RaStAuRi Management

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INTRODUCTION

India is home to three quarters of the world's auto-rickshaws, which are three-wheeled motor vehicles that are hired to move both people and goods (Mani and Pant, 2011). These vehicles play an important role in urban transport in the country, being used for a wide range of trip purposes, often for trips that cannot be practically undertaken on other types of public transport, at considerably lower cost than would be incurred in a taxi.

Specifically , people who travel from railway usually hire auto for travelling to their destination . But it is experienced by everyone that as soon as a passenger comes out of the railway station , a crowd of auto drivers surround them & try to convince them to take their auto service. And this thing wastes a lot of time.

The RaStAuRi Management system is a database based project executed with the help of python language and SQL .It is a system designed to reduce the efforts put in by people to hail auto rickshaws(most common and cheap means of travel) during travelling .It is often tiring for people to wait outside the station for long durations of time, negotiate for the price, look for the most suitable auto according to the number of passengers and luggage. This system of ours will help take care of all the requirements of passengers in a short duration of time so that it is convenient for people to travel .

OBJECTIVES OF THE PROJECT

The objectives of the system are :

- Making Auto rikshaw booking online.
- Creating database of Auto rikshaws that provide their services at railway station.
- Fixed fare for covering same distance, so no need of bargaining.
- It reduces auto booking time.
- It can reduce crowding of auto drivers.
- It finds the most suitable auto according to the number of passengers and luggage.
- It reduces competition between the drivers.
- It supports smart city plan.
- It makes choosing the rider easy for the auto drivers.
- Its beneficial for drivers operating in remote areas.
- It reinforces covid protocols.
- It will help in reducing working hours of Auto drivers , as they have to come to the station only when their service is required by the rider.

SCOPE OF THE PROJECT

This project has a large scope as it has the following features which help in making it Auto rikshaw transportation easy and smooth:

- Auto rikshaw booking is online.
- Makes Auto booking time efficient.
- It supports smart city plan.
- Cost effective for drivers.
- It reinforces covid protocols as it reduces crowding.

This software can be readily used by non-programming personals. This Project supports two types of users :

1. Auto Rikshaw Drivers
2. Auto Rikshaw Riders

Main Points are:

i) Simplified auto booking system for auto riders.
ii) Auto rider and Auto driver's details.
iii) Current location, destination information.
iv) Showing suitable auto rikshaw as per requirement of passengers.

PROPOSED SYSTEM

In this fast-paced world, one of the most precious yet least valued commodity is time, those who understood this were fortunate while those who didn't have regretted it later. The importance of investing our time in the right place is something that us error prone humans understand only after losing the opportunity. So, it is no intelligence to invest it in something which is not worthy of that treasure.

RAILWAYS, often referred to as the lifeline of our country is the most used means of transportation. Most of the people can't afford to travel by flights so trains provide them with a cheaper alternative. While the journey might proceed smoothly but after reaching stations one of the dilemmas faced by passengers is to hail vehicle to reach to their respective destinations. Auto rickshaws being the most preferred one as they are less expensive as compared to cabs for covering the same distance.

BUT hailing auto rickshaw is not as easy as it sounds. The moment passengers come out of the station , they are met by huge crowds of auto drivers , all swarming in for themselves to get a customer. It is often very tiring for people to stand there and negotiate for price as well as to find the auto that best suits their needs. This process is not only time consuming but also violates the social distancing protocols of COVID which can lead to disastrous situations.

We propose to make this process digital with our RaStAuRi Management System. With our system, passengers will be able to book their seat in the auto rickshaw that best suits their requirements well before their arrival time. The price will be fixed

per kilometre which will eliminate the need to negotiate while this will also help in maintaining the rules to be followed during this pandemic. This will serve as a step towards our goal of making INDIA digital.

