Project Title: Toy Station

Group Name: Group-3

Group Members:

- Vaishnavi Shastrula (Project Management Lead)
- Karunya Mekala (Requirements Lead)
- Teja Nagendra Sirigineedi (Configuration Management Lead & Demo and Presentation Lead)
- Sai Sowjanya Edupuganti (Design Lead)
- Katikala Damodar Reddy (Implementation Lead for Frontend)
- Gayathri Vutla (Implementation Lead for Backend)
- Chopra Sai Arani (Testing Lead)
- Preethi Medipelli (Documentation Lead)
- Shraehitha Reddy Banda (System Administrator Lead)

Project Overview:

Description and Features:

Toy Station provides fun and easy shopping for toys to meet the wants of children, parents and toy enthusiasts that can also reduce the time and effort in the shopping process.

The aim of this project is to set up an informational e-commerce site focused on toys with highlighting the approach to the site's usage that will allow the buyers to search the needed toys, make a choice, and make a purchase quickly and easily. It was designed with a focus on user experience, secure transactions to cater a wide range of users.

Features:

Multi-Brand Shopping Experience: Toy Station provides its customers a broad choice of toy brands and enables the user to evaluate different products.

Backend: Node. js, Express. js

Frontend: React. js

Database: MongoDB

Advanced Filtering Options: Filters are used to sort toys according to age, price, type, rating and other attributes, so you don't have to scroll through the list and try to find something interesting among the large number of similar items.

Search Engines: lists with query like MongoDB queries using defined filter functions.

Frontend: React. js

Dynamic Pricing, Discounts, and Coupons: Dynamic Pricing, and Discounts/Coupons are intended to be an important feature used in any application. Pricing is one of these features that help users to get offers and discounts which allow them to buy toys cheaper.

Backend: Node. js, Express. js

Database: MongoDB

Tools: Customized discounting embedded into the backend of the site.

Shopping Cart and Checkout: The shopping cart functionality is to be developed and used so that users are given an ability to modify the content of the cart and go to the checkout page.

Frontend: React. js

Backend: Node. js, Express. js

Local Storage: There is Web Storage together with the JavaScript Application Programming Interface, JavaScript API.

Ratings and Reviews: Customers writing about toys which will assist the other customers when they want to choose a certain toy, while the sellers can also make changes on their toys.

Frontend: React. js

Backend: Node. js, Express. js

Database: MongoDB

Order Tracking, Returns, and Refunds: The ways & means which have been provided by the platform make it easier for the users to track his/her order, managing returns or refunds as per the ease.

Backend: Node. js, Express. js

Database: MongoDB

Payment Gateway Integration: The other APIs that are accessible to manage the online payments are Stripe API, Razor pay API.

Secure and Flexible Payment Processing: A Secure And Flexible System of Payment and Collection. Accepts different forms of payment and implements safe and efficient ways of handling the transactions. For demonstration purposes, we will be developing Mock Payment Integration today.

Integrated Customer Support: Addition of live chat and integrated support services so that customers can get help at different stages of their shopping process and thus, they will have an even better shopping experience.

Live Chat Integration: Provides an instant support chatbot to suit the needs of the customer.

Privacy and Security Settings: All operations which include user's information are end to end encrypted.

Frontend: React. js

Authentication: JWT (JSON Web Tokens) for security regarding access to the systems.

Personalized User Interaction: The users receive the information about last promotions, order status, and individual suggestions through the push notifications and emails.

Notifications: The three channels are Push, E-mail and SMS.

User Profiling and Account Management: Orders can also be tracked, order and profile information can be added and edited and shipping addresses can also be edited.

Frontend: React. js

Backend: Node. js, Express. js

Database: MongoDB

Records users' browsing behavior in the site in order to recommend appropriate products to be displayed, making it easier for customers when shopping.

Search: Echoing a firm's unique customers database, this one includes custom algorithms for tailored recommendations.

Technologies and Tools Used:

Frontend: React. js to provide the listeners the ability to interact with the application and create a smooth and effective user interface using the language of HTML, CSS, and JavaScript.

