

Online Auction System

An INTERNSHIP REPORT

Submitted by

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*In partial fulfillment for the award of the degree
of*

BACHELOR OF ENGINEERING

in

**Computer
Engineering**

**Government Engineering College,
Rajkot**



**Gujarat Technological University,
Ahmedabad**

April, 2022



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Mavdi - Kankot Road Near Hanuman Mandir Rajkot,
360005

CERTIFICATE

This is to certify that the Internship report submitted along with the project entitled **Online Auction System** has been carried out by **Vinesh Dodiya** under my guidance in partial fulfillment for the degree of Bachelor of Engineering in Computer Engineering, 8th Semester of Gujarat Technological University, Ahmadabad during the academic year 2021-22.

Prof. Chintan R. Varnagar
Internal Guide

Dr. Chirag S. Thaker
Head of the Department

Solution Analysts Pvt Ltd

Date: 23 / 04 / 2022

TO WHOM IT MAY CONCERN

This is to certify that Vinesh Dodiya, a student of Government Engineering College, Rajkot has successfully completed his internship in the field of MEAN Stack from 19/01/2022 to 23/04/2022 (Total number of Weeks: 14) under the guidance of Mr. Venkata Srihari.

His internship activities include Creating Rest-API, Solving core javascript concepts, Backend Development using Node.js Technology, Frontend using Angular.

During the period of his internship program with us, he had been exposed to different processes and was found diligent, hardworking and inquisitive

We wish him every success in his life and career.

For Solution Analysts Pvt Ltd

Mr. Venkata Srihari
(Project Manager)



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DECLARATION

We hereby declare that the Internship report submitted along with the project entitled **Online Auction System** submitted in partial fulfillment for the degree of Bachelor of Engineering in Computer Engineering to Gujarat Technological University, Ahmedabad, is a bonafide record of original project work carried out by me at Government Engineering College, Rajkot under the supervision of Prof. Chintan R. Varnagar and that no part of this report has been directly copied from any students' reports or taken from any other source, without providing due reference.

Name of the Student

Sign of Student

Vinesh Dodiya

Acknowledgement

I am thankful to Mr.Venkata Srihari Project Manager of Solution Analysts Pvt Ltd for giving me the opportunity to do an internship within the organization.

I thankful to my Head of the Department and also my Internal Guide **Prof. Chintan R. Varnagar** for their guidance, constant supervision, advices to get and complete internship in above said organization, support and constructive criticism throughout my internship.

I am extremely great full to my department staff members and friends who helped me in successful completion of this internship.

Yours sincerely,

Vinesh Dodiya

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Abstract

Internships are generally thought of to be reserved for college students looking to gain experience in a particular field. However, a wide array of people can benefit from Training Internships in order to receive real world experience and develop their skills.

An objective for this position should emphasize the skills you already possess in the area and your interest in learning more.

Some internship is used to allow individuals to perform scientific research while others are specifically designed to allow people to gain first-hand experience working.

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List of Abbreviations

AI	Artificial Intelligence
HTML	Hypertext Markup Language
CSS	Cascading Style Sheets
JS	JavaScript
XML	Extensible Markup Language
JSX	JavaScript XML (JavaScript Syntax Extension)
PWA	Progressive Web Application
AR	Augmented Reality
VR	Virtual Reality
IOT	Internet Of Things
NLP	Natural Language Processing
R&D	Research And Development
SDLC	Software Development Life Cycle
UI	User Interface
GUI	Graphical User Interface
ER	Entity Relationship
API	Application Programming Interface
AJAX	Asynchronous JavaScript And XML
REST	Representational State Transfer

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1. OVERVIEW OF COMPANY

1.1 History

Since it's inception in 2011, company believe in providing high-quality solutions in web and mobile app development domains. They assist startups, SMEs, and Fortune 500 companies to grow by integrating enterprise-grade solutions based on technological advancements. We strive to meet complex and diverse business needs by developing unique app solutions based on emerging technologies like IoT, AR, and VR. Eye on every detail and expertise in creating robust IT solutions have made us a prominent IT solutions provider company.

At Solution Analysts, we believe in teamwork and excellent communication while working on every project.

Company's dedicated developers have a vast experience of working on many web and mobile app projects with a knack for using cutting-edge tools in their respective domains.

At Solution Analysts they follow high standards of software development and believe in nurturing the business culture of ethics and accountability. Company take complete ownership of the client's project and define accountability to ensure the development process at its best for every project in hand.

Company's experienced programmers stay updated with IT advancements and newer technologies, ensuring that the projects they deliver are future ready.

1.2 DIFFERENT PRODUCT / SCOPE OF WORK

1.2.1 Services

With vast experience in enterprise app development services, company's in-house team can build robust mobility solutions. They integrate technological advancements to provide an excellent user experience and ensure higher productivity. Company's focus on every aspect of mobility ranging from making a strategy to proper implementation makes them a top enterprise app development company in mobility, web, PWA, etc.

Emerging technologies is an umbrella term that covers relatively new but highly powerful technologies like blockchain, AR, VR, AI, ML, etc.

At Solution Analysts they have assisted many companies to leverage the benefits of IoT technology through its 360-degree app solutions. As a reputed IoT app development company, they offer end-to-end app development services for different connected devices. They also assist startups and SMEs to make the most of IoT technology and integrating advancements of IIoT (Industrial IoT) to add value and ensure the growth of their business.

Company's robust enterprise-grade discovery and consulting service enable corporate clients to reduce costs by reducing trivial and redundant information. They also help clients manage process workflow for increasing efficiency and productivity. At solution analysts, its experienced consultants use cutting-edge tools and technology for providing better predictability and more opportunities.

1.2.2 Company's Powerful Domains

It's customized cloud & DevOps development solution can drive efficiency and reduce time to market to ensure the success of your business.

They build agile cloud and DevOps solutions as per the client's business model and market trends to meet their diverse requirements effectively. We provide high-end cloud and DevOps services that ensure excellent performance and higher security.

They have designed all possible varieties of Chatbot applications successful in generating high-quality leads for our clients. We have commendable control in Wordpress and Pod- cast development as well. Besides these, we are technology partners for many B2B organizations.

1.2.3 Business Development and Research at Company

You can scale up or down your team of developers in line with the project requirements. Our hiring models are highly flexible and cost-effective. At Solution Analysts, we have leaders, thinkers, and even fanatics who work dedicatedly to transform the clients' business processes digitally..

We believe in long-term relationships, and therefore, we work on all projects with the same enthusiasm and dedication to ensure the optimum outcome. We are ready to go the extra mile while pursuing excellence. Our dedication and focused approach help us build the best possible solution. We are creative and always think innovatively to build robust solutions for our corporate clients. that will give them a competitive edge..

1.3 COMPANY'S PORTFOLIO

The RoadCaptain App

The RoadCaptain app is a navigation app that helps users to plan their trips with a seamless user experience. The app has a graphical representation of potholes and accurate pothole management.