INPUT/OUTPUT REQUIREMENTS

RIDER :

1) Input :
   i) Rider name. (login)
   ii) Rider's phone no. (login)
   iii) Present location (gps)
   iv) Destination
   v) No. of seats required
   vi) Luggage
   vii) Fuel Type
   viii) Time (at what time auto rikshaw required)

2) Output:
   i) Auto Driver name
   ii) Auto rikshaw No.
   iii) Auto driver phone no.
   iv) No. of seats
   v) Luggage
   vi) Calculated Price
   vii) Present Location of Rikshaw (gps)
   viii) Time taken to reach destination (via calculation)

Driver:

1) Input:
   i) Auto Driver Name (login)
   ii) Auto Rikshaw no. (login)
   iii) Auto driver phone no. (login)
   iv) Present location(gps)
   v) Fuel Type.
   vi) No. of seats (login)
   vii) Luggage (login)

2) Output:
   i) Rider Name
   ii) Rider's Phone No.
   iii) Present location of rider
   iv) Destination
   v) Time when auto service is required
   vi) Calculated amount to be received
   vii) Time taken to reach destination (via calculation)

HARDWARE AND SOFTWARE REQUIREMENTS

HARDWARE REQUIREMENTS:

All devices with internet are supported

SOFTWARE REQUIREMENTS:

1) Web browser
2) Internet connectivity
3) GPS

SYSTEM DESIGN

Sign Up

To sign up, user's phone number is required and then an OTP is sent to the user for verification. If the OTP is not verified, then the user is redirected to the sign-up page and has to enter the phone number again .

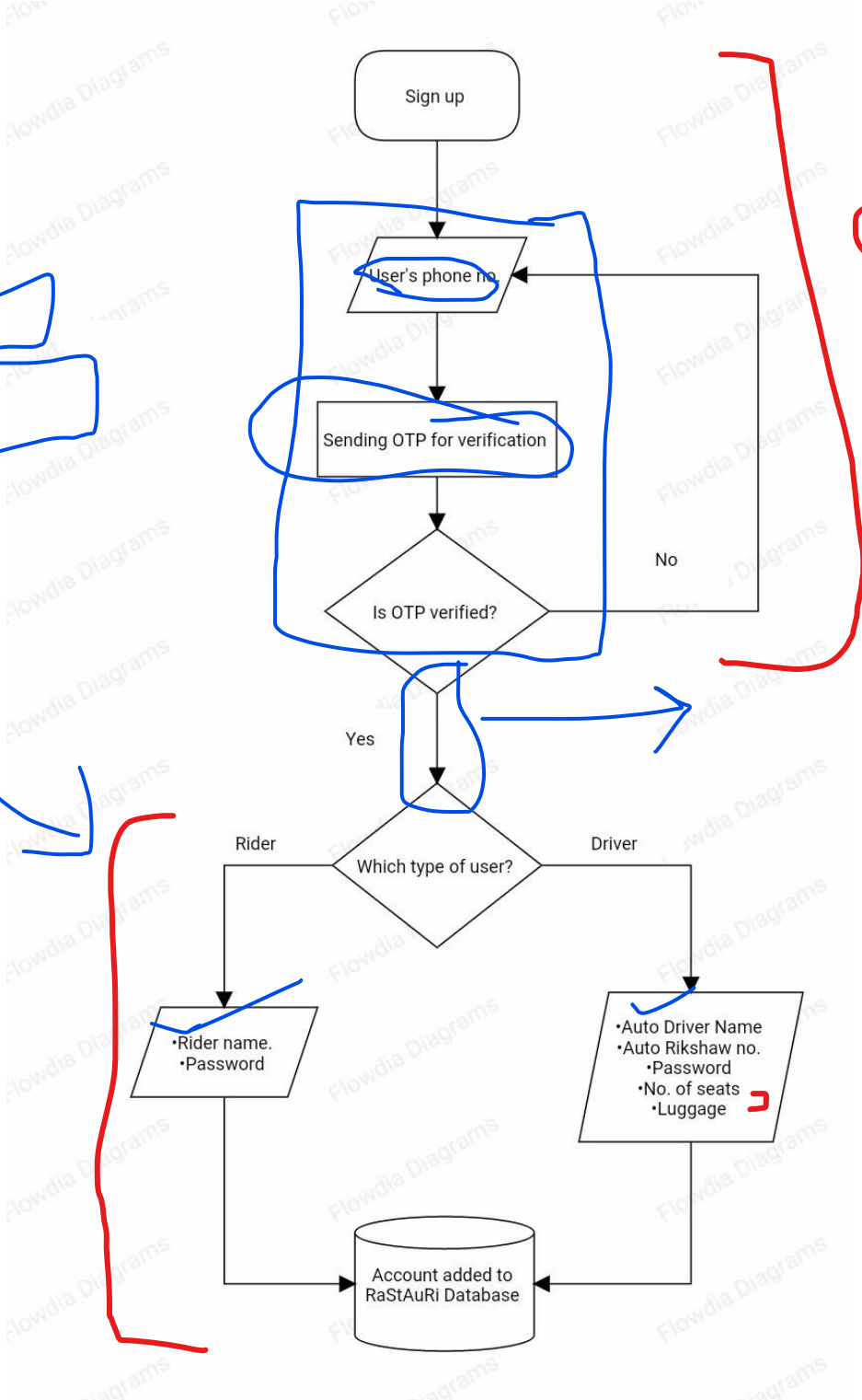
If the OTP is verified, then we ask for which type of user the user is.

