

Toll Gate Application

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INTRODUCTION

Toll gate payment system have been of great assistance in lessening the over congestion that has become a part of the metropolitan cities these days. It is one of the uncomplicated ways to manage the great rum of traffic. The travelers passing through this mode of transport, carried by their transport that allows them to be aware of the account of the money that has been paid and the money left in the tag. It relieves the traveler of the burden of waiting in the queue to make the toll payment, which decreases the fuel-consumption and also taking cash with them can be avoided. Our system avoids this type of problems, user he gate pass from online so user doesn't need to wait the tollgate. In this system users will be having the separate wallet to make payments and transactions. So that they can make their toll gate pass payment from one wallet to another thorough online this makes their trip more easy and convenient.

MODULES

➤ Admin:

1. Login
2. Manage User & Toll pass
3. Manage Toll login
4. Approve toll pass
5. Generate QR Code
6. Create Toll details

➤ User:

1. Register
2. Login
3. Add Money – eWallet
4. Buy Toll eTicket
5. Apply New toll pass
6. Renewal toll pass
7. Apply Toll pass
8. Get QR Code for Toll pass

➤ Toll Gate User :

1. Login
2. Scan QR
3. Verify toll pass ID
4. Verify Toll ticket
5. Update toll location

METHODOLOGY

The entire project is divided in to two parts :

1. Server side (Web part)
2. Client side (Apk)

In the server side it consist of on web application.

In the client part its an Mobile application, Flutter framework is used, by using a programming language called Dart.

When we block the project in the server there will be a web application here we use python as a backend programming. We use a database and QR generation method. For QR generation there is an inbuilt packages are available called pyqr.

To establish connection between the web and application part we use REST protocol (REpresentational State Transfer) it establish a connection between server and client. While the REST is used eb have an API for the server part to communicate with the mobile application.

In this project :

The admin can enter the data through the web into the database. Admin can add toll booth, manage toll booth, view user and manage toll pass.

The admin can also add and remove the toll booth details. While user send a request for the toll pass admin accept in and by verifying, admin can provide a QR code for the toll details given by user.

In the mobile application part it can be divided in to two interfaces.

1. User
2. Toll gate user

The user can register through the application by giving the details. After logging into the application user can apply for toll pass, add money to the e-wallet for buying toll pass.

The admin provide a QR code and user can download it. All the details will contain in the QR code that the admin provide. Also can apply for new toll pass.

The toll gate user can login to the application by user and password that already given by the admin.

The toll gate user can scan the QR code that shown by the user by using QR scanner. It reduces the fuel utilization also reduce the waiting time.

Also verify the toll pass ID and verify toll ticket from the QR code.

DEVELOPING ENVIRONMENT

- **Hardware Requirements**

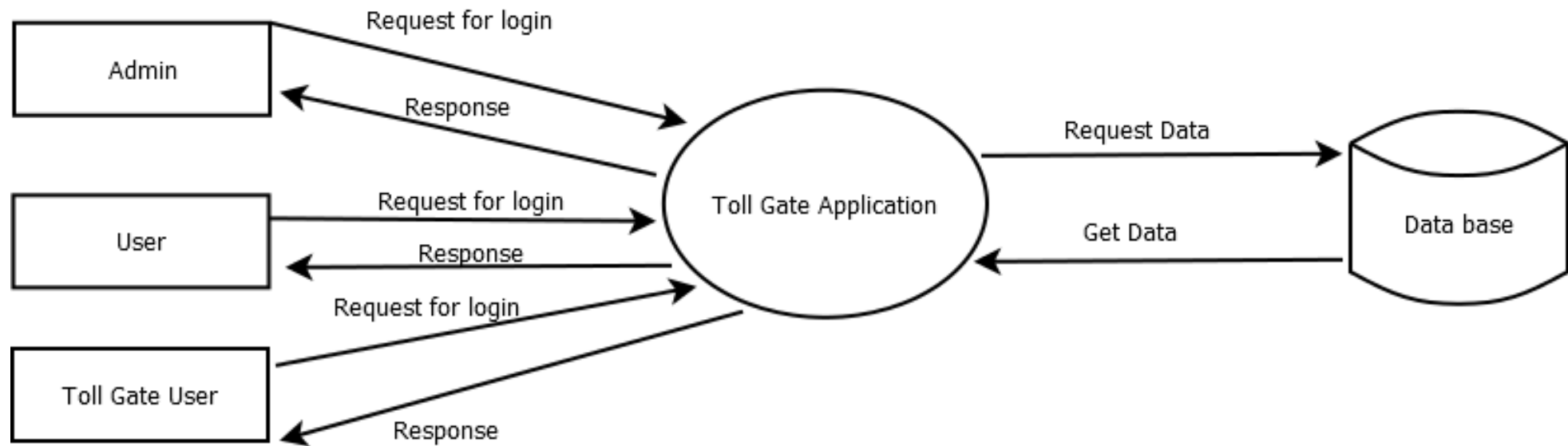
- Processor : i3 and above
- RAM : 4GB
- Storage : 500GB Hard disk