Hiplan

Hiplan is a social media application that helps users connect with other users who have similar interests and reside in nearby locations. This application is developed for both Android and iOS platforms.

iTable

iTable is a complete web portal and mobile app to manage all the processes related to restaurants. iTable enables the admin or restaurant owners to book orders for delivery and reserve tables for customers. Separate apps for the waiter, manager, and owner can help restaurant owners to control all the processes effectively. The web portal and dedicated mobile apps for Android and iOS can help users grow their restaurant business.

BRDG

It is a free contest-playing mobile app. Users can get rewards for winning contests in this fun and entertaining app. BRDG app offers rewards in the form of money or perks like meeting celebrities or influencers.

iXopp

iXopp is a mobile app to search products or items like groceries and foods in nearby stores. It is an on-demand food and grocery delivery app that enables end-users to order products and pay online.

Foody Savior

Foody Savior provides the platform to save the wastage of food happening across various locations of foodservice providers. It facilitates all the restaurants, food service providers, or florists to create a basket of many items which are for waste, and list that basket to sell on this platform.

Lil Bookz

Little ones can learn dance easily and interactively using this dedicated mobile app. End users can register themselves on the website for using the mobile app of this dance learning platform..

2. OVERVIEW OF DIFFERENT DEPARTMENT OF ORGANIZATION

2.1 DETAIL OF DEPARTMENTS

Web Development

Company mostly uses MEAN Stack development. It uses Node for backend and angular for frontend. It also includes other frameworks like react, Vuejs, and Laravel. For backend along with node we use express framework and for databases we have MongoDB and MySQL.

Mobile App Development

Technologies like Flutter, React Native, Ionic, PhoneGap, Xamarin, Restful API, GraphQL API's are used for Android App Development. For iOS they use design patterns like MVVP and VIPER. Company works on React Native and Flutter for App development.

IOT Solutions

Entrepreneurs or manufacturers find it difficult to get the real-time position of assets or machines located in remote locations. A perfect example of this would be solar panel fields. Especially when there are several thousands of panels spread across acres of land. It becomes next to impossible to check its functionality, upkeep, maintenance, downtime, repairs etc one by one.

AI, Machine Learning & NLP

AI technology drives automation and interactivity. As a reputed Artificial Intelligence development company, we can create high-end AR apps using cutting-edge tools. It's customized AI-powered app solutions work on Machine Learning to convert unstructured data into actionable insights and drive business growth..

RPA Development

Robotic Process Automation (RPA) facilitates your enterprise to automate mundane, repetitive, rule-based tasks. We integrate technological advancements in the customized RPA solutions to assist companies to drive digital transformation.

DevOps

Company offer the advantage of cross-training and domain expertise through our in-house team of experienced developers and advanced DevOps solutions. DevOps Consulting services can accelerate the time to market (TTM) for products with the help of DevOps assessment and automation. Continuous Delivery (CD) and Continuous Integration (CI) services are aimed at integrating the changes quickly and build the code rapidly with automatic deployment.

2.2 DEVELOPMENT PROCESS

At Solution Analysts, we know that all the projects have different needs, and therefore, we provide various engagement methodologies or models to accomplish them.

- Company's experienced developers build mobility solutions and offer best-in-class web development services to give you an edge over peers. We keep on integrating advanced features in our solutions to keep them up-to-date.
- It enables our clients to pay for the total hours that we take in app development. However, in this model, there is no fixed time or budget.
- You can hire dedicated developers for the app project and select your team. We also assist you to make real-time modifications to the existing app.
- Here, the development cost remains fixed or constant. However, we never compromise on any development standards while offering this option.

3. INTRODUCTION TO INTERNSHIP AND INTERNSHIP MANAGEMENT

3.1 INTERNSHIP SUMMARY

During my internship I explored the professional world and got familiarity with the different aspects of the professional life. Got experience of different tools and technologies. Learned the systematic approach for doing things. My internship was in the area of the web development. In that duration I explored the frontend and backend technologies.

I have developed many interesting and useful for learning applications during this internship. I worked on project named Solution Analysts which is best app. It is web app to connect people through social media and share their thoughts. I also developed some other web apps like Basic calculator App and Card matching game as part of my Internship task.

3.2 PURPOSE

Purpose of internship was to have knowledge of current technology and modern approach to solving problems and getting experience of real life projects. Also to learn how to work in team, enhance communication skills. Another purpose is to be able to make full stack web application and learn to integrating them together like how front-end and back-end works together in real life and how production application are made and also how to deploy them.

3.3 OBJECTIVES

- Learn advanced framework like Angular, Node.js and Express.js.
- Learn to apply the Technical knowledge in real industrial situations.
- Learn version control system like git and GitHub to collaborate with team.
- Work on a problem assigned by a mentor at industry, prepare action plan and complete within time limit.
- To learn, prepare report for project as used in industry with productive and efficient.
- Learn to explore documentation of any framework to solve any particular problem.
- To learn engineer's responsibilities and ethics.
- To learn from senior developers their approach to problem solving.

3.4 SCOPE

Internship experience plays a vital role for every student to implement their theoretical knowledge and get a practical knowledge from any organization. A student can implement this internship experience in his future work area. An Internship Provides Real Life Experience and Exposure of professional work it give Opportunity To Learn More About Yourself.

Also, project solution analysts have social media app in which users can post their thoughts which can be seen by users that follow them. Also, ability to like posts, adding tags to the post, searching other users, searching posts by tags etc.

3.5 INTERNSHIP SCHEDULING

As trainee software engineer I have to first gain knowledge on basic technologies and then going advanced and also doing as much as practice and mini projects.

Table 3.1 Schedule of Internship

Week	Activity
Week 1	Learning Linux
Week 2	Learning Git, GitHub
Week 3	Learning HTML, CSS
Week 4	Learning JavaScript
Week 5	Learning JavaScript
Week 6	Learning Advanced JavaScript
Week 7	Starting Research on Task-1 (front end) Card Pair Matching Game
Week 8	Learning Asynchronous JavaScript
Week 9	Learning TypeScript
Week 10	Project Task: Online Auction (Front-end)
Week 11	Learning Angular
Week 12	Learning Angular
Week 13	Learning Node.js
Week 14	Project Work - Online Auction

4. FRONT-END LEARNING PHASE

4.1 STUDY HTML,CSS AND JAVASCRIPT

4.1.1 HTML concepts

HTML is the standard markup language for documents designed to be displayed in a web browser. It can be assisted by technologies such as Cascading Style Sheets (CSS) and scripting languages such as JavaScript.

I started my Internship by learning HTML as suggested by my guide Mr. Neet Shah. I started with basic HTML Structure, etc.

Then I started to learn Intermediate concepts i.e.. Also learned HTML Tags,tables,lists,classes,id,iframe,etc..

There are also some functions that is provided by CSS that can be used to style our markup or HTML.

I also learned some advanced concepts of CSS like CSS specificity, Responsive Web design, GeoLocation api, Web storage, Web Workers, SEO optimization,CSS Animations.

I also learned about Git and GitHub Which is a free and open source distributed version control system designed to handle everything from small to very large projects with speed and efficiency.

