Project Report Format

1. **INTRODUCTION**

1.1 **Project Overview :** The Survey Form Web Application is an innovative and user-friendly platform designed to facilitate the creation, distribution, and analysis of surveys. It caters to a diverse range of users, from researchers and educators to marketers and business owners, providing a seamless and efficient way to gather valuable insights from their target audience. The application's intuitive interface allows users to design custom surveys with minimal effort, making it accessible even to those with limited technical expertise.

1.2 Purpose : The Problem-Solution Fit simply means that you have found a problem with your customer and that the solution you have realized for it actually solves the customer's problem. It helps entrepreneurs,marketers and corporate innovators identify behavioral patterns and recognize what would work and why.

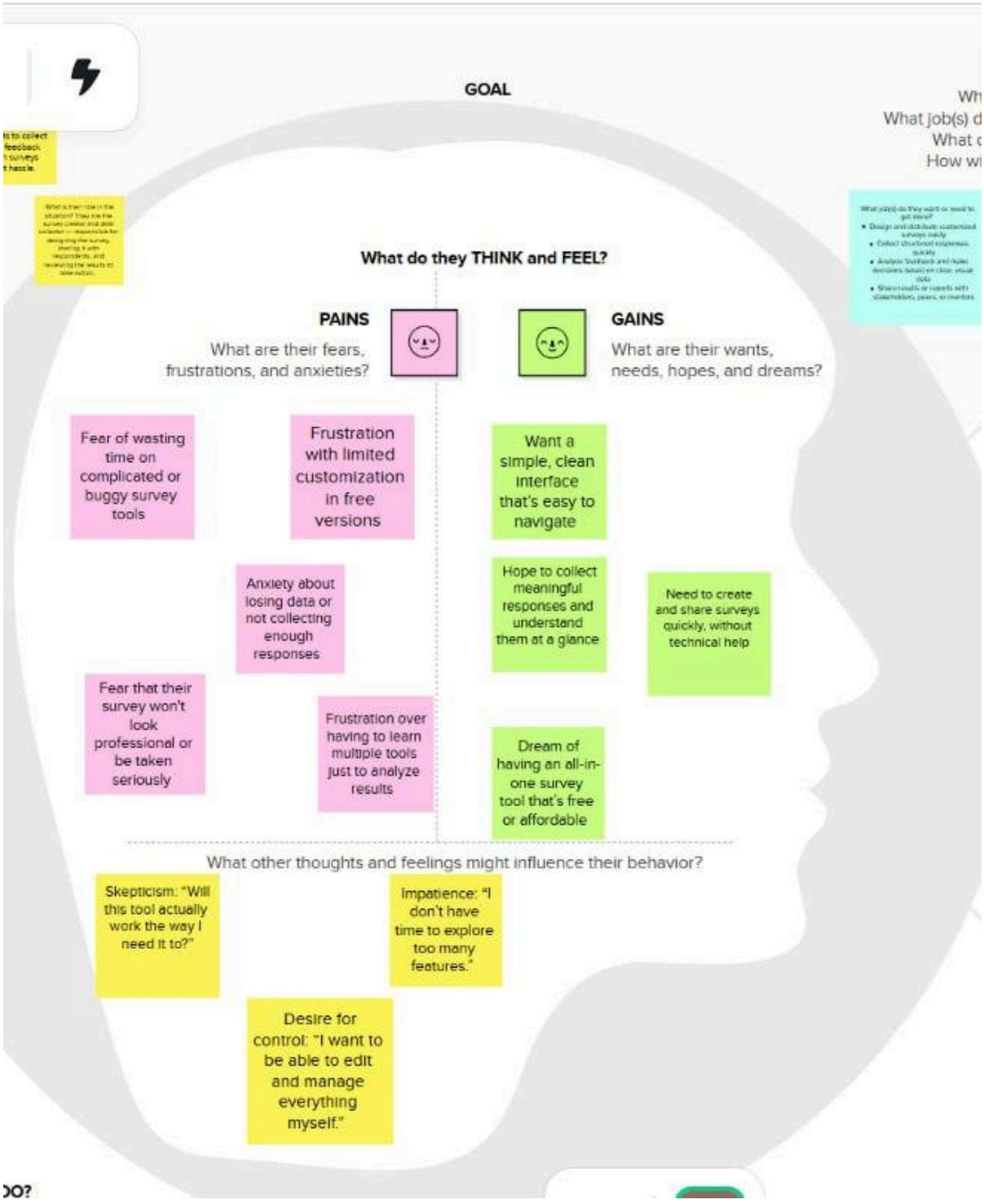
- ❑ Solve complex problems in a way that fits the state of your customers.
- ❑ Succeed faster and increase your solution adoption by tapping into existing mediums and channels of behavior.
- ❑ Sharpen your communication and marketing strategy with the right triggers and messaging.
- ❑ Increase touch-points with your company by finding the right problem-behavior fit and building trust by solving frequent annoyances, or urgent or costly problems.
- ❑ Understand the existing situation in order to improve it for your target group.

