SYSTEM REQUIREMENTS

P07:HITCHERR

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1. Introduction

Hitcherr (also referred as the company) is a ride sharing app that intends to solve the transportation problem of the country. June 2022 saw a 250% increase in petrol prices as compared to June 2021 in Pakistan. This increase in petrol price gave rise to increase in fare prices of the cab startups such as Careem and Uber. This rise made space for cheaper services like InDriver in the country which are unsafe and offer no safety features such as SOS to its customer, neither it has invested in any checks or police verification of the drivers. The need for a transportation service which is reliable, secure and cheaper is at an all-time high in this country. Hitcherr will be a mobile application which will allow the drivers to offer routes and customers will be able to select a route based on their pickup and drop-off points. The drivers will be able to pick a maximum of 3 or 4 customers based on the size of their car. This will divide the total cost of the route, hence will be a cheaper alternative to Careem, Uber, or any other conventional and non-conventional public transport services.

2. System Actors

Actor Name	Description
Driver	This individual will be offering routes from one place to another. They will be registered on the app after a process of verification from the company
User / Ride	This individual will select a pick-up and drop-off location and will be able to see routes and their prices based on their overlap with the route offered by the driver
Admin	This individual will be a representative of the company who will have access to the admin panel web app of the system.

3. Functional Requirements

Driver Module Requirements:

Requirements	
Sr#	**Requirement**
1	As a Driver, I want to be able to offer a route based on the choice of my starting and ending points
2	As a Driver, I want to be able to change the price point of the route I am offering based on the quality and comfort my car provides to the user.
3	As a Driver, I want to be able to see my revenue and filter data on date and date range.
4	As a Driver, I want to be able to mark areas where I am not interested in going so that the application filters out such requests
5	As a Driver, I want to be able to rate a customer's behavior
6	As a Driver, I want to be able to decline a ride if it does not seem feasible for me
7	As a Driver, while a ride is in process, I want to pick customers only on my route
8	As a Driver, I want the exact details of the fare to be displayed to avoid discrepancies
9	As a Driver, I want tolls to be added to the fare for easier tallying after the ride
10	As a Driver, I want to know the exact destination before accepting a ride

User Module Requirements:

Requirements	
Sr#	**Requirement**
1	As a User, I want to see my past rides with the driver and route details
2	As a User, I want to view the total fare and how it was divided
3	As a User, I want the tolls to be included in my total fare
4	As a User, I want the application to show how much money I saved each week/month
5	As a User, I want to be assured that the driver cannot start the ride before I sit in the car
6	As a User, I want the application to spot ride sharing customers so that the driver does not go off route. Going off route incurs more fare.
7	As a User, I want the application to show me the driver's and their car's details before I sit in the car

8	As a User, my personal phone number should only be seen by the driver if I permit to do so
9	As a User, I would like to choose a car by seating capacity and air-conditioning facility

Admin Module Requirements:

Requirements	
Sr#	**Requirement**
1	As an Admin, I want to permit and ban drivers/users from using the service
2	As an Admin, I want to control the ads on the application
3	As an Admin, I want to track rides
4	As an Admin, I want access to the data of users and drivers

4. Non-functional Requirements / Quality Attributes

Sr#	Requirements
1	The system should not utilize more than 1 GB of memory at any time during its execution.
2	The system should not fail more than 3 times every 24 hours. In case of a failure, the system should restore to normal operations within 5 minutes of a failure.
3	The system should have visual icons to make the navigation through the app easier.
4	The system should have visual error prompts, so the user knows when an error has occurred.
5	The system should have a distinguishable icon so it can be easily searched in the application list of the user smart phone.
6	The customer should not be able to make more than 1 account on 1 mobile number.
7	The driver should not be able to make more than 1 account using a single CNIC number.
8	The server should let the user log-in under 2 seconds assuming the details are correct.
9	The application should not run any ads when the user or driver is actively using the application in order to avoid ruining the user experience
10	The application should track the ride in real time
11	The application should store hashed passwords using salt and honey pot server methods for security
12	The application should log a user in under three seconds
13	The application should be safe from cross-site scripting by filtering inputs strictly
14	The application should not be able to accept false email addresses by sending verification links to such addresses
15	The application should be safe from broken access control by using tokens and verification flags

5. Security Requirements

Sr#	Security Risks	Potential Losses	Controls
1	Broken Access Controls	Litigation	User roles and session management on server side. Hashing session keys.
2	Identification and Authentication Failures	Customer Loss	Two Factor Authentication
3	Injection	Business Loss	Using no-SQL database.

Sr#	Security Tool Name	Brief description (why the tool is suitable for your project)
1	IndusFace WAS	This tool will be used after production where it will run different types of attacks on the application in order to detect vulnerabilities. It is preferable to use dynamic security testing at the end of production in order to evade any false positives claimed by static security testing tools.
2	RedShift	This tool is a static testing tool which is made for nodeJs and it starts testing as the code is written. This will provide us with vulnerabilities early in the development cycle

6. Who Did What?

Name of the Team Member	Tasks done
Ebad Ur Rehman	Security requirements, non-functional requirements, system actors, introduction
Irtza Tariq	Security requirements, functional requirements
Mustafa Afzal	Introduction, non-functional requirements

7. Review checklist

Before submission of this deliverable, the team must perform an internal review. Each team member will review one or more sections of the deliverable.

Section Title	Reviewer Name(s)
Introduction	Irtza Tariq
Actors	Mustafa Afzal
Functional Requirements	Ebad Ur Rehman
Non-functional requirements	Ebad Ur Rehman
Security Requirements	Irtza Tariq and Ebad Ur Rehman