If the user is a Rider, then we ask for his/her user id i.e. name and password and if the user is driver, then we ask for his/her (driver) name , password , auto rickshaw number, number of seats in the auto and if luggage space available in the auto or not.

All this data goes to the RaStAuRi database and account will be created.

Hence the user gets signed up to RaStAuRi.

Sign Up Flow chart



Login

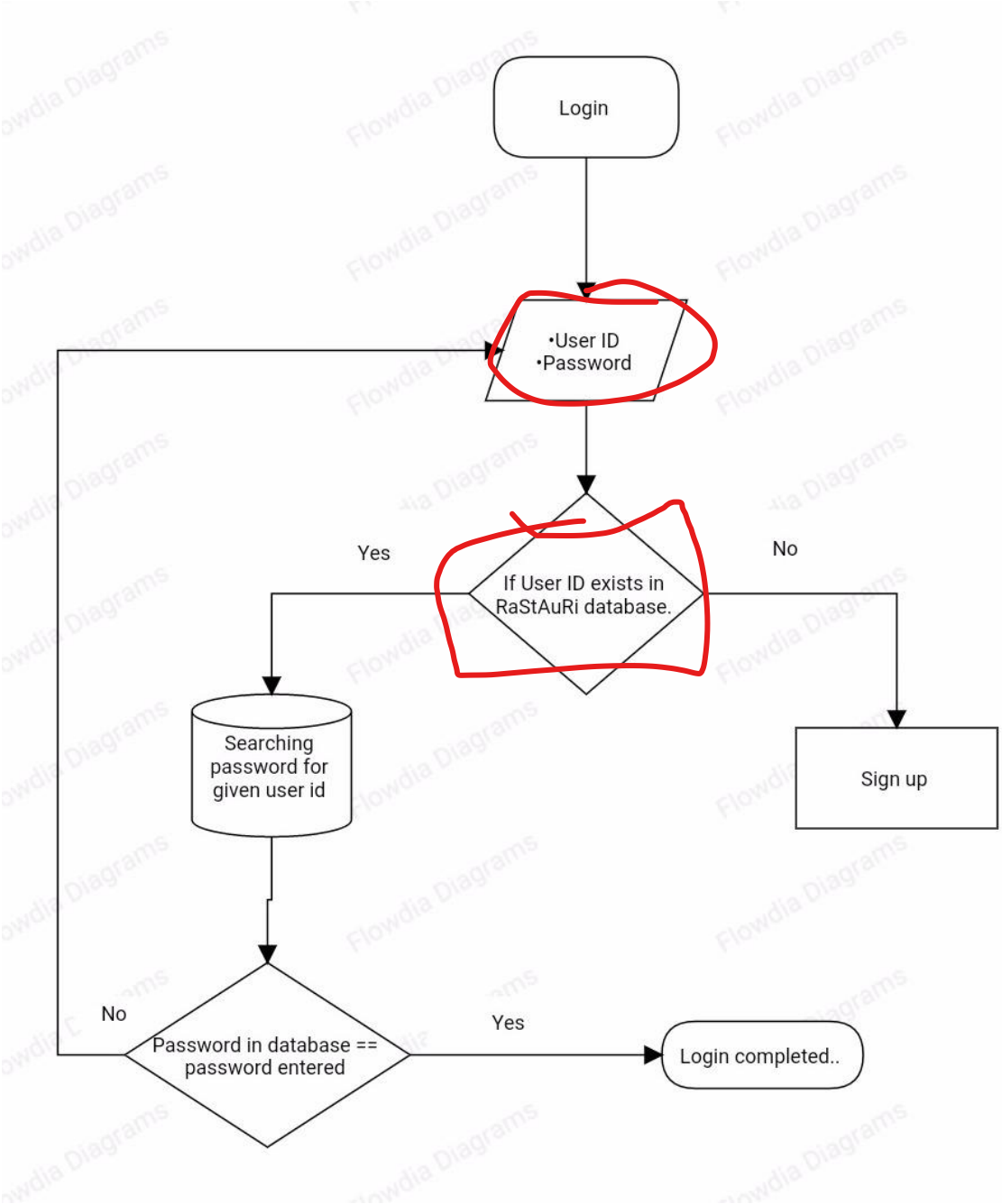
Logging in to RaStAuRi database is a very simple process requiring not more than one step. To log into their account user will have to enter their User ID i.e. the name of the user and the password that they had entered at the time of signup.