2. **IDEATION PHASE**

2.1 Problem Statement :

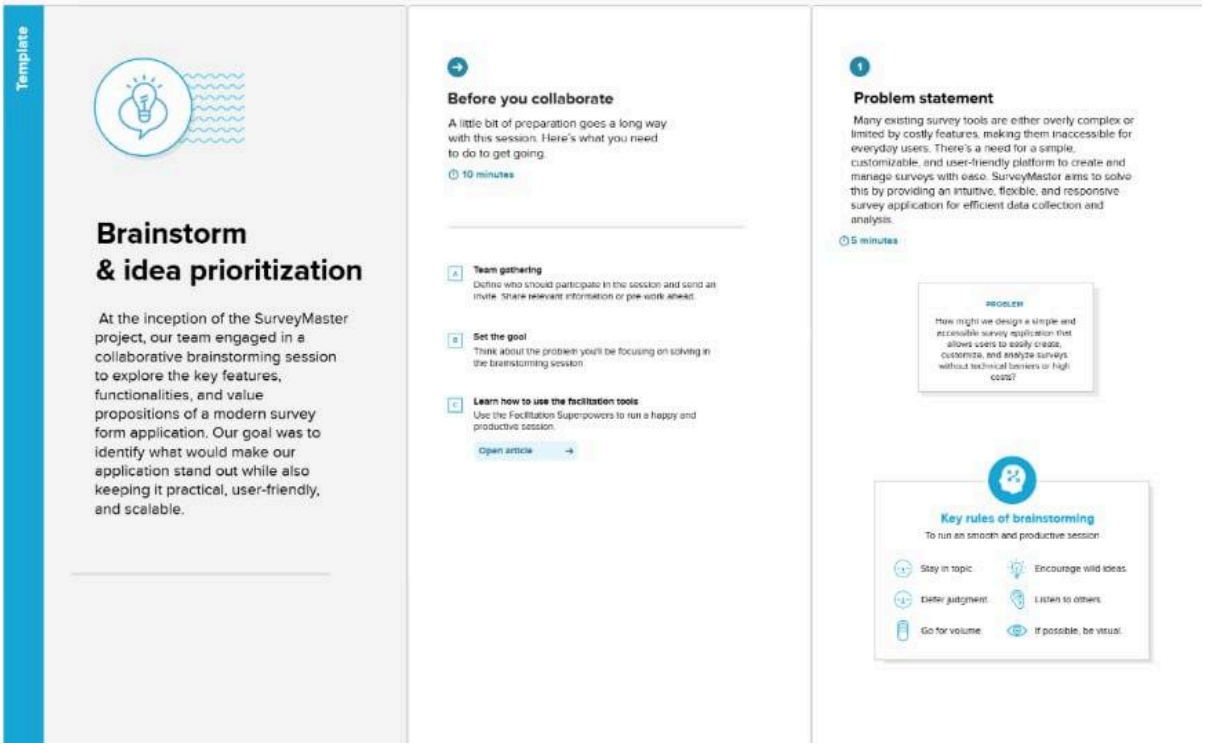
Problem Statement (PS)	I am (Customer)	I'm trying to	But	Because	Which makes me feel
PS-1	A student or teacher with limited technical knowledge	Create and share surveys easily for feedback, research, or quizzes	Most tools are complex or costly	They are designed for enterprises, with features hidden behind paywalls	Frustrated, limited, and discouraged
PS-2	A small business owner or NGO staff member	Collect structured feedback and analyze results quickly	Existing tools are cluttered and hard to navigate	They lack simplicity, mobile support	Overwhelmed, inefficient, and disconnected from my goals

2.2 Empathy Map Canvas : Identified user pain points: manual data collection, time-consuming analysis, and lack of personalization. User needs: Easy-to-use, secure, and responsive survey tools.



2.3 Brainstorming : Solutions discussed:

- A web-based app with role-based access
- Visual result analytics
- Real-time data submission