The Git version control system, as the name suggests, is a system that records all the modifications made to a file or set of data so that a specific version may be called up later if needed. The system makes sure that all the team members are working on the file's latest version, and everyone can work simultaneously on the same project.

4.2 STUDY BACK-END USING NODE.JS

4.2.1 Overview of Node.JS

Node.js is an asynchronous event-driven JavaScript runtime, Node.js is designed to build scalable network applications..

Node.js is a server-side platform built on Google Chrome's JavaScript Engine (V8 Engine). Node.js was developed by Ryan Dahl in 2009 and its latest version is v0.10.36.

I Learned basics of NodeJS In 1 week and then started with advanced node as I have to create servers with node.js.

Advanced Node.js includes Asynchronous and Event driven approach, also node js is very fast, single threaded but highly scalable. Node.js applications never buffer any data. These applications simply output the data in chunks.

Node.js allows the creation of Web servers and networking tools using JavaScript and a collection of "modules" that handle various core functionalities. Modules are provided for file system I/O, networking (DNS, HTTP, TCP, TLS/SSL, or UDP), binary data (buffers), cryptography functions, data streams, and other core functions. Node.js's modules use an API designed to reduce the complexity of writing server applications..

4.2.2 Express.js Library

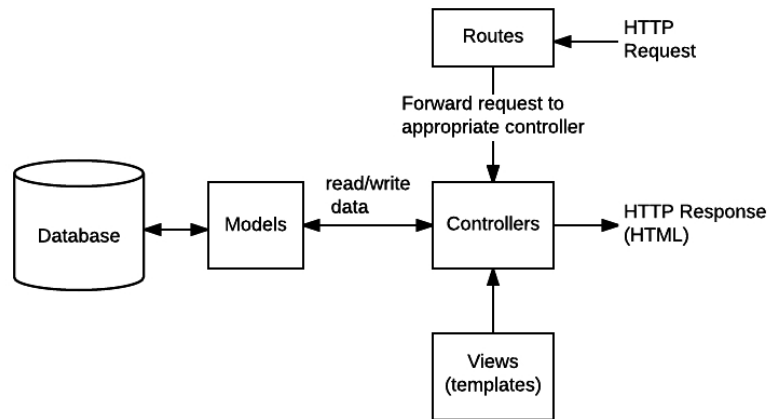


Fig 4.2 MVC of Express

Express.js is a Node.js web application server framework, designed for building single-page, multi-page, and hybrid web applications.

MVC Structure has the following three parts –

Model: The model is going to act as the interface of your data. It is responsible for maintaining data. It is the logical data structure behind the entire application and is represented by a database.

View: Express has the concept of “views” to encapsulate the logic responsible for processing a user’s request and for returning the response.

Template: A template consists of static parts of the desired HTML output as well as some special syntax describing how dynamic content will be inserted.

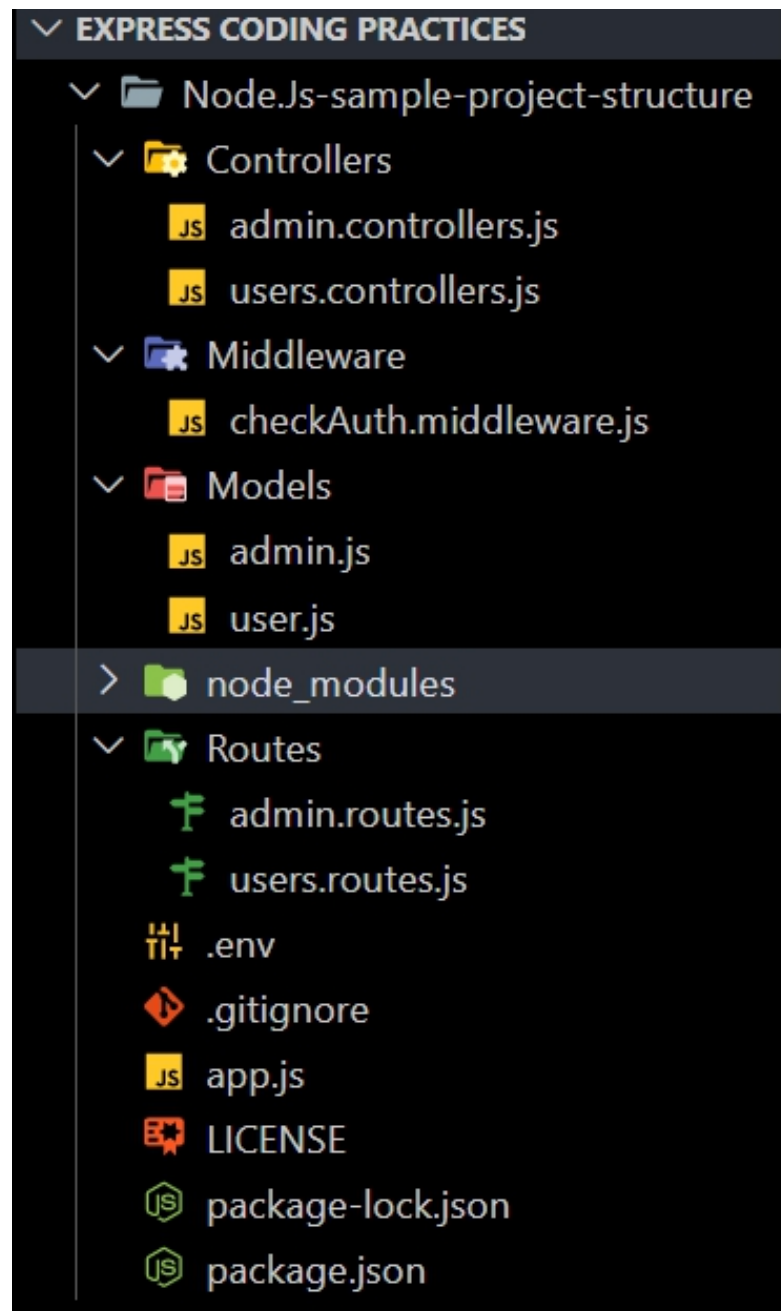


Fig 4.3 Express Project Structure

5. DATABASE LEARNING PHASE

5.1 OVERVIEW OF MONGODB

After learning backend as suggested by my mentor Mr. Neet Shah I started learning database.

First, I learned about MongoDB NPM which is node package created by mongoDB team that can be used to create database and work with node.js server.

MongoDB is a document-oriented NoSQL database used for high volume data storage. Instead of using tables and rows as in the traditional relational databases, MongoDB makes use of collections and documents.

After learning MongoDB I started Implementing it in my node project. Documents consist of key-value pairs which are the basic unit of data in MongoDB. Collections contain sets of documents and function which is the equivalent of relational database tables.

5.2 TASK - CARD PAIR MATCHING GAME

5.2.1 Overview of Task

When I finished learning HTML, CSS and JavaScript my first task was given by mentor which is to implement Card pair matching game. In this game there are 16 card available we flip one by one and if previous card are same then we get 50 point if not we lose 5 points and we need to complete maximum card in given time.