If the User ID does not exist, then the user is taken to signup page for sign up.

If the User ID that has been entered exists in RaStAuRi database, then it proceeds to the next step of verifying the password . Here the system searches for the password of the given User ID in the database, if the password entered by the user matches with the password that exists in database, then the login process gets completed and the user can have access to his/her account. While if the password doesn't match then the user is taken back to the initial login page where they have to re-enter their User ID and password.

Login Flow Chart

SQL



User-End Processing

User-end processing involves the steps and procedures of how exactly our system work at user's end and how passengers get the right auto rikshaw and how drivers get the right passenger(rider). The very first thing that user has to do is to login to RaStAuRi. Then our system checks from the user account database that which type of user the user is (rider/driver) .

If the user is a rider :

Our system will offer the user to book an auto. For this , user is asked to enter his/her pickup location(present location), destination , at what time auto required , no. of passengers , whether space for luggage is required or not and user's preferred fuel type(optional).

Then, this information goes to RaStAuRi Database where auto rikshaw is searched as per the requirement. Then the list of available auto rikshaws is shown to the user where user can choose any of them as per his/her wish.

After choosing the rikshaw, user's screen displays following information :

i) Auto Driver name
ii) Auto driver's phone no.
iii) Auto rikshaw No.
iv) No. of seats
v) Luggage
vi) Calculated Price
vii) Present Location of Rikshaw (gps)
viii) Time taken to reach destination (via calculation)

If the user is an Auto Driver :

Our system will offer the user to search for passengers. For this auto driver just need to provide his current location via GPS.

Whenever a passenger searches for auto rikshaw , his/her information will be displayed if his rikshaw meets the requirements of the passengers.