- **Software Requirements**

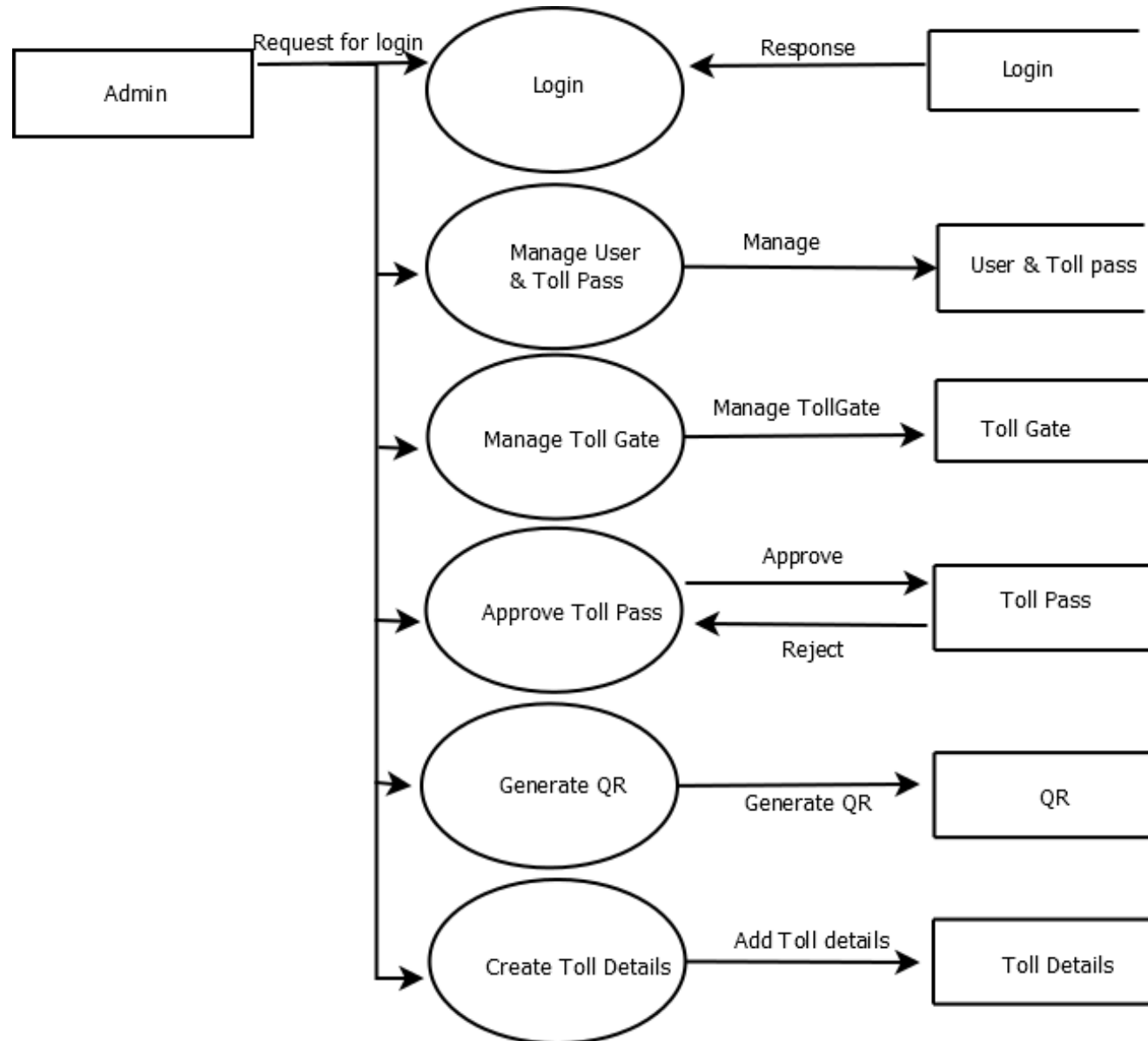
- Front End: HTML5, CSS3, Bootstrap, Dart (Flutter)
- Back End: Python, MYSQL
- Frame work: Flutter
- IDE: Android Studio Android Emulator