5.2.2 Purpose

Purpose of this task is to use concepts learn in above section and apply them to get under- standing of working structure of this technologies. To be able to use HTML,CSS for best user experience and give nicer look of our website by using stylesheet. and javascript is used to build logic which is used to detect cards are same or not. also timer that can be tricky to do in first place.

5.2.3 Objective

- Main Objective of this task is to make game that uses logic of pair matching of images.
- Game should end when timer ends.
- Implement logic of show or hide card based on both card are same or not.
- Implement game with nice looking UI design.

5.2.4 Planning

First of all I need to create HTML for game, I decided to use gradient as a background image. I decided to show current score and highest score at top of the board and timer at bottom. I roughly designed in notebook for that user interface.

5.2.5 Implementation

As planned I started development by implementing score board division and main body and at the bottom I created timer. I also used animations for increasing or decreasing points as well as flip animation when user clicks the card.

After Creating HTML and styled through CSS and nice animation I started creating logic for the game in JavaScript. First I created variables that stores the name of all fruits and state of game and score. then created function for start game, point add/remove animation, update score, etc.

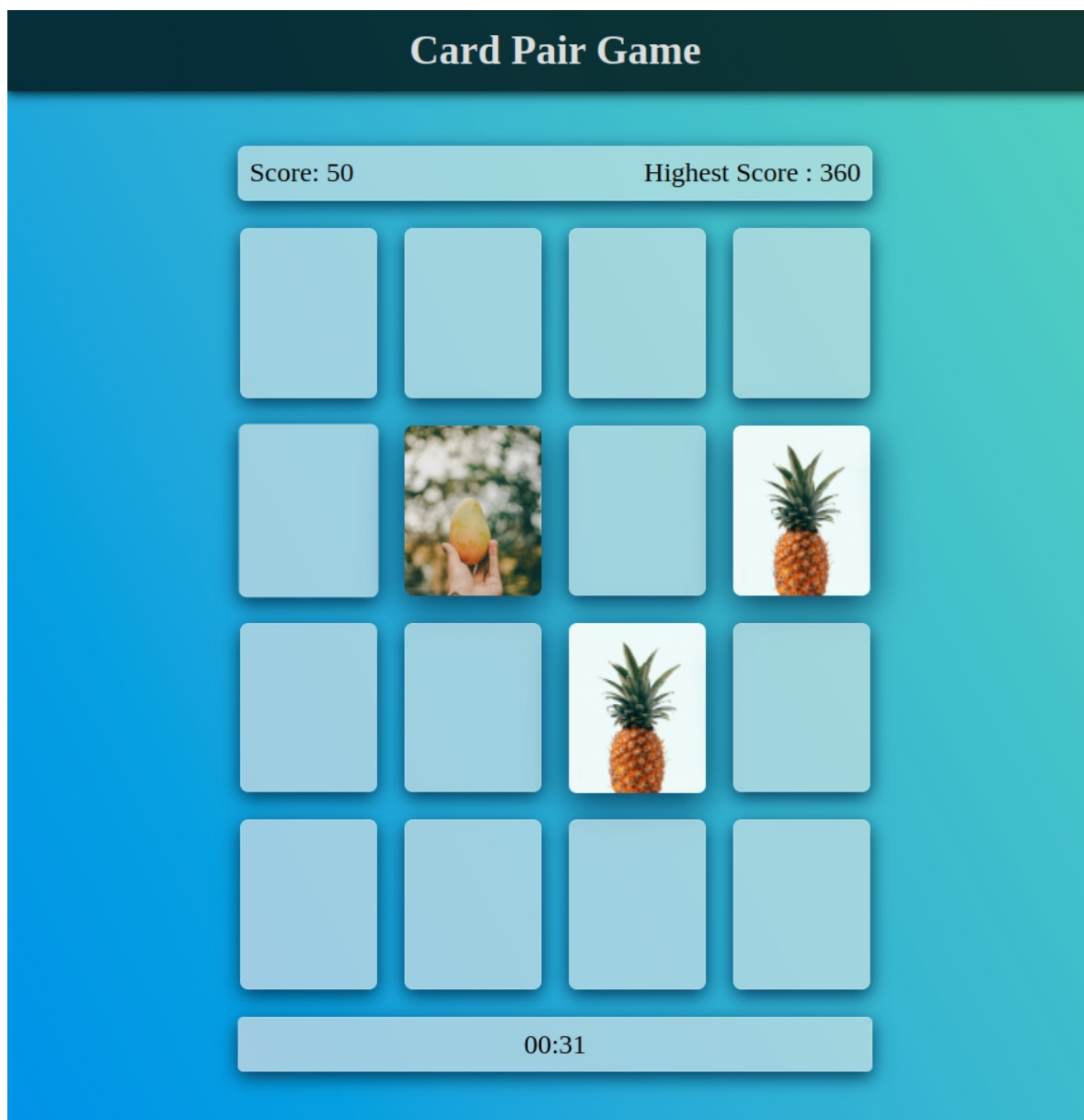


Fig 5.1 Card Pair Matching Game

5.3 LEARNING ANGULAR FOR SINGLE PAGE WEB APPLICATION

After successfully completing my first task I started learning Angular Framework as per suggested my mentor Mr. Neet Shah. I started learning Angular from official documentation of Angular.

Angular is a JavaScript framework for building user interface.

Angular is an open-source, JavaScript framework written in TypeScript. Google maintains it, and its primary purpose is to develop single-page applications. As a framework, Angular has clear advantages while also providing a standard structure for developers to work with. It enables users to create large applications in a maintainable manner.

Build encapsulated components that manage their own state, then compose them to make complex UIs. Since component logic is written in JavaScript instead of templates, you can easily pass rich data through your app and keep state out of the DOM.

Angular is used as the frontend of the MEAN stack, consisting of MongoDB database, Express.js web application server framework, Angular itself (or AngularJS), and Node.js server runtime environment.

With Angular, you're taking advantage of a platform that can scale from single-developer projects to enterprise-level applications. Angular is designed to make updating as straightforward as possible, so take advantage of the latest developments with a minimum of effort. Best of all, the Angular ecosystem consists of a diverse group of over 1.7 million developers, library authors, and content creators.

6. PROJECT - ONLINE AUCTION APP

6.1 OVERVIEW OF PROJECT

After I finished learning technologies to develop full stack production application, I started this project of developing Online Auction System app. It as Web application used to bid product online. By using Online Auction management system it will be easy for auctioner to make an auction and time saving also.

6.2 PURPOSE

Purpose of this project is to develop a user-friendly auctioning site where the product can be auctioned and provide value added service. Make Secure registration of all users and easy to access. It is open that most people are seeking to buy items every day in most cities and towns, both locally and abroad, desperate if they might get a solution, or a right person to deliver a solution to them

6.3 OBJECTIVE

By making auction through this application will help to reach maximum of buyers bidding in local area. There will be a feature where bidder and seller can message each other. It is manually system time costly because auctioneer and bidder meet physically then required conference room and other facility.

6.4 USE CASE DIAGRAM

USE CASE ADMIN

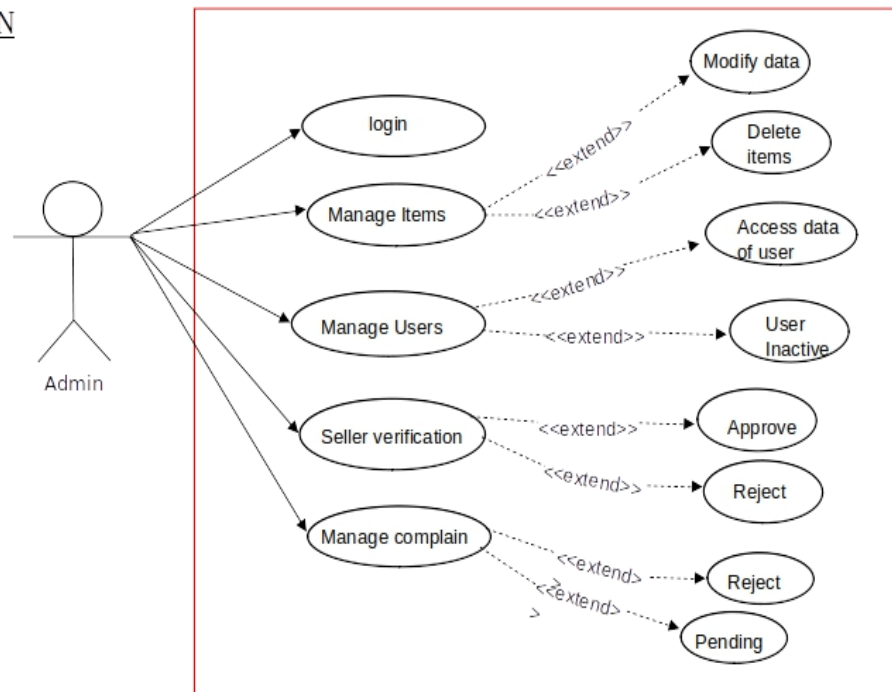


Fig 6.1 Admin Use Case Diagram

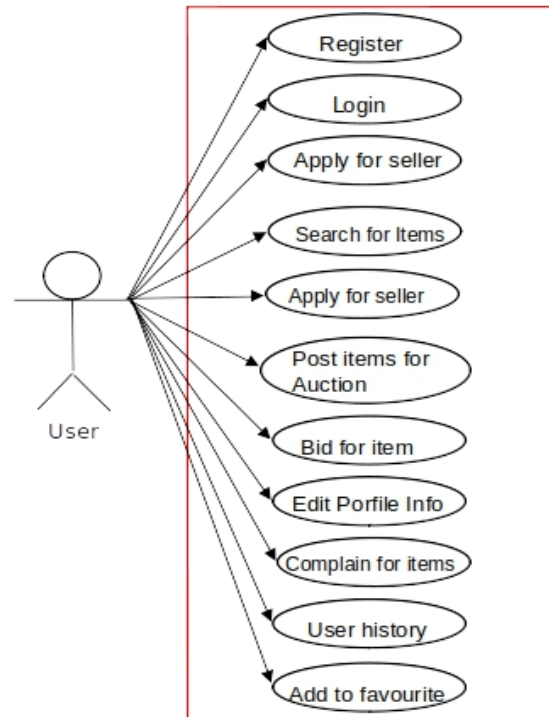
USE CASE USER

Fig 6.2 User Use Case Diagram

6.5 CLASS DIAGRAM

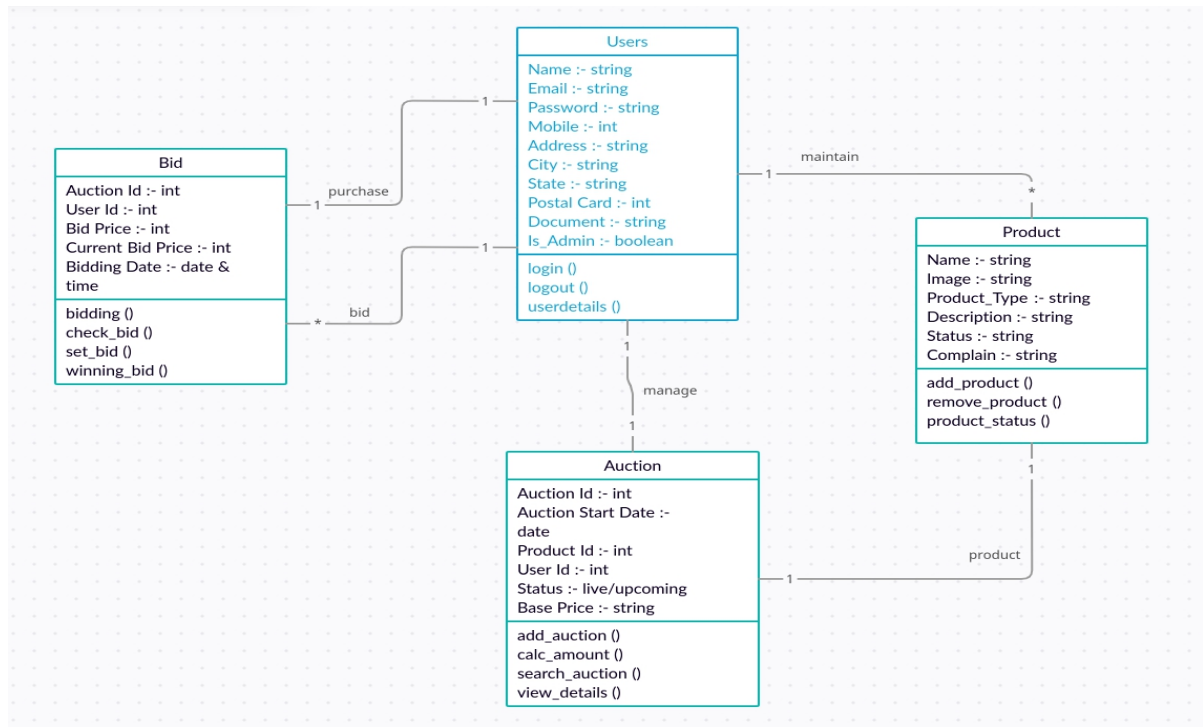


Fig 6.3 Class Diagram

6.6 INTERACTION/SEQUENCE DIAGRAM

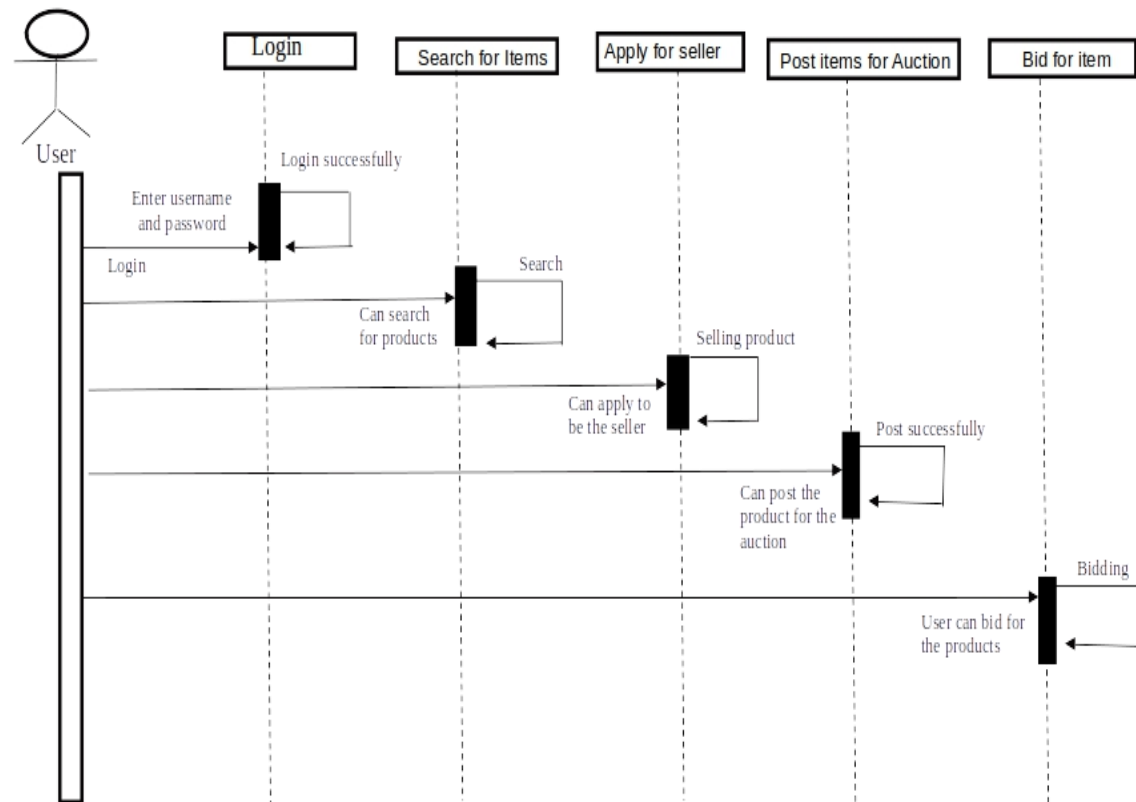


Fig 6.4 User Interaction Diagram - 1

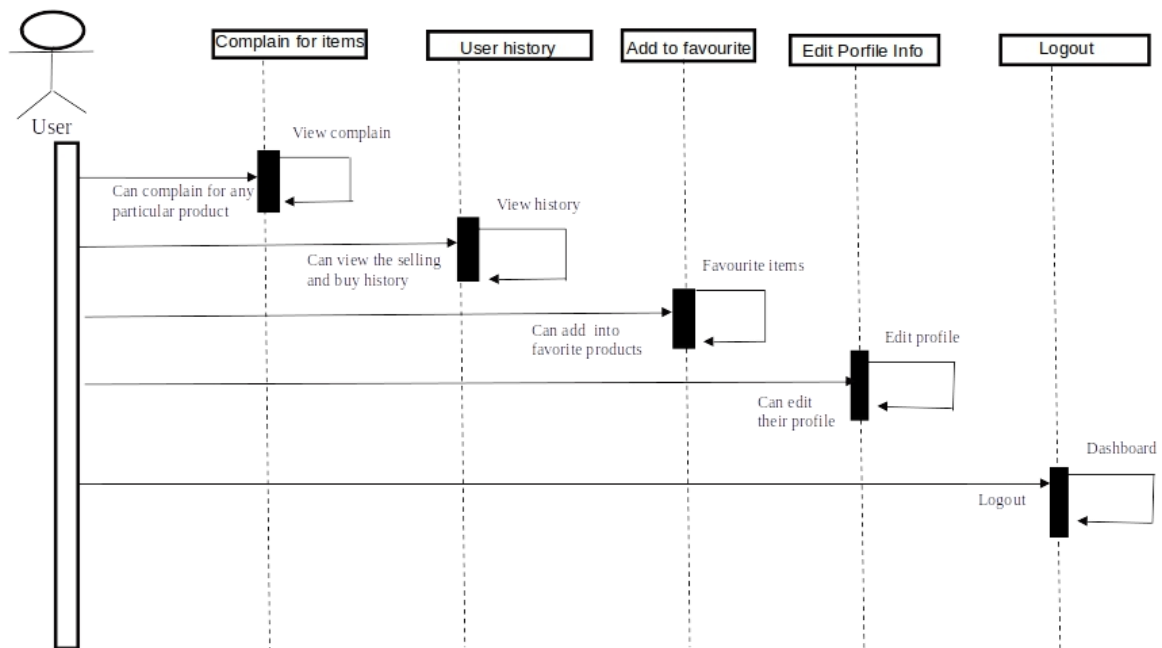


Fig 6.5 User Interaction Diagram - 2

6.7 ACTIVITY DIAGRAM

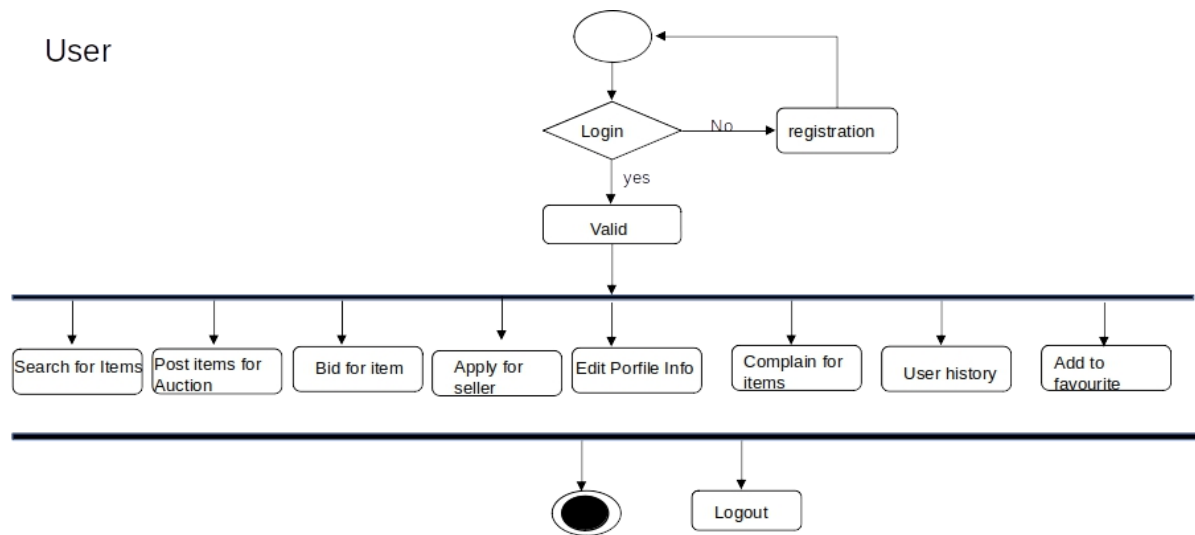


Fig 6.6 User Activity Diagram

6.8 IMPLEMENTATION

After planning and designing database I started implementing it using my learning of angular and node.js. First I created Front-end pages like homepage, search items page, notifications, using Angular. and then created API'S using node.js and express.js.

Search Product Api uses filter based on product's status, bidding startdate, lowest price, etc, we can search product through query, and also sort items.

Here's some Images of Implementation of Online Auction Project:

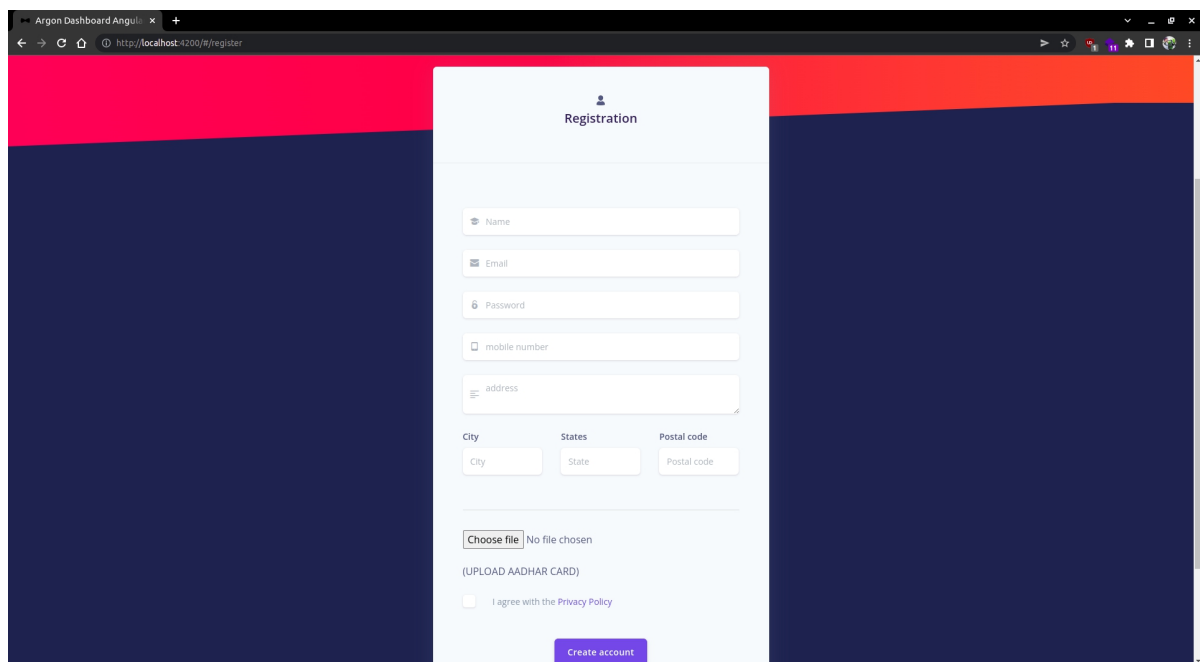
A screenshot of a web browser displaying a registration form. The browser's address bar shows 'http://localhost:4200/#/register'. The page has a dark blue background with a red header bar. The registration form is centered and has a light blue background. It includes input fields for Name, Email, Password, mobile number, and address. Below these are three smaller input fields for City, State, and Postal code. There is a file upload section with a 'Choose file' button and the text 'No file chosen'. Below that is a checkbox for 'I agree with the Privacy Policy'. At the bottom of the form is a purple 'Create account' button.

Fig 6.7 Registration Page

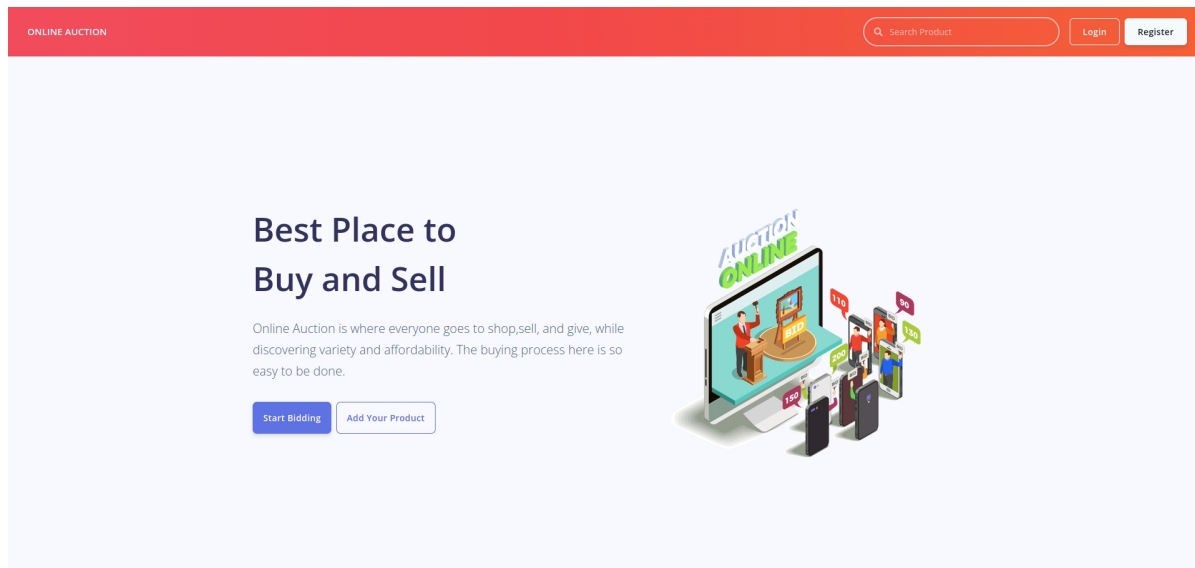


Fig 6.8 Home Page

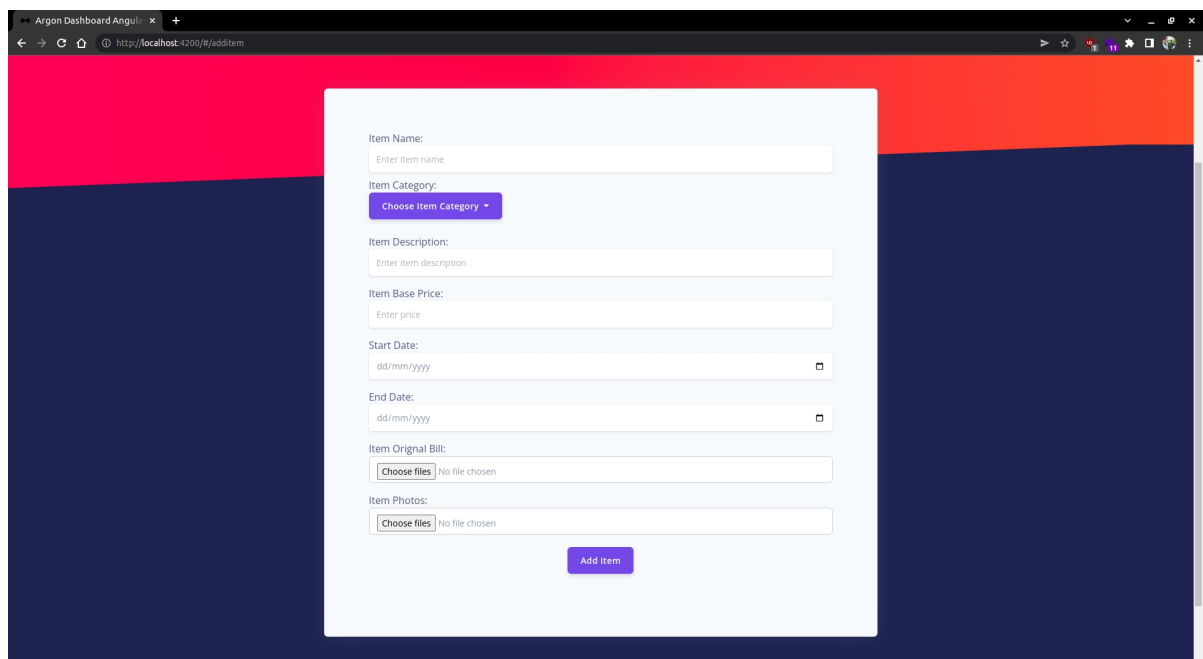


Fig 6.9 Add Product Page

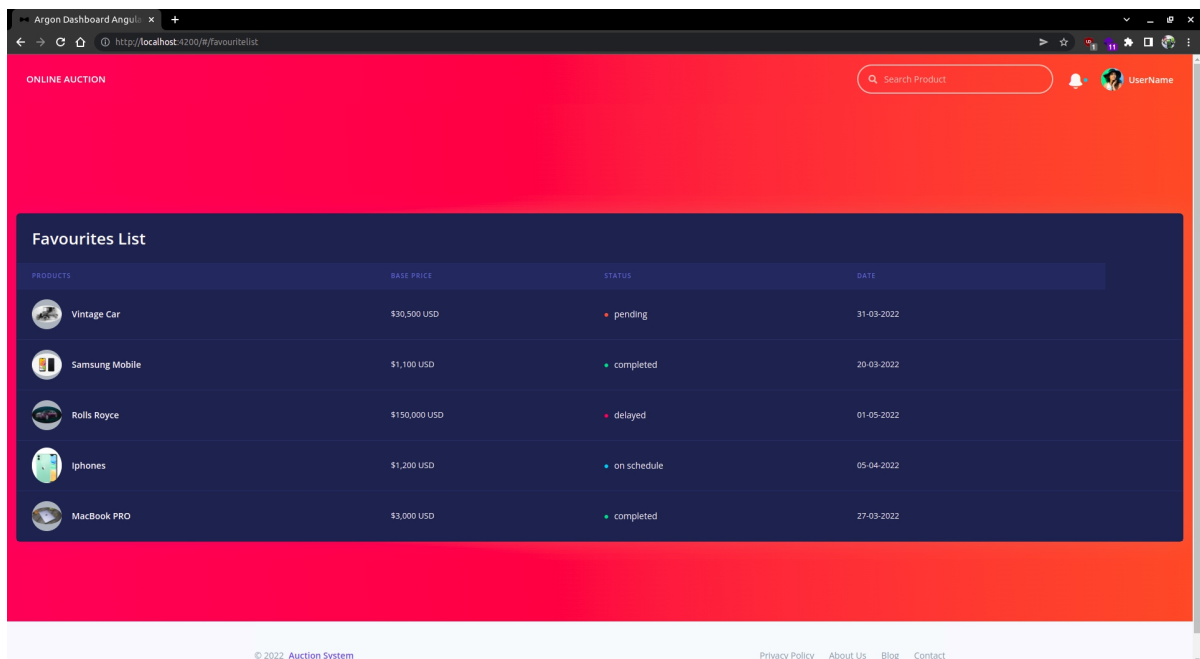


Fig 6.10 Favourite List Page

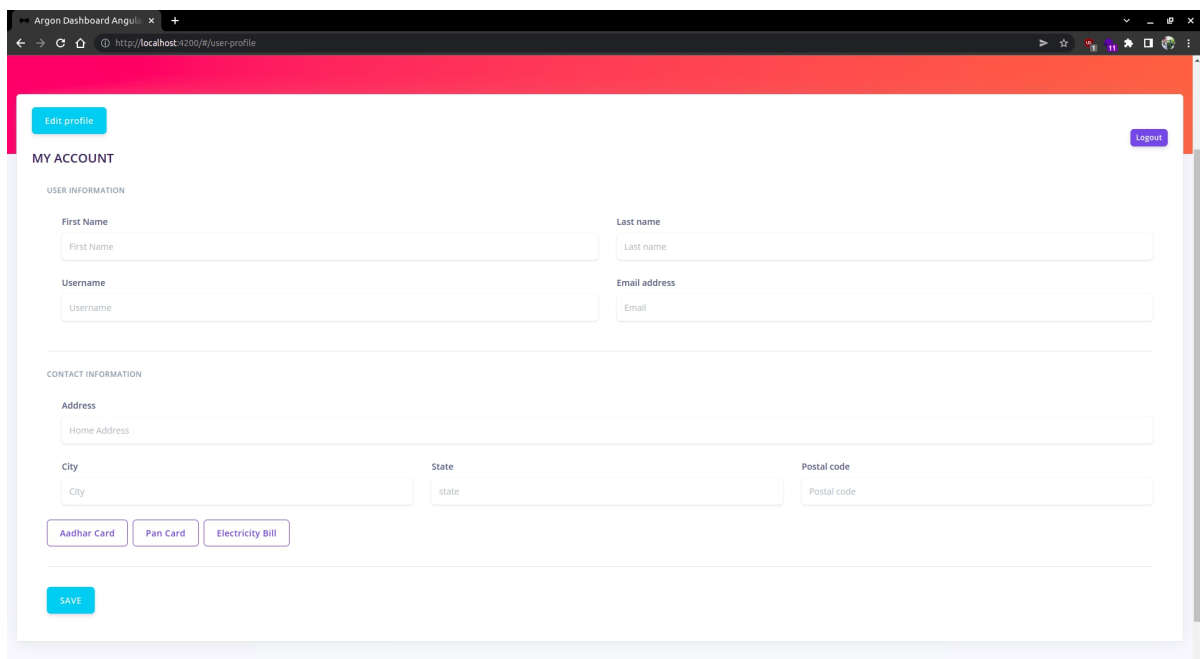


Fig 6.11 User Profile Page

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- 6) <https://expressjs.com/>
- 7) <https://www.mongodb.com/>