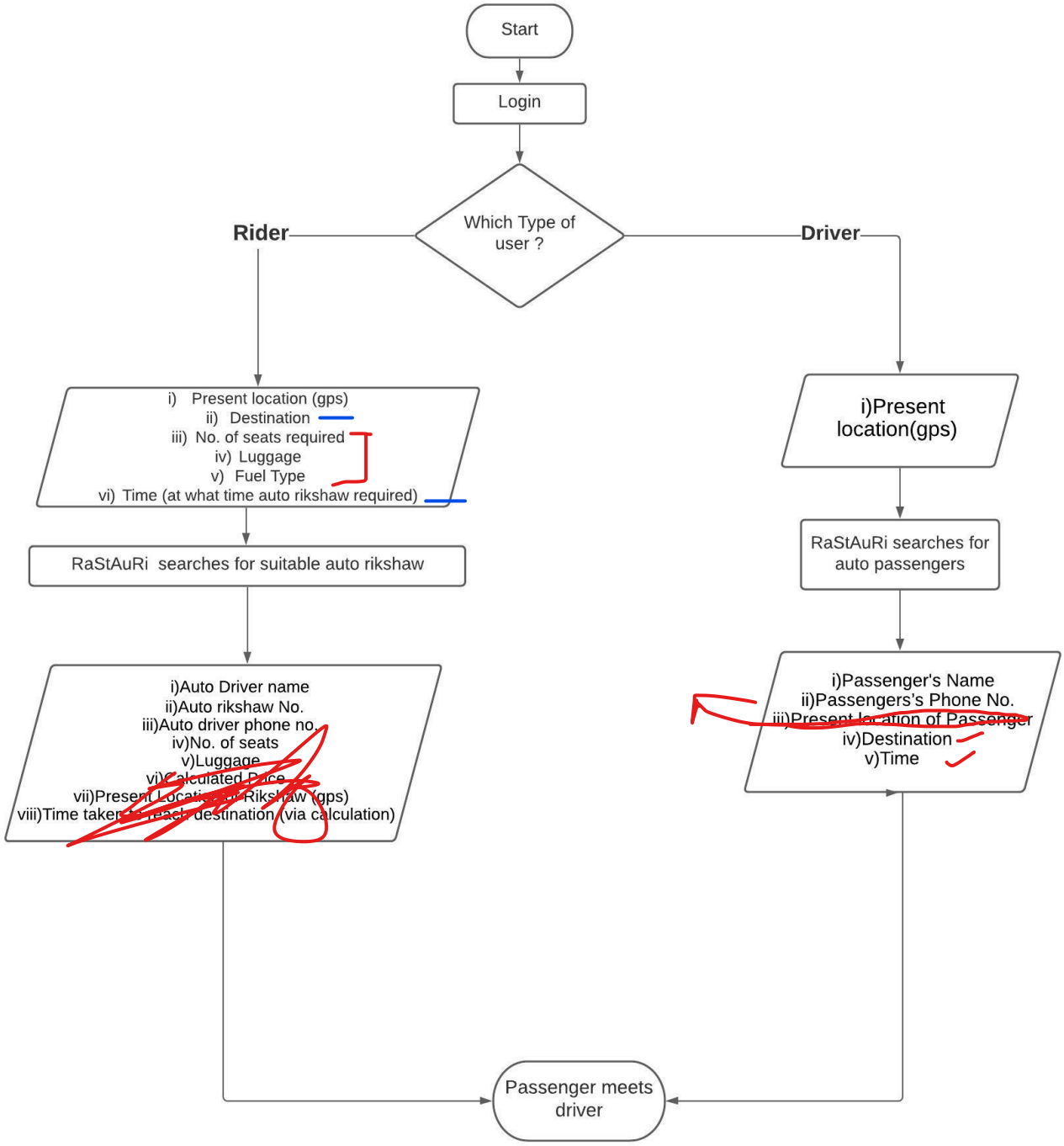
If a passenger selects his rikshaw , driver's screen displays the following information:

i) Rider Name
ii) Rider's Phone No.
iii) Present location of rider
iv) Destination
v) Time when auto service is required
vi) Calculated amount to be received
vii) Time taken to reach destination (via calculation)

Verification :

For verification of correct auto rikshaw and passenger , a code will be sent to passenger which has to be verified by the driver by entering that code in his device. Auto service will start only after the verification of code.

User-End Processing Flow Chart



DATABASE DICTIONARY

Rider database :

Field	Type	Null	Key	Default	Extra
Rider_name	varchar(30)	NO		NULL	
rider_phone_no	bigint(10)	NO		NULL	
Location	varchar(40)	YES		NULL	
Destination	varchar(40)	YES		NULL	
No_of_seats	int(2)	YES		NULL	
Luggage_space	char(1)	YES		NULL	
Fuel_type	varchar(15)	YES		NULL	
What_time_auto_required	time	YES		NULL	

Driver database :

Field	Type	Null	Key	Default	Extra
Autodriver_name	varchar(30)	NO		NULL	
Autorickshaw_number	varchar(30)	NO		NULL	
Autodriver_phonenumber	bigint	NO		NULL	
Present_location	varchar(40)	NO		NULL	
Fuel_type	varchar(30)	YES		NULL	
Number_of_seats	int	NO		NULL	
Luggage_space	varchar(30)	YES		NULL	

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