DATA FLOW DIAGRAM

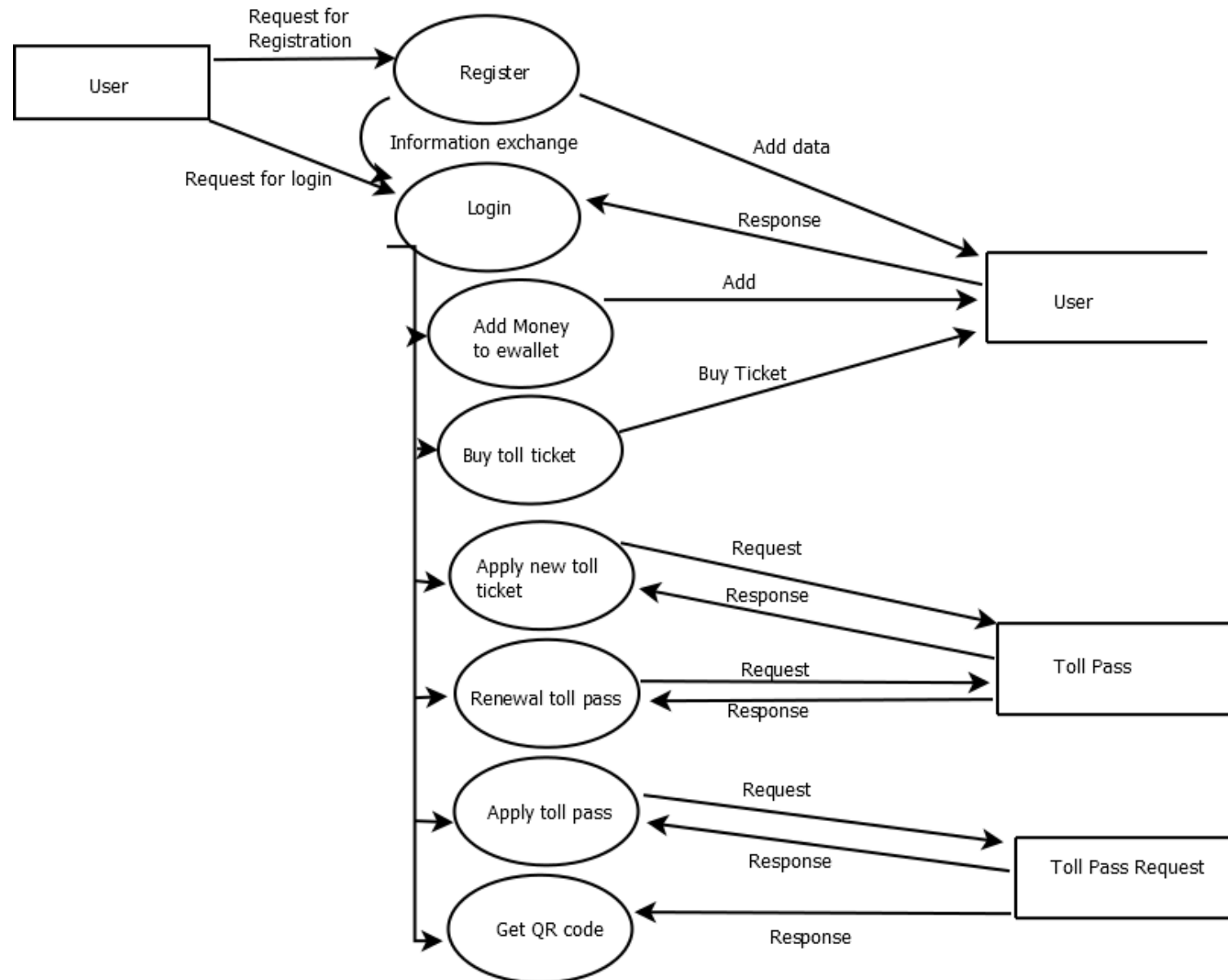
Level 0



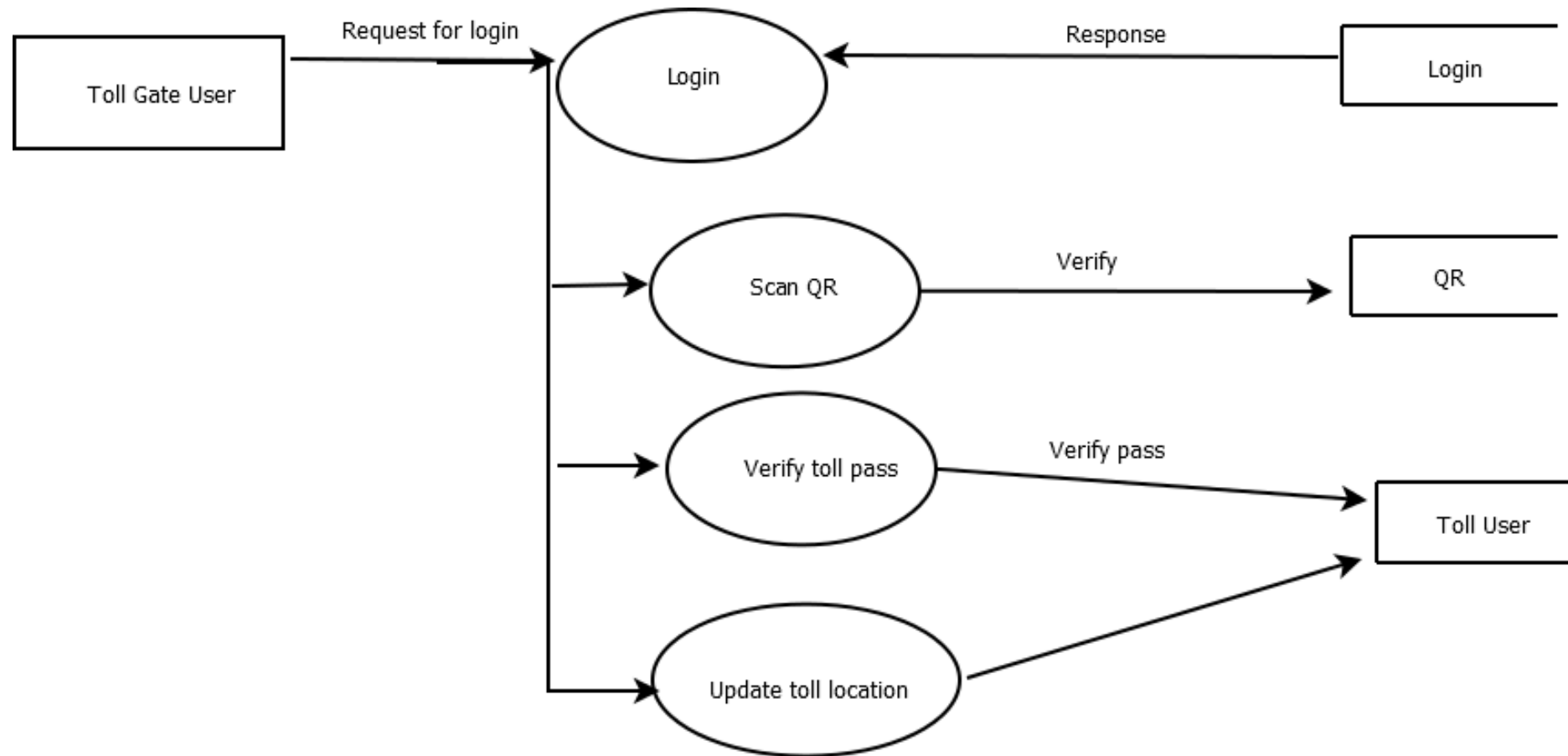
Level 1.1



Level:1.2



Level:1.3



USER STORY

User Story ID	As a <type of user>	I want to	So that I can
1	Admin	Login	Login with correct username & password
2	Admin	Manage user & toll pass	Manage user & toll pass
3	Admin	Manage toll login	Manage toll login
4	Admin	Approve toll pass	Approve toll pass for user
5	Admin	Generate OR code	Can generate OR code
6	Admin	Create toll details	Add new toll details
7	User	Register	Register user by details
8	User	Login	Login with correct username & password
9	User	Add money	Can add money to e-wallet
10	User	Buy toll Ticket	Buy toll ticket using correct details

User Story ID	As a <type of user>	I want to	So that I can
11	User	Apply new toll pass	Apply for new toll pass
12	User	Renewal toll pass	Renewal the old toll pass
13	User	Get OR code	Get OR code for the toll
14	Toll gate user	Login	Login with correct username & password
15	Toll gate user	Scan OR	Scan the user OR code
16	Toll gate user	Verify toll pass id	Verify the toll pass
17	Toll gate user	Verify toll ticket	Verify the toll ticket
18	Toll gate user	Update toll location	Can update toll location