Backend: Node. js and Express. js for large-scale course development on the server-side.

Database: MongoDB for scalability and versatility of managing data in an application.

Design: Designed for usability that has to be directed at unclear users.

Authentication: For secure authentication and authorizations, the JWT is used.

Hosting: Deployed generally on cloud platforms such as aws, azure, heroku etc to deploy high availability and scalability.

Payment: Compatible with the secured payment gateways such as Stripe or Razor pay, etc., for smooth transactions.

Conclusion:

Toy Station is an e-commerce platform to sell and buy products specifically for children. This one stop shop for toys offers an easy interface to browse and buy the products be it a parent,

guardian or someone who just wants to gift. Users can expect to have a wide range of products from all trusted brands which offer safe and appropriate products. Businesses wanting to reach family audience or Parents/Customers wanting to find a perfect toy for children, Toy station is your go-to platform.

Project Timeline:

Deliverable-1: Project Proposal, Planning, and Risk Management (August 21st – September 9th)

August 21st – August 27th

Teammate Interaction: We always perform interactions just in order to know their past experience and abilities of each team member.

Skill Identification: Finding out the positives in each employee, and what they are good at.

August 28th – September 5th

Project Idea Proposals and Feature Identification: Assemble concepts and find out characteristics that the project may contain.

Team Discussions: Update the overall specifications of the project, its scope and features as well as the choice of technology.

Assign of leads: Make roles for project leads of each stack (Frontend, Backend, Testing, and other).

Risk Management: We should be able to identify the leading risks that their organizations face and come up with the ways to lessen or avoid them.

September 6th – September 8th

Project Proposal: The proposal of the project description, the time frame and possible approaches to risk management.

Presentation and Video: Make a powerpoint on presentation and a 5 minutes video of the project.

September 9th

Submit Deliverable 1:

Due Date: September 9th, 11:59 pm

Submission: Report on GitHub & Canvas (11-point, single-spaced, 5-7 pages)

Presentation: PowerPoint and a 5-minute video presentation on Canvas

Deliverable-2: Specify the requirements of the system and these are as follows (September 10th – September 30th)

September 10th – September 20th

System Specifications: Designing the structure of the database, the service interfaces and the visual maps of the user interface.

Report: Maintaining the report of it. To mention them in the Final report

September 21st – September 30th

Review and Finalize: Team will engage in a discussion of the system specifications report, augmentation of the report, further development of the report and the report finalization.

September 30th:

Submit Deliverable 2:

Due Date: September 30th, 11:59 pm

Submission: Report on GitHub & Canvas (11-point, single-spaced, 10-20 pages)

Deliverable-3: Development Phase-1 (October 1st –October 21st)

October 1st - October 17th

Frontend Development: Start developing features like product listings, login, signup, and shopping cart and others.

Backend Development: Creating product listing APIs, user authentication systems, and CRUD functions for both products and users.

Testing: Examine how well the UI and APIs are integrated.

Recommendation Engine: Begin the first phase of recommendation engine's development.

October 18th –October 21st

Phase 1 Report: Write a 6–10 page report outlining the features and the progress made.

Submit Deliverable 3:

Due Date: October 21st, 11:59 pm

Submission: Code on GitHub, Report on GitHub & Canvas (11-point, single-spaced, 6-10 pages), Core functionalities file on GitHub

Deliverable-4: Development Phase-2 (October 22nd – November 21st)

October 22nd – November 8th

Backend and Database Development: Proceed with the addition of filters, wish list features, order administration, returns, refunds, and notifications.

Frontend Development: Adding filters, wish list, address management, prior order management, return policies, and recommendation engine integration.

Testing: Verify that the front end and back end integrate seamlessly.

November 8th – November 11th

Phase 2 Report: Write a 6–10-page report outlining the features and the progress made.

