabling cross-platform development for Android and iOS. It will handle user interactions like browsing meals, placing orders, managing chef profiles, and real-time order notifications. It will also feature secure authentication with JWT tokens and real-time route tracking via **Google Maps API**.

Logic Tier (Back-End):
The back-end uses **Node.js** and **Express.js** for order processing, chef registration, and payments, with a **RESTful** API for communication. A recommendation engine offers personalized meal suggestions, while **Socket.IO** manages real-time updates on orders and chef availability. Payment integration with **Easypaisa** and **JazzCash** ensures secure transactions, and middleware handles authentication and data validation for security.

Data Tier (Database):
The back-end uses **Node.js** and **Express.js** for order processing, chef registration, and payments, with personalized meal recommendations via a recommendation engine. Real-time updates on orders and tracking are managed by **Socket.IO**. **MongoDB** stores user and chef data, while **AWS S3** handles media storage, and payment integration.



7. Hardware and Software Specification:

Hardware Specifications:

1. **Machine Type:** Laptop with minimum 8GB Ram with 256GB SSD.
2. **Processor:** Intel Core i5 or equivalent
3. **Network:** High-speed internet connection for seamless access to external APIs.

Software Specifications:

1. **Operating System:** Windows 11, macOS, or Ubuntu 20.04+
2. **Development Environment:** Visual Studio, Google Browser.

8. Estimated Cost:

Cost Component	Estimated Cost (PKR)
Play Store Publish	10,000
AWS Cloud Services	5,000
API Cost	5,000
Other Estimated Expenses	2,0000
Estimated Total Cost	40,000

9. Tools and technologies used with reasoning:

The development of **Chullah** requires a set of well-thought-out tools and technologies to ensure scalability, security, and efficiency across both the front-end and back-end systems. Below is a list of the tools and technologies that will be used, along with the reasons for their selection.

Front-End:

1. **React Native:** Chullah needs to target both Android and iOS platforms while maintaining a single codebase for efficiency. React Native enables cross-platform development
2. **Expo:** Expo simplifies development and testing of the React Native app
3. **Figma:** Figma is an intuitive UI/UX design tool that allows for seamless collaboration between designers and developers.
4. **Google Maps API:** For location tracking, route optimization, and delivery functionalities, Google Maps API offers robust tools.

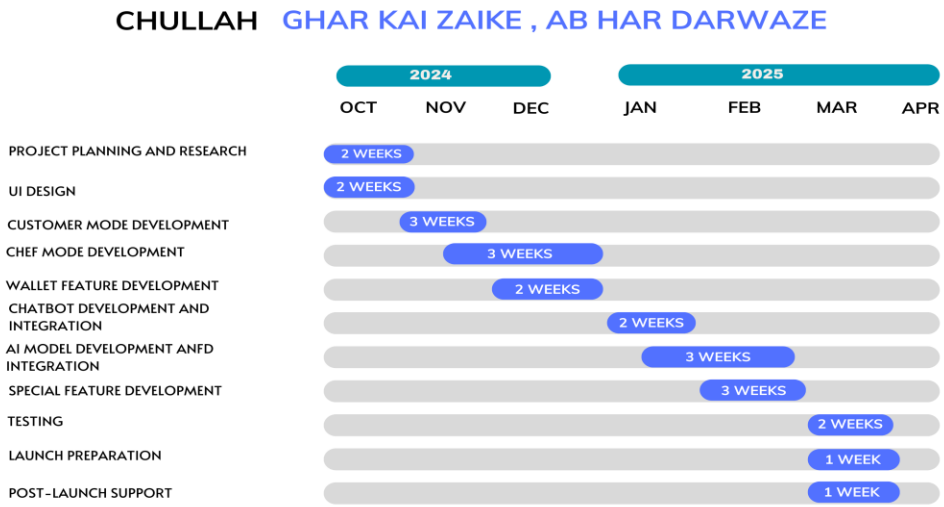
Back-End:

1. **Node.js + Express.js:** Node.js is a fast, scalable backend platform, and with Express.js, it simplifies API setup for Chullah.
2. **MongoDB (or MySQL):** MongoDB, a NoSQL database, is ideal for handling large, unstructured data.
3. **Socket.IO:** For real-time communication between users and chefs (e.g., order status updates, notifications), Socket.IO is essential.
4. **Easypaisa and JazzCash:** Easypaisa and Jazzcash is one of the most popular mobile wallets in Pakistan
5. **Firebase Auth or Clerk:** Firebase Auth or Clerk will handle user authentication, offering secure login mechanisms for both passengers and drivers.

6. **Online Payment Gateways:** for easy withdrawals and top-ups in Chullah Wallet

10. Project milestones and deliverables

i. Project Planning and Research (2 weeks)
ii. UI Design (2 weeks)
iii. Customer Mode Development (3 weeks)
iv. Chef Mode Development (3 weeks)
v. Wallet Feature Development (2 weeks)
vi. Chatbot Development and Integration (2 weeks)
vii. AI Models Development and Integration (3 weeks)
viii. Special Feature Development (3 weeks)
ix. Testing (2 weeks)
x. Launch Preparation (1 week)
xi. Post-Launch Support (1 week)



11. Work division among Group members

Group Member	Work Division
Lakhte Hasnain	Project Manager
	UI/UX design and implementation
	Front-end and backend development
	Management of user modules.
	Testing and debugging
	Development of before and after meal detector

	Deployment
Talha Siddique	Back-end Development
	Database Connection and Management
	Development and integration of Recommendation System
	AI Integration (chatbot)
	Development of food provider modules (chef side features)
	Deployment
Ramish Tariq	Project Planning and research
	Debugging and Testing
	Test AI Systems
	Front-end Development