PRODUCT BACKLOG

User Story ID	Priority <High/Medium/Low>	Size (Hours)	Sprint <#>	Status <Planned/In progress/Completed>	Release Date	Release Goal
1	Medium		1	Completed	16/04/2022	Login
2	Medium			Completed	24/04/2022	Manage User & Toll pass
3	High			Completed	27/04/2022	Manage toll login
4	High		2	Completed	02/05/2022	Approve Toll pass
5	High			Completed	14/05/2022	Generate QR code
6	Medium			Completed	27/05/2022	Create toll details
7	Medium		3	In progress		Register
8	Medium			In progress		Login
9	High			In progress		Add money
10	High			In progress		Buy toll Ticket

User Story ID	Priority <High/Medium/Low>	Size (Hours)	Sprint <#>	Status <Planned/In progress/Completed>	Release Date	Release Goal
11	Medium		4	In progress		Apply new toll pass
12	Medium			In progress		Renewal toll pass
13	High			Incomplete		Get OR code
14	Medium			Incomplete		Login
15	High		5	Incomplete		Scan OR
16	Medium			Incomplete		Verify toll pass id
17	Medium			Incomplete		Verify toll ticket
18	High			Incomplete		Update toll location

PROJECT PLAN

User Story ID	Task Name	Start Date	End Date	Days	Status
1	Sprint 1	14/04/2022	16/04/2022	3	Completed
2		18/04/2022	24/04/2022	7	Completed
3		25/04/2022	27/04/2022	3	Completed
4	Sprint 2	30/04/2022	02/05/2022	3	Completed
5		12/05/2022	14/05/2022	3	Completed
6		21/05/2022	27/05/2022	7	Completed
7	Sprint 3	28/05/2022	30/05/2022	3	In progress
8		31/05/2022	02/06/2022	3	In progress
9		3/06/2022	06/06/2022	4	In progress
10		07/06/2022	08/06/2022	2	In progress

User Story ID	Task Name	Start Date	End Date	Days	Status
11	Sprint 4	10/06/2022	13/06/2022	4	In progress
12		15/06/2022	16/07/2022	2	In progress
13		18/06/2022	20/07/2022	3	Incomplete
14		21/06/2022	23/07/2022	3	Incomplete
15	Sprint 5	24/06/2022	27/06/2022	4	Incomplete
16		28/06/2022	30/06/2022	3	Incomplete
17		01/07/2022	02/07/2022	2	Incomplete
18		04/07/2022	06/07/2022	3	Incomplete

SPRINT BACKLOG PLAN

Backlog item	Status & Completion date	Original estimate in hours	Day1	Day2	Day3	Day4	Day5	Day6	Day7	Day8	Day9	Day10	Day1	Day11	Day12	Day13	Day14
User story #1,#2,#3		hrs	hrs	hrs	hrs	hrs	hrs	hrs	hrs	hrs	hrs	hrs	hrs	hrs	hrs	hrs	hrs
Login	16/04/2022	3	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0
Manage user & toll pass	24/04/2022	7	1	1	1	1	0	0	1	1	1	0	0	0	0	0	0
Manage toll login	27/04/2022	3	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0
User story #4,#5,#6																	
Approve toll pass	02/05/2022	3	0	0	1	1	0	1	0	0	0	0	0	0	0	0	0
Generate OR code	14/05/2022	3	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0
Create toll details	27/05/2022	7	0	0	1	1	1	1	1	1	1	0	0	0	0	0	0

[illegible]

[illegible]

SPRINT ACTUAL

Backlog item	Status & Completion date	Original estimate in hours	Day1	Day2	Day3	Day4	Day5	Day6	Day7	Day8	Day9	Day10	Day1	Day11	Day12	Day13	Day14
User story #1,#2,#3		hrs	hrs	hrs	hrs	hrs	hrs	hrs	hrs	hrs	hrs	hrs	hrs	hrs	hrs	hrs	hrs
Login	16/04/2022	3	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0
Manage user & toll pass	24/04/2022	7	1	1	1	1	0	0	1	1	1	0	0	0	0	0	0
Manage toll login	27/04/2022	3	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0
User story #4,#5,#6																	
Approve toll pass	02/05/2022	3	0	0	1	1	0	1	0	0	0	0	0	0	0	0	0
Generate OR code	14/05/2022	3	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0
Create toll details	27/05/2022	7	0	0	1	1	1	1	1	1	1	0	0	0	0	0	0

[illegible]

[illegible]

TSAMZ VOZ