Submit Deliverable 4:

Due Date: November 11th, 11:59 pm

Submission: Code on GitHub, Report on GitHub & Canvas (11-point, single-spaced, 6-10 pages)

Deliverable-5: Final Development and Testing (November 12th – December 2nd)

November 12th – November 29th

Finalize Development: Finish the frontend and backend, add brand and discount support, and improve the user interface.

Fixing bugs: Put your attention toward debugging and finishing UI details.

November 30th – December 2nd

Final Report and Presentation: Submit the final report, and give demo and submit presentation video.

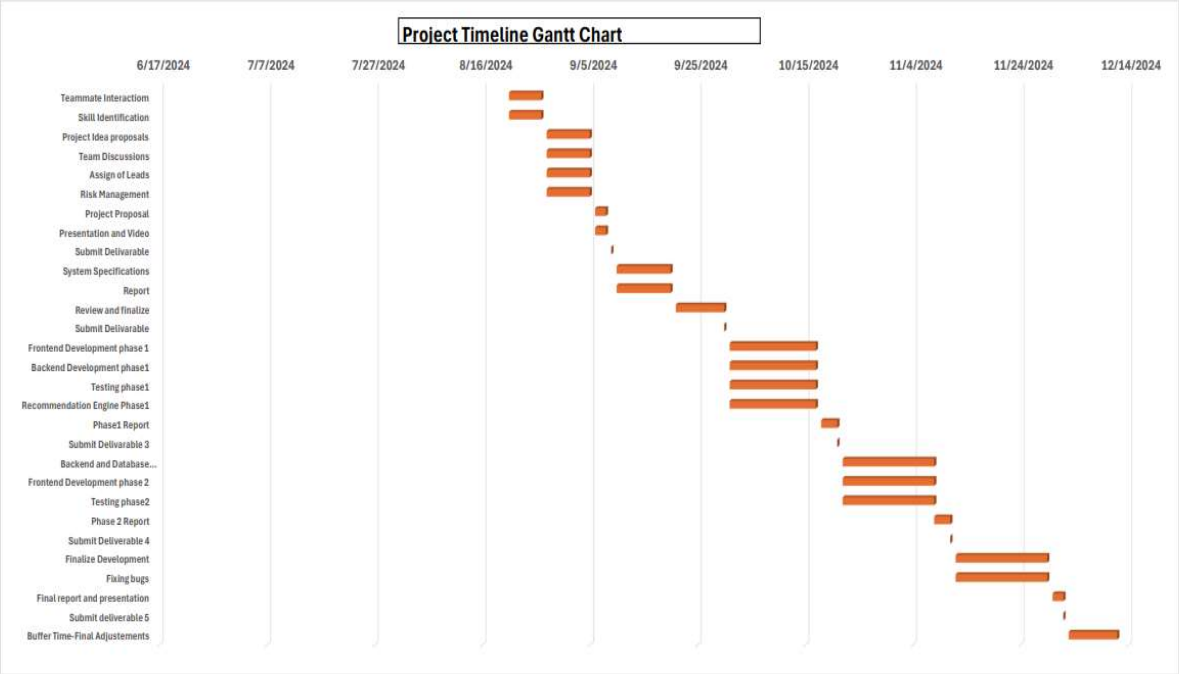
Submit Deliverable 5:

Due Date: December 2nd, 11:59 pm

Submission: Code on GitHub, Report on GitHub & Canvas (11-point, single-spaced, 6-10 pages), PowerPoint and 10-minute presentation & demo (video) on Canvas

Buffer Time (December 3rd – December 12th)

Final Adjustments and Polishing: Utilize this time to finish up any bugs, polish the project, and get ready for the presentation.



Risk Management:

Toy Station's risk management contains identifying possible risks that could affect the project, estimating the risks and the impact that will create on project, and developing strategies to track and reduce these risks.

1. Data Breaches and Cybersecurity Risks:

Monitoring Strategy: Use automated security tools or steps to find vulnerabilities, wrong activities and possible dangers.

Measures: Keep track of login failures and monitor malware activities on the website.

Contingency Plan: Make sure you regularly backup important information and have a strategy in place for data recovery. In the time of data breach, notify customers and provide help.

Backup Plan: To improve security, enable multi-factor authentication during times of high risk.

2. Website Downtime

Monitoring Strategy: Monitor server's and the website's availability by using uptime monitoring tools.

Measures: Calculate uptime percentage. Note the kinds of errors that occur and how frequently they occur.

Contingency Plan: Set up disaster recovery procedures to quickly restore servers. When there is a server outage, use load balancers to divert traffic to backup servers. And notify clients as soon as possible of any outages and times to resolve that.

Backup Plan: To guarantee stability and readiness, regularly test the site's functioning.

3. Payment Gateway Failures:

Monitoring Strategy: Keep track of successful and unsuccessful transactions as well as the length of time it takes to process each payment.

Measures: Average processing time for payments. Rates of transaction success and failure.

Contingency Plan: Provide backup payment methods in case one payment gateways failure by integrating several gateway providers.

Backup Plan: Keep records of unsuccessful transaction details. So it will help customers and the technical support team for future processing.

Team Member Roles:

Vaishnavi Shastrula: (Project Manager)

She monitors

- The overall performance of the project
- Tracks time line and supervises the team members.

Karunya Mekala: (Requirements Lead)

it is responsible for

- Collecting project requirements
- as well as for documenting them.

Teja Nagendra Sirigineedi: (Configurations Management & Demo and Presentation)

Responsible for

- Configuration management, version control, environment setup
- project demos, presentation preparation and delivery.

Sai Sowjanya Edupuganti: (Design Lead) :

Participated in

- The design of the interface
- Creating the prototypes.

Katikala Damodar Reddy: (Implementation Lead for Frontend)

Responsible for

- Creating the frontend elements
- Its combination with the backend.

Gayathri Vutla: (Implementation Lead for Backend)

Responsible for

- The backend
- The interface within the backend and the DB.

Chopra Sai Arani: (Testing Lead)

Responsible for

- The creation of test plans

- The execution of the same.

Preethi Medipelli: (Documentation Lead)

Works on

- currently oversees documentation
- README files created during the project.

Shraehitha Reddy Banda: (System Administrator Lead)

Responsible for

- Server handling
- Deployment.

Member contribution table:

Member Name	**Role**	**Tasks Assigned**	**Overall Contribution(%)**
Vaishnavi Shastrula	Project Management Lead	Project planning, timeline management, risk management, team coordination.	14%
Karunya Mekala	Requirements Lead	Requirements gathering, documentation, wireframes creation.	11%
Teja Nagendra Sirigineedi	Configuration Management Lead	Configuration management, version	16%

	& Demo and Presentation Lead	control, environment setup, project demos, presentation preparation and delivery.	
Sai Sowjanya Edupuganti	Design Lead	UI/UX design, prototyping, design consistency.	12%
Katikala Damodar Reddy	Implementation Lead for Frontend	Frontend development, UI components, integration with backend.	12%
Gayathri Vutla	Implementation Lead for Backend	Backend development, server-side logic, database management.	12%
Chopra Sai Arani	Testing Lead	Testing processes, test plan creation, bug reporting, and management.	12%
Preethi Medipelli	Documentation Lead	Project documentation, README management, report compilation.	11%

Shraehitha Reddy Banda	System Administrator Lead	Server management, deployment, system monitoring.	11%

GitHub README Document :

README.md Content: Toy Station project Repository

##Key Directory Structure

- **/src** - This file contains source code files for frontend and backend
  - **/frontend** - Frontend code (HTML, CSS, JavaScript, React.js)
  - **/backend** - Backend code (Node.js, Express.js)
- **/docs** - This file contains Documentation files
  - **/meeting_minutes** -This file is about Meeting minutes and notes
  - **/planning** - Project planning documents
  - **/reports** - Project reports
- **/config** - Contains Configuration files
- **/tests** - Test scripts and results
- **README.md** - This file

GitHub Directory Structure:

Note:

Project Directory Structure

```
ToyStation-Project/
│
├── src/
│   ├── frontend/          # Frontend code (React components, CSS, etc.)
│   │   ├── components/    # Reusable React components
│   │   ├── pages/         # Different pages of the application
│   │   ├── assets/        # Images, icons, and other assets
│   │   └── styles/        # CSS and styling files
│   │
│   └── backend/           # Backend code (Node.js, Express.js)
│       ├── controllers/   # Backend logic and controllers
│       ├── models/        # Database models (schemas)
│       ├── routes/        # API routes
│       └── utils/         # Utility functions
│
├── docs/                  # Documentation files
│   ├── meeting_minutes/   # Meeting minutes and notes
│   ├── planning/          # Project planning documents (Gantt, PERT charts, etc.)
│   └── reports/           # Project reports and deliverables
│
├── config/                # Configuration files
│
├── tests/                 # Test scripts and results
│
├── public/                # Public files accessible directly (images, static files)
│
└── README.md              # Project overview and directory structure
```

Meeting Minutes:

Meeting 1 Minutes:

Date: August 21st, 2024

Time: 3:00 PM - 3:30 PM

Location: Google Meet

Attendees: All team members

1.Introduction: For introduction every team member introduced himself and also briefly explained his/her role for the project.

2. Shared Previous Experiences: Talked about the origin, and past employment history of each member. Shared related phone numbers as well as the email addresses with the intention of improving on communication. This should be done through administering a project related group in one of the social media platforms.

Meeting 2 Minutes:

Date: August 27th, 2024

Time: 3.00 PM – 4.00 PM

Location: Google Meet

Attendees: All team members

1. GitHub and Trello Setup: Each participant successfully created the accounts in GitHub as well as Trello. The team lead nominated was Teja Nagendra Sirigineedi. Established a group for discussing the matters with the team members.

2. Topic Selection: A sheet was also created in excel entitled 'Project ideas and Features' where every team member was expected to list down ideas about projects to be implemented as well as features to be enhanced. Explored the possible intricate issues that may arise in the assessment of each of the proposed ideas to be deliberated in the next meeting.

3. Team Name:

Agreed with the name of the team as "Group-3 Team.

Meeting 3 Minutes:

Date: September 3rd, 2024

Time: 3: 00 p.m. to 4:00 p.m.

Location: Teams

Attendees: All team members

1. Project Confirmation:

Touched on the different project possibilities and they are not easy. The last call was taken to go ahead with the implementation of ToyStation, the e-commerce site.

Preliminary selection of 15 characteristic features and their ranking by their significance.

3. Technology Selection:

Made a quick assessment and analysis of the team in relation to the different technologies and defined areas of weakness/skill deficit. The technologies were distributed according to the specific skills of the teams that had been developing the software and applications and learning objectives that were to be achieved.

4. Leadership Roles Assigned: Selected the people who are going to take the leadership in each of the stages of the project based on experienced and training backups. Formal introductions were made to the new recruit of the team and how communications would be handled.

Meeting 4 Minutes:

Date: September 5th, 2024

Time: 9 o'clock – 10 o'clock

Location: Google Meet

Attendees: All team members

1. Review of Previous Minutes:

Brought up the minutes of the previous meeting and proceeded to the discussion about project deliverables.

2. Deliverable 1 Discussion:

As part of the reflection process, reviewed the tasks involved and outlined in the Deliverable 1 and some of the complex work. They divided the tasks among the members of the team under consideration in accordance with the preferences and specializations of the latter. We have also planned another meeting on September 6th of such backlogs of the next meeting.

Meeting 5 Minutes:

Date: September 9th, 2024

Time: Late Night Shows; 02:00 PM - 08:30 PM.

Location: Offline/In-person

Attendees: All team members

1. Verified In-Progress Tasks:

Explored each task that was presented in Deliverable 1 and explored their status at present.

Sought to deal with backlogs and meet a deadline of solving these tasks by September the 9th.

The time that can be set aside on September 9th, to work on PPT and video presentation preparation.

2. Offline Meeting:

Scheduled an offline meeting on the agenda for the 10th of September in order to make additional replanning and coordinate the work.