A Project report submitted in partial fulfillment of the requirement for the degree of

Bachelor of
Technology in
Computer Science Engineering

on

<Full Stack Web Development using Open Source Tools>

Submitted By

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Certificate

This is to certify that the work contained in the project report titled *Full stack Website Development using open source tools* by G K Bharath Bhushan (18bcs026), Meghana N(18bcs053), Trishul K S(18bcs104), Varun M Awati(18bcs108) was completed during the VII semester - IV Year as a Minor Project under the guidance of Dr. Uma S.

Signature of Supervisor

Dr. Uma S,

HOD, CSE

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Declaration

We declare that this written submission represents my ideas in my own words and where others' ideas or words have been included, we have adequately cited and referenced the original sources. We also declare that we have adhered to all principles of academic honesty and integrity and have not misrepresented or fabricated or falsified any idea/data/fact/source in our submission. We understand that any violation of the above will be cause for disciplinary action by the Institute and can also evoke penal action from the sources which have thus not been properly cited or from whom proper permission has not been taken when needed.

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Approval Sheet

This project report entitled **Full Stack Web Development using open source tools** by G K Bharath Bhushan (18BCS026), Meghana N (18BCS053), Trishul K S (18BCS104), Varun M Awati (18bcs108) of Indian Institute of Information Technology, Dharwad is approved for the degree of Bachelor of Technology in Computer Science and Engineering.

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Layout of the project report

Chapter 1- It gives an abstract and Introduction to the project. It briefs us about the project description and a basic overview of the same. It elaborates how we came up with idea and what led us with problem statement.

Chapter 2- In this section, the technologies used during the projected are list. There is also a list of attributes and the primary keys. It gives relationships among different attributes.

Chapter 3- It has the Entity Relationship diagram, Database Schema and Flow Diagram to show the working order of the Website. It gives an idea about how the tables are connected with each other.

Chapter 4- It consist of step by step screenshots of every functionality of the website. The screenshots are in order and shows what comes after what.

Chapter 5- It has all challenges we came across while developing this website. We also have described how we overcame the same. It also concludes the whole project and discusses the results

Table of Content

Chapter 1

1.1 Abstract

In this era of music, new talents and artist have caught a special place in the audiences' heart. People are very interested in attending concerts and buying the artist specific merchandise. This led us to develop an ecommerce website for artists where people can book tickets for concerts, buy merchandise and also listen to latest releases from the artists before attending their concerts. There is a great demand of a website like ours because it is like an all-in-one website instead of booking tickets from different website then listening to their latest releases from another website and buying their merchandise from a totally website.

1.2 Introduction

1.2.1 **Overview**

Every artist has his/her own unique style and approach to their brand image. And every other artist has his/her unique set of fans and followers who are always willing to know what the artist is up to and what is his/her latest work.
Our project, "Music Artist HHH's Page", is focused on solving this want of knowing your favorite artist's updates.
The look, feel, appeal, and the UI/UX of the first page that loads up on the user's display is very important to create a positive image of the artist in the follower's mind. Keeping this in mind, we have developed a beautiful looking website that does all the jobs mentioned above, and also helps the artist to have a medium in which it is very easy to convey some message, share new music, and also create a simple and easy to find portal for selling the artist's event's ticket and his/her merchandise.

1.2.2 Motivation

Our major motivations came when we observed the following flaws in the brands of modern artists:

Lack of modern medium to share new work with fans and followers, in a legal approach
Lack of having a database of true fans and followers, whose constant interest in artist's work would motivate the artist to do more.
Lack of having artist's own website, in which the artist can sell his/her event's tickets and merchandise, where no third-party is involved.

Chapter 2

2.1 Technologies Used

2.1.1 Front-end: ReactJS
Other packages: Stripe-payments-client, js-cookies

2.1.2 Back-end: ExpressJS, JWT
Other packages: Stripe-payments, Bcrypt (used for password encryption)

2.1.3 Middle-ware: passport-google-auth, passport-spotify-auth

2.1.4 DBMS: MySQL

2.2 List of Entities, Attributes and Keys

3.2.1 Users (User_ID (key), Email_ID (key), First name, Last name, password)

3.2.2 Merchandise (Merch_ID (key), Price, Image URL, Merch_Name, Quantity, Description)

3.2.3 Merchandise Cart (Cart Item ID (key), Quantity, Merch_ID, User_ID)

3.2.4 Wallet (Balance, User_ID, Expiry, Wallet_ID (key))

3.2.5 Tours (Tour_ID (key), Location, Tour_name, Time, Price, Tour limit,)

3.2.6 Ticket Purchase (User_ID, Ticket_ID, Ticket_Quantity, Time purchased, Tour_ID, Price)

3.2.7 Merchandise Order (Order_ID (key), User_ID, Quantity, Price, Time purchased,

2.3 Constraints

2.3.1 Column level constraints

User_ID, Email ID is a primary key in users.

Merch_ID is a primary key in Merchandise.

Cart Item ID is a primary key in Merchandise Cart.

Wallet_ID is a primary key in Wallet.

Tour_ID is a primary key in Tours.

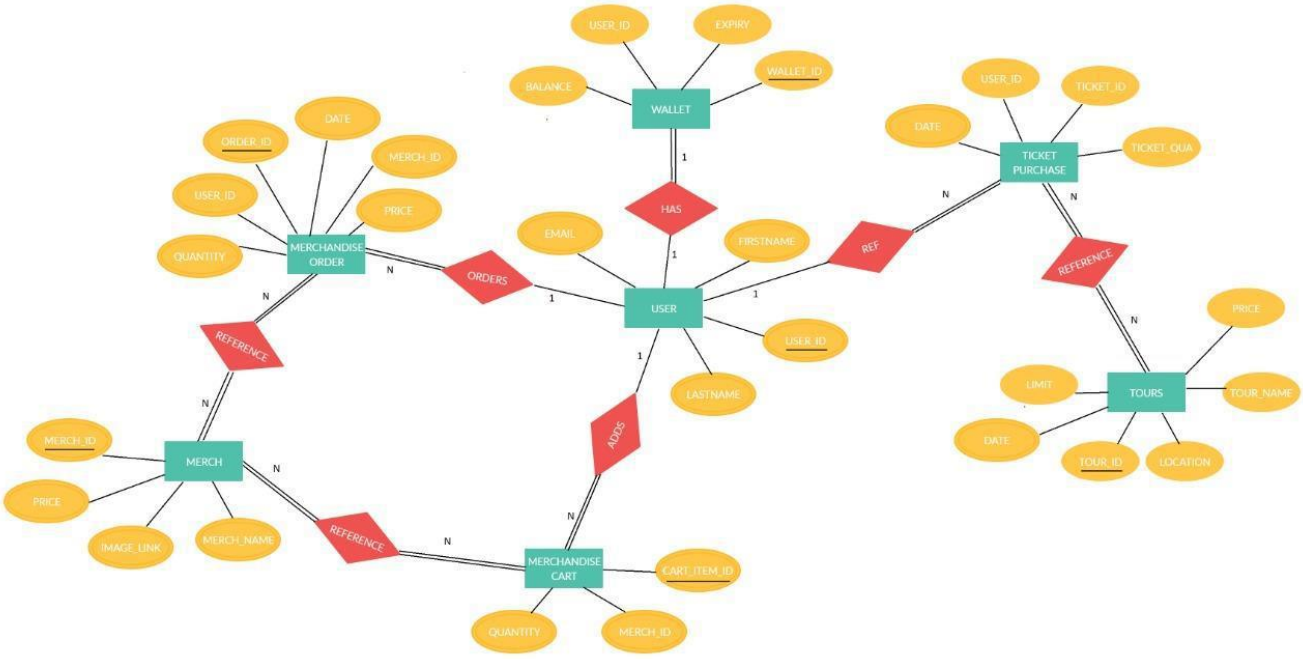
Ticket_ID is a primary key in Tickets

Order_ID is a primary key in Merchandise Orders

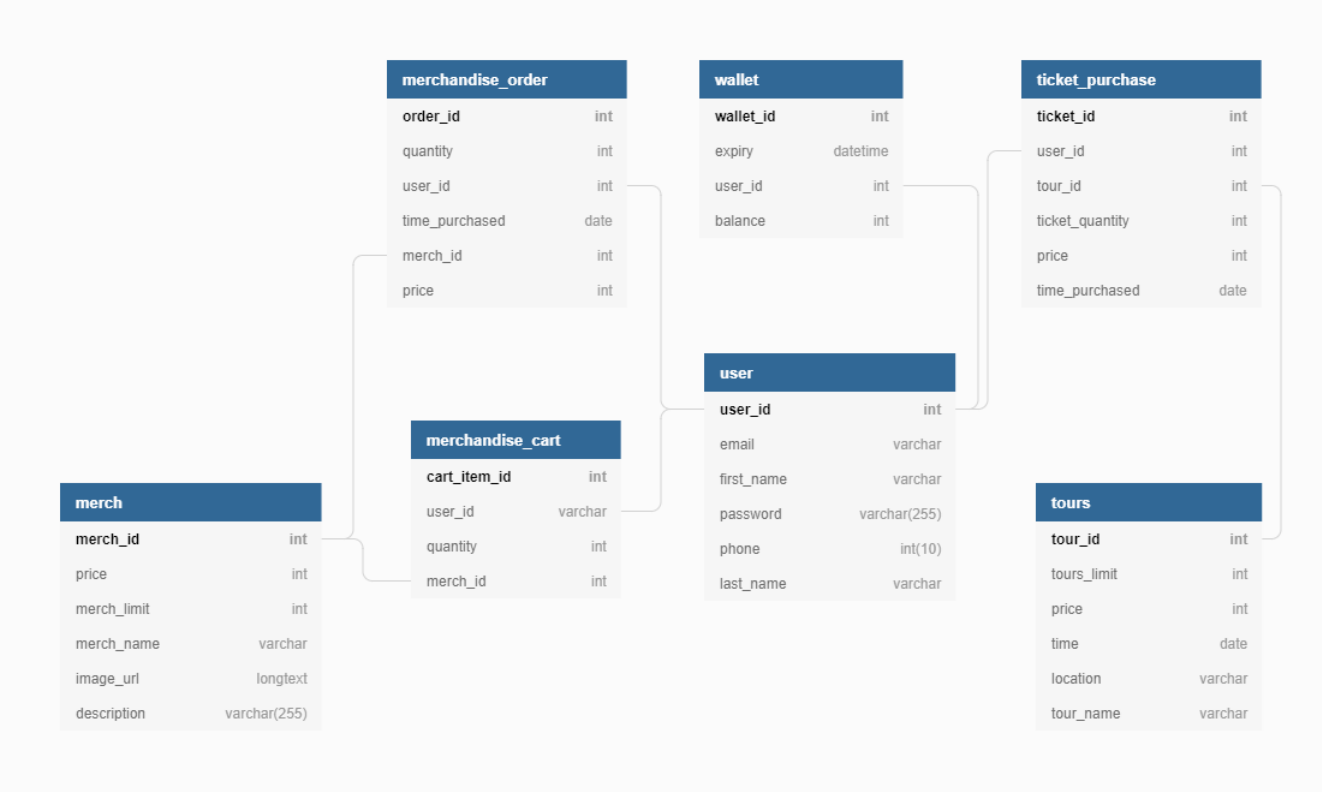
Check constraints to make sure that attended classes are less than or equal to the number of classes taken.

Chapter 3

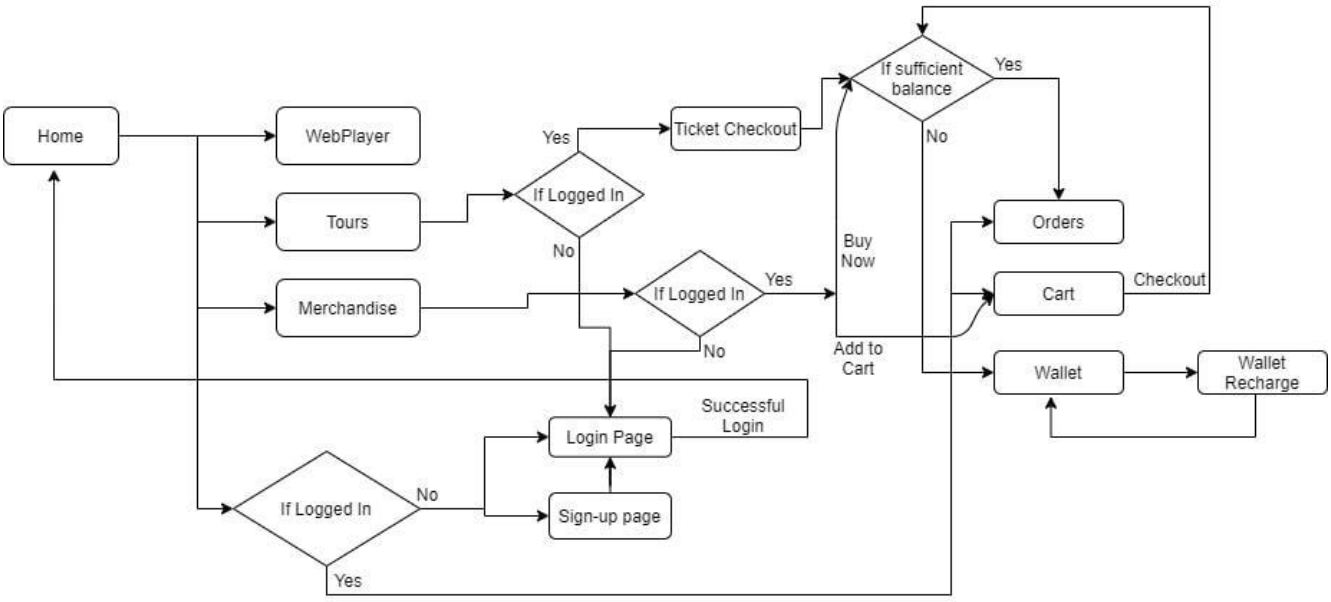
3.1 Entity Relationship Diagram



3.2 **Schema Diagram**



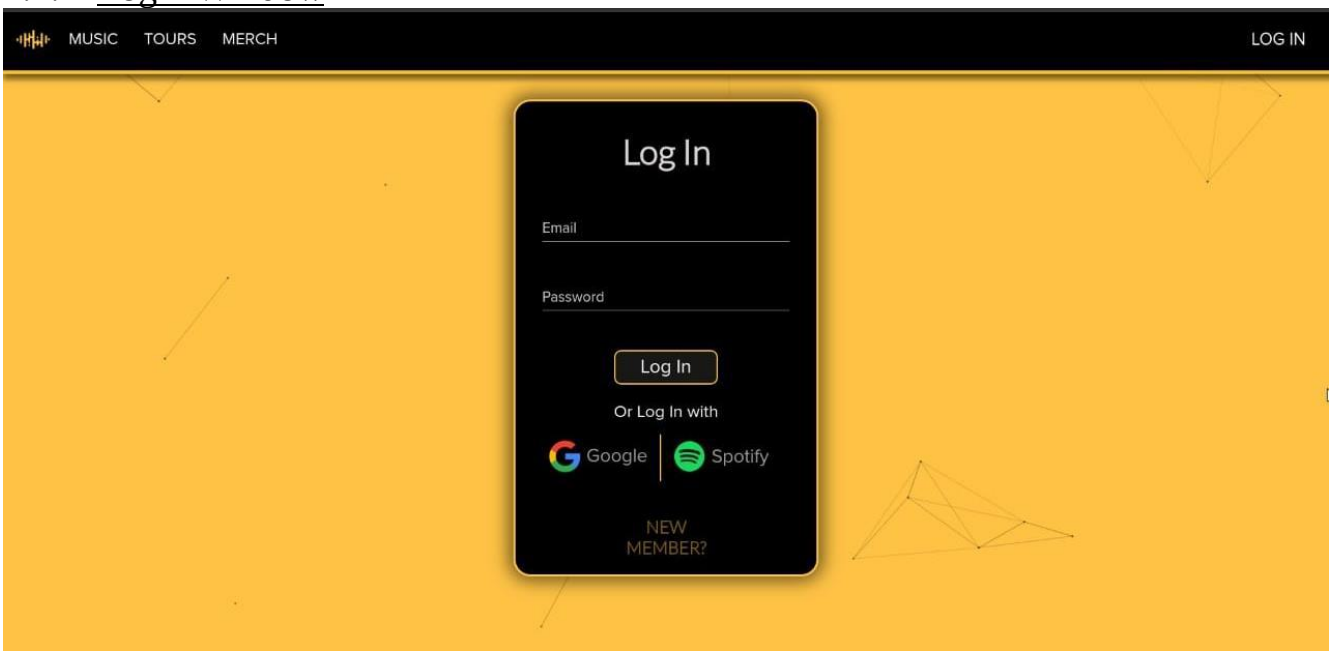
3.3 Flow Diagram



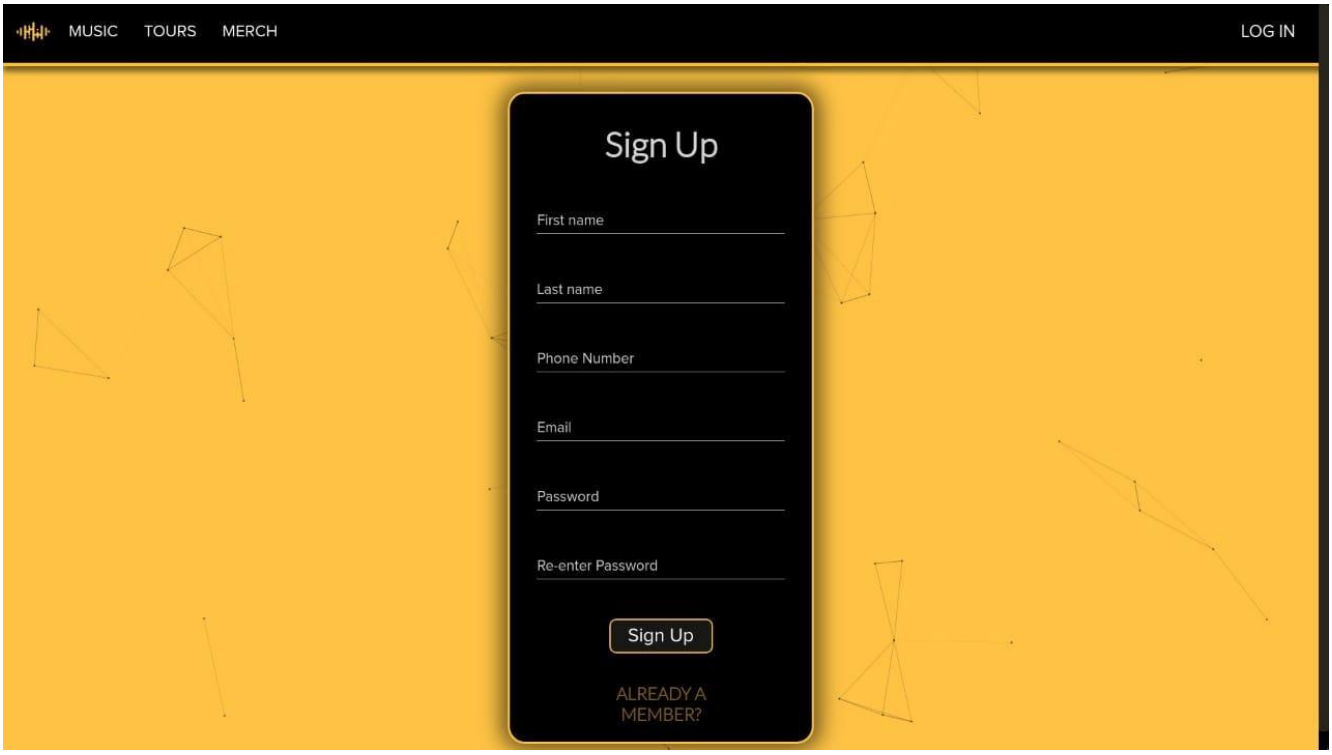
Chapter 4

Front End Screenshots

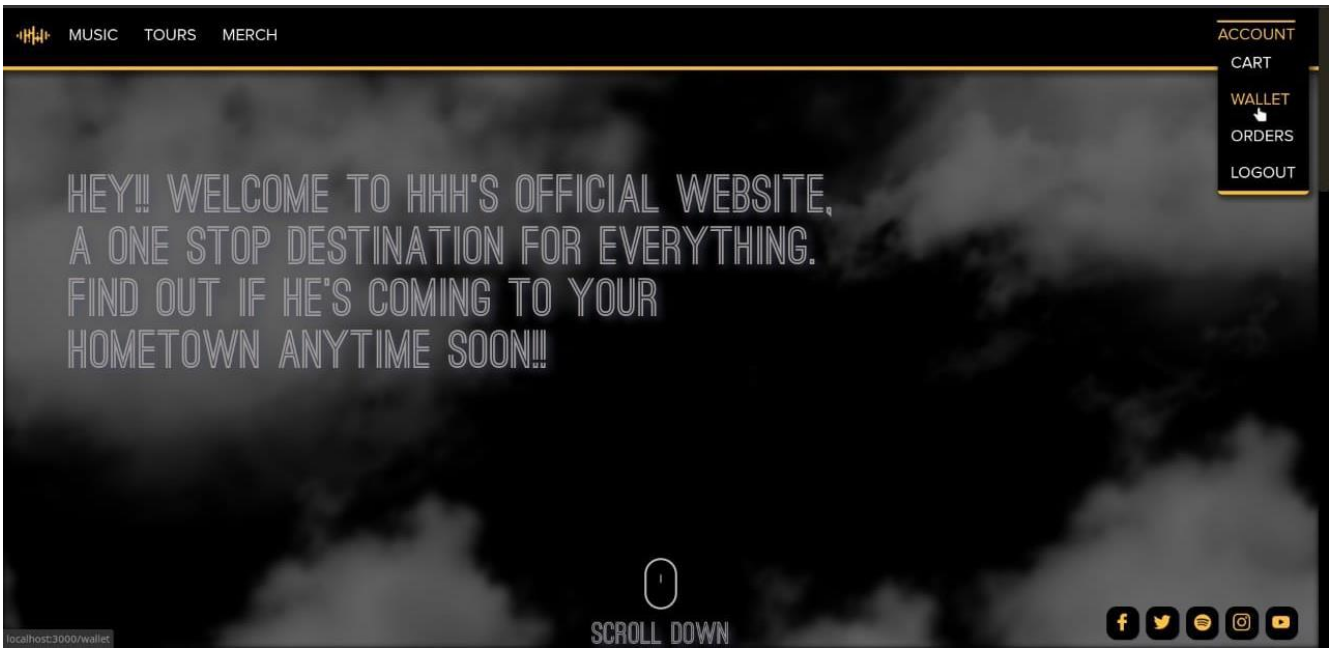
4.1.1 Login Window



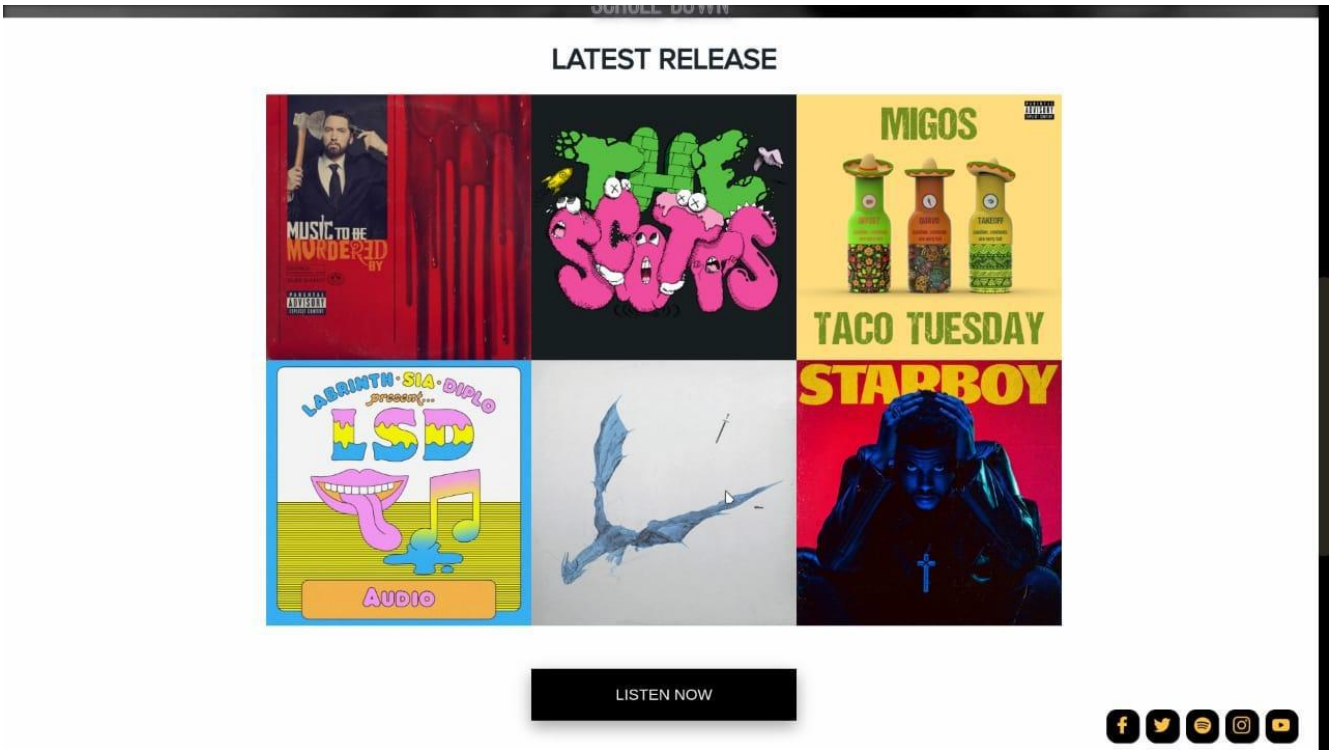
4.1.2 Sign Up Window



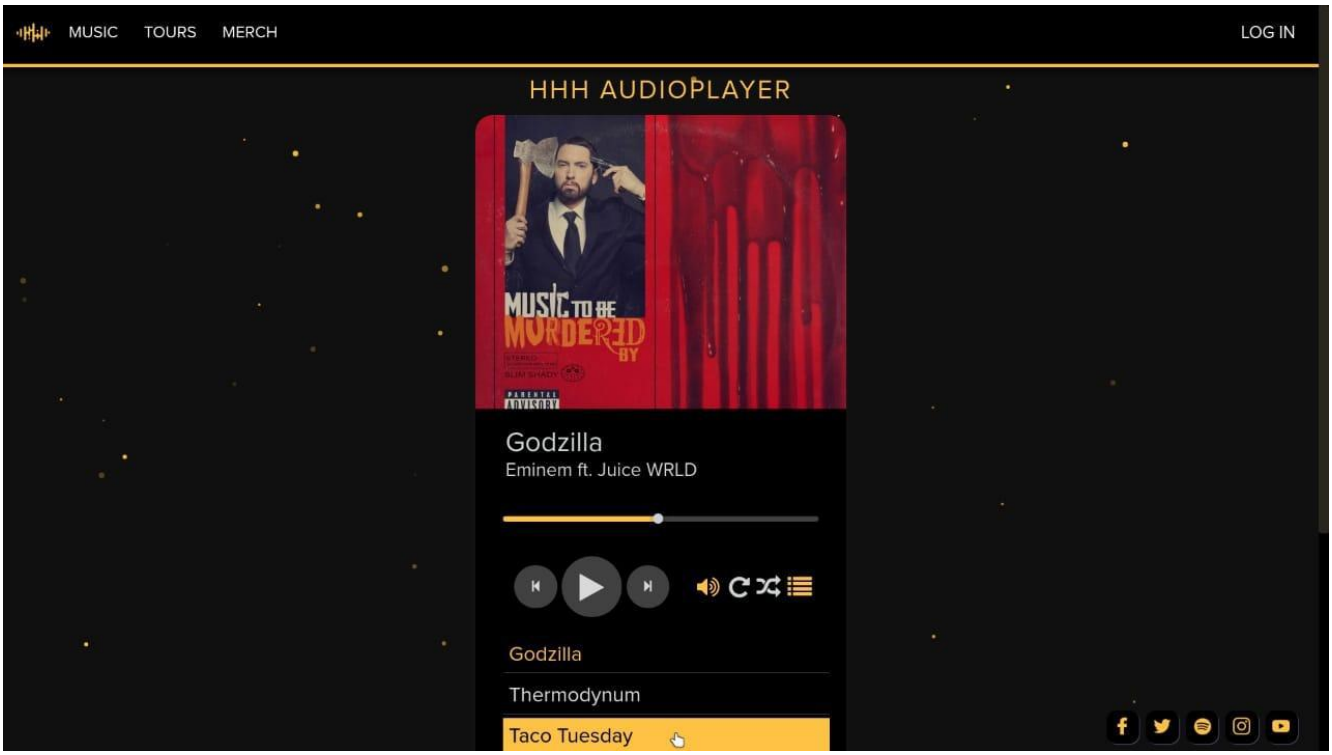
4.2 Main Window



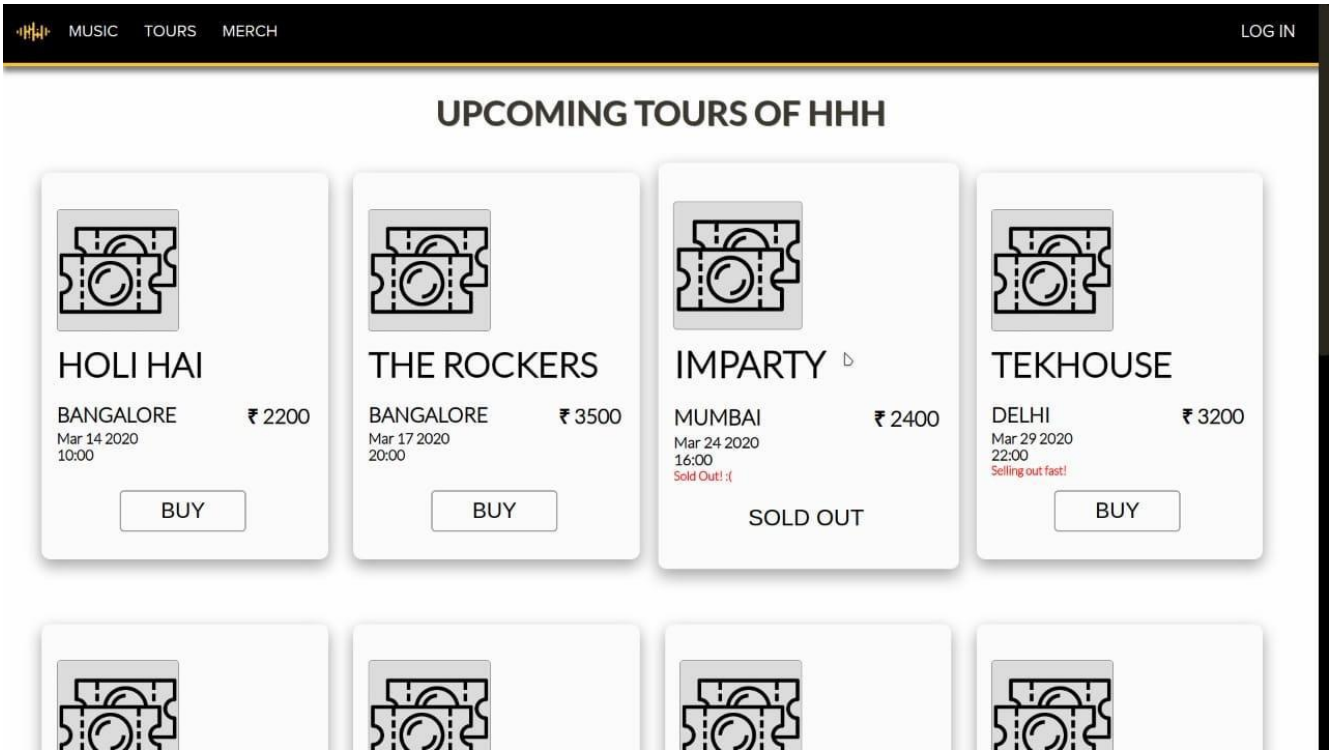
4.2.1 Music



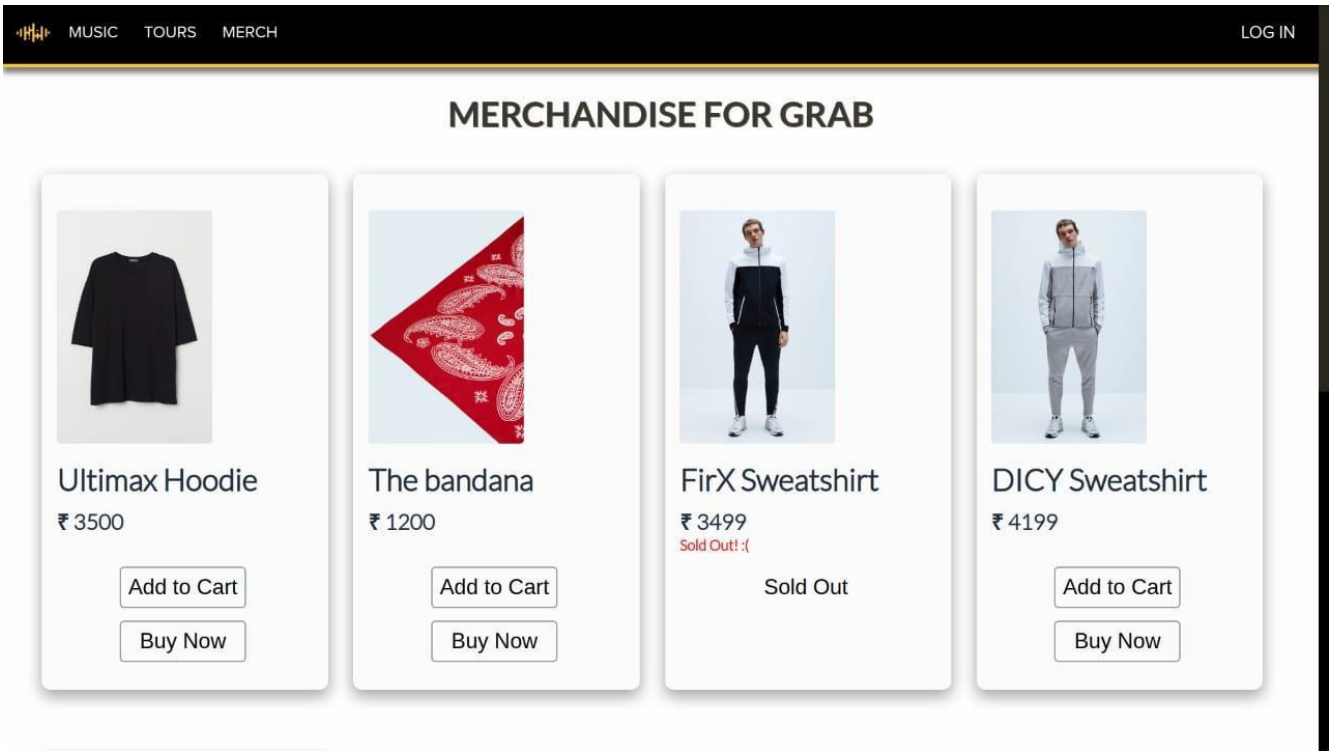
4.2.1.1 Web Player



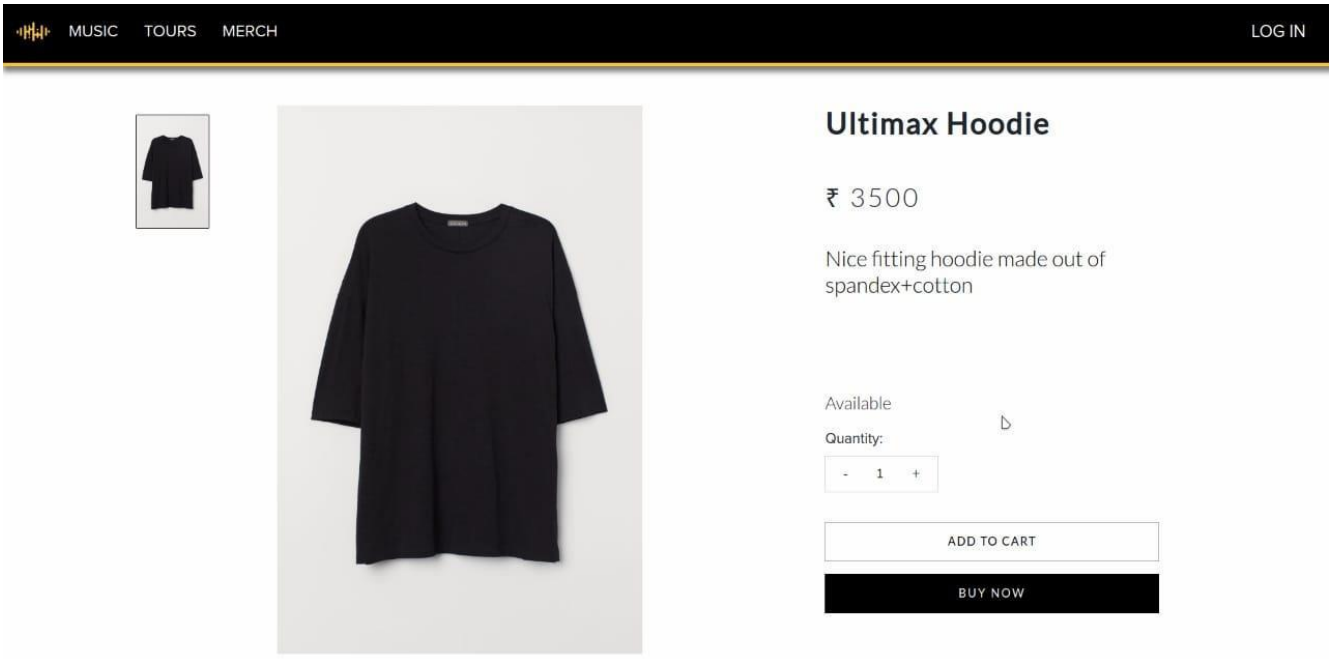
4.2.3 Tours



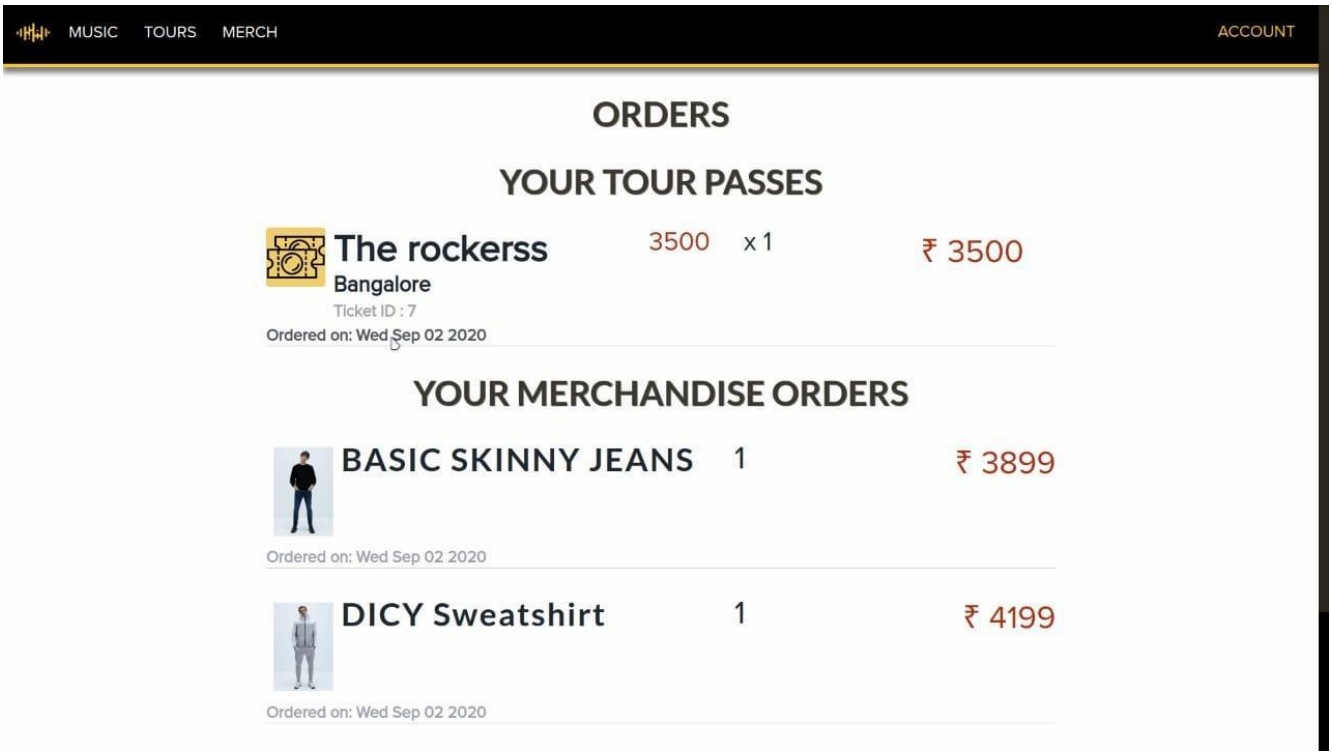
4.2.3 Merchandise



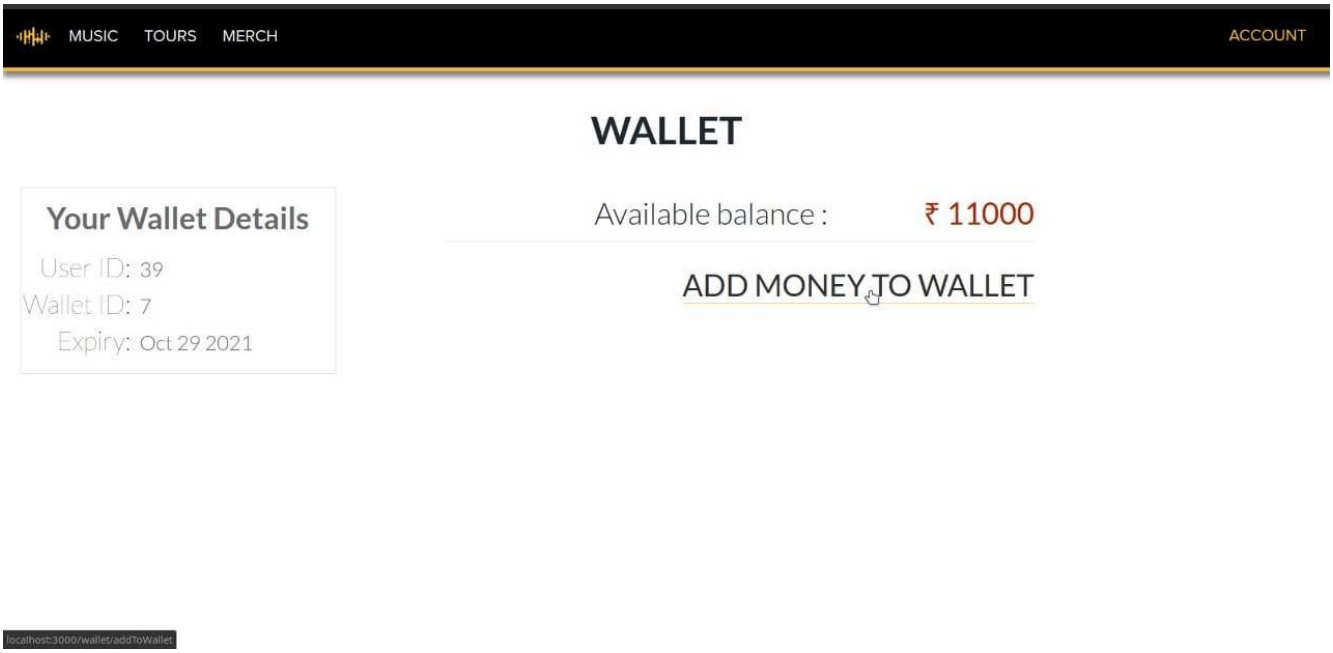
4.2.3.1 Individual Merchandise



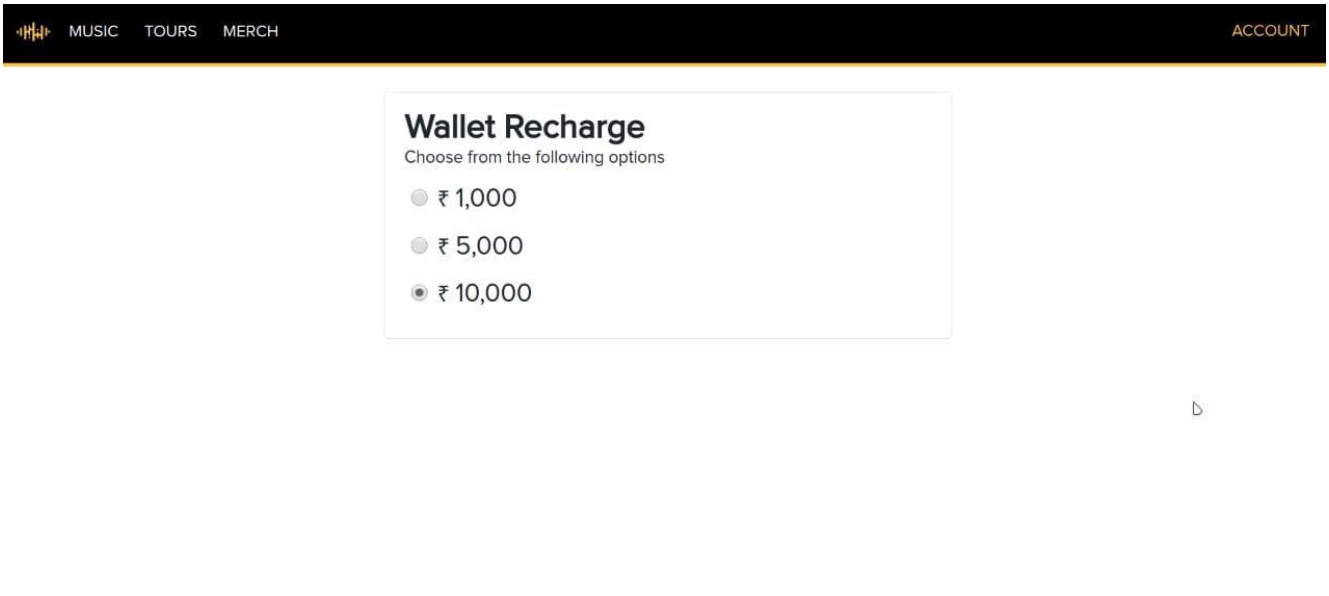
4.3 Orders



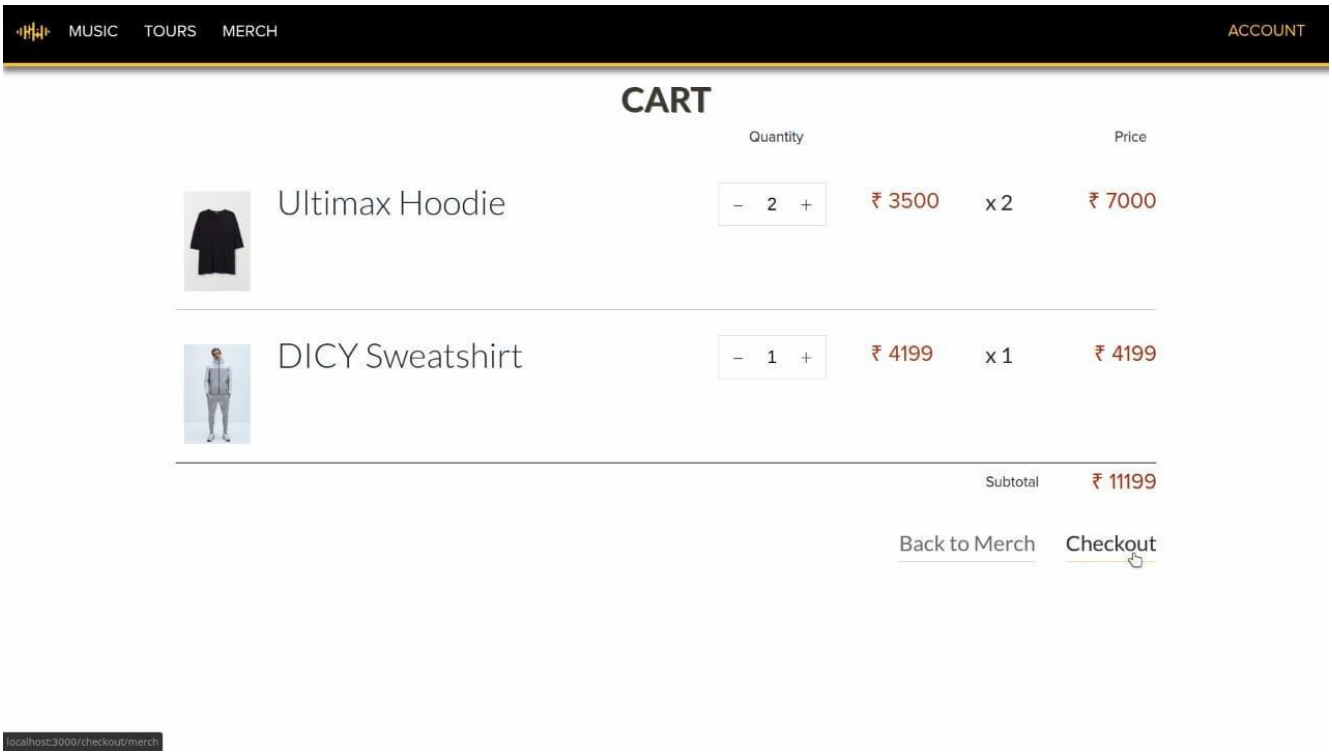
4.4 Wallet



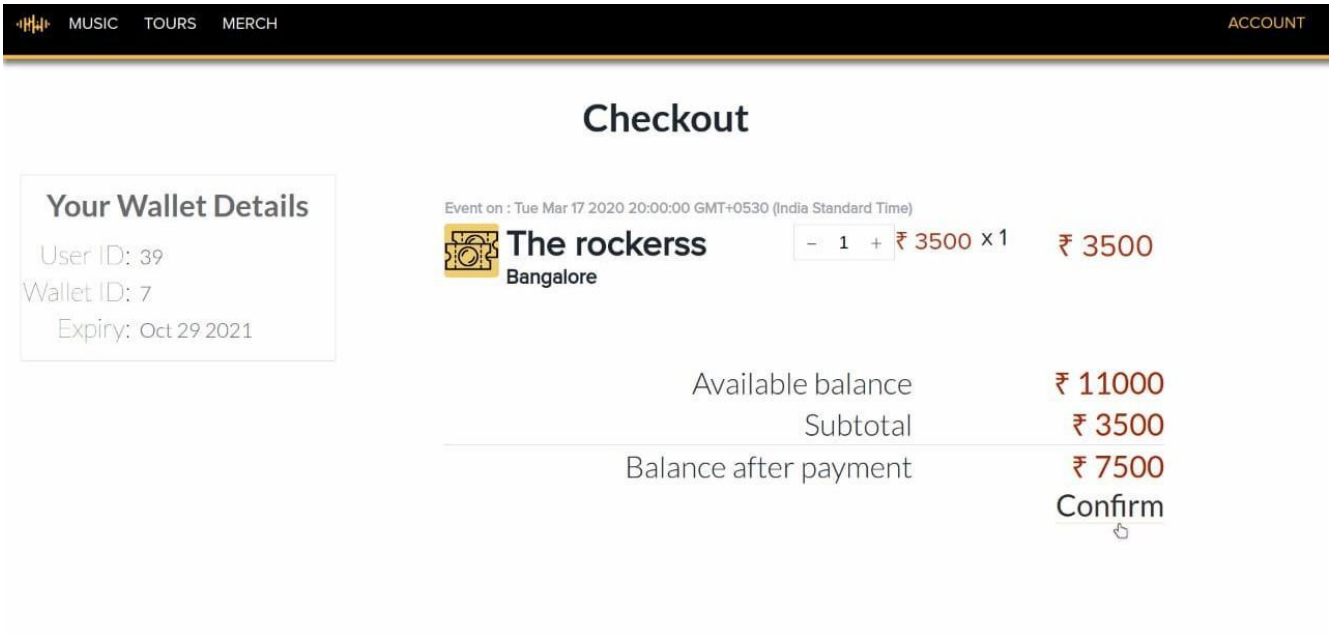
4.4.1 Wallet Recharge Page (Implemented using Stripe Payments)



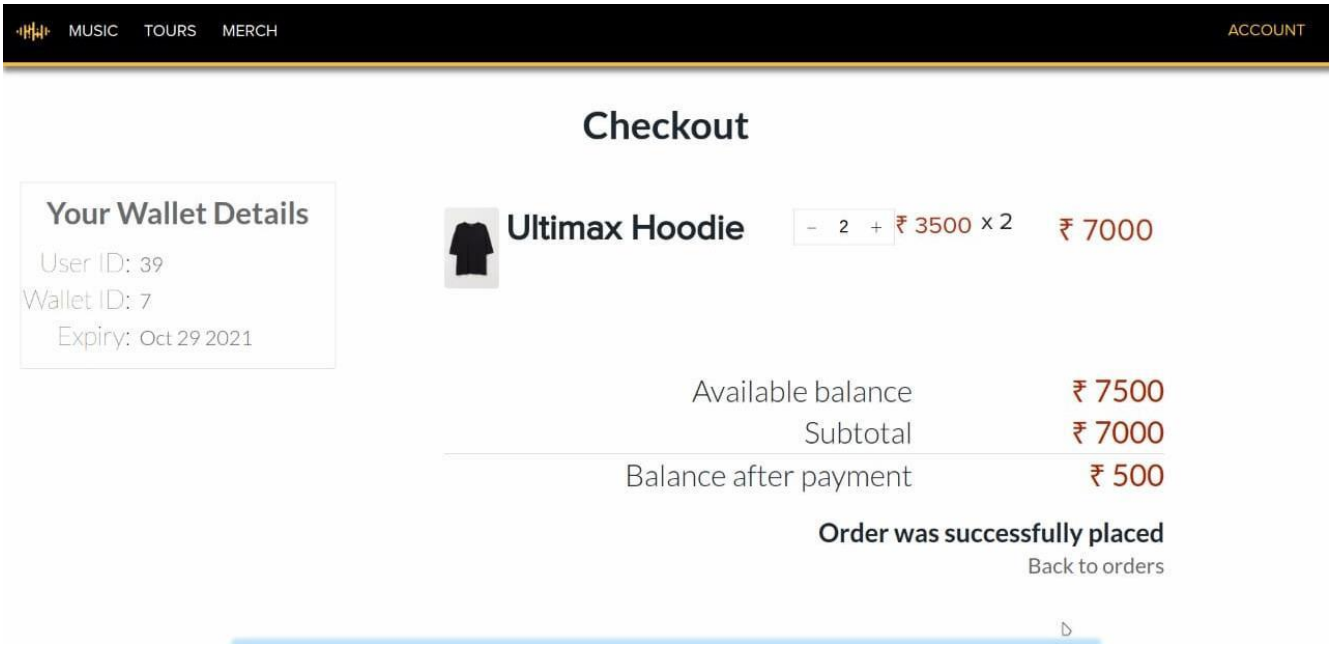
4.5 Cart



4.6.1 Ticket Checkout Page



4.6.2 Merchandise Checkout Page



Chapter 5

5.1 Challenges faced while building the website

We had faced many challenges while building the website, some of which we have noted down below:
We initially had issues with cross-origin API calls from the browser to server and vice versa which was later solved by specifying the complete route.
Since the tours happen at a specific time we had to display the time on the tickets. The time was then displayed using the Time() function which is inbuilt in javascript.
We had issues with the Custom Context menu which was later fixed with a small snippet of code.
Authentication using Google and Spotify had issues and we later fixed it by implementing cookies.

5.2 Conclusion:

This was a project that made us learn the ERN stack thoroughly.
We learned how to use JWT for user authentication and token encryption, as it is safer and more efficient for both the users and the servers.
We learned to use cookies, instead of local storage as it protects from dangerous cyber-attacks like XSS.
We also got first-hand experience of Git, as it was how we coded collaboratively.

Acknowledgement

We have taken efforts in this project. However, it would not have been possible without the kind support and help of many individuals and organizations. We would like to extend our sincere thanks to all of them.

We are highly indebted to Dr. Uma S for their guidance and constant supervision as well as for providing necessary information regarding the project & also for their support in completing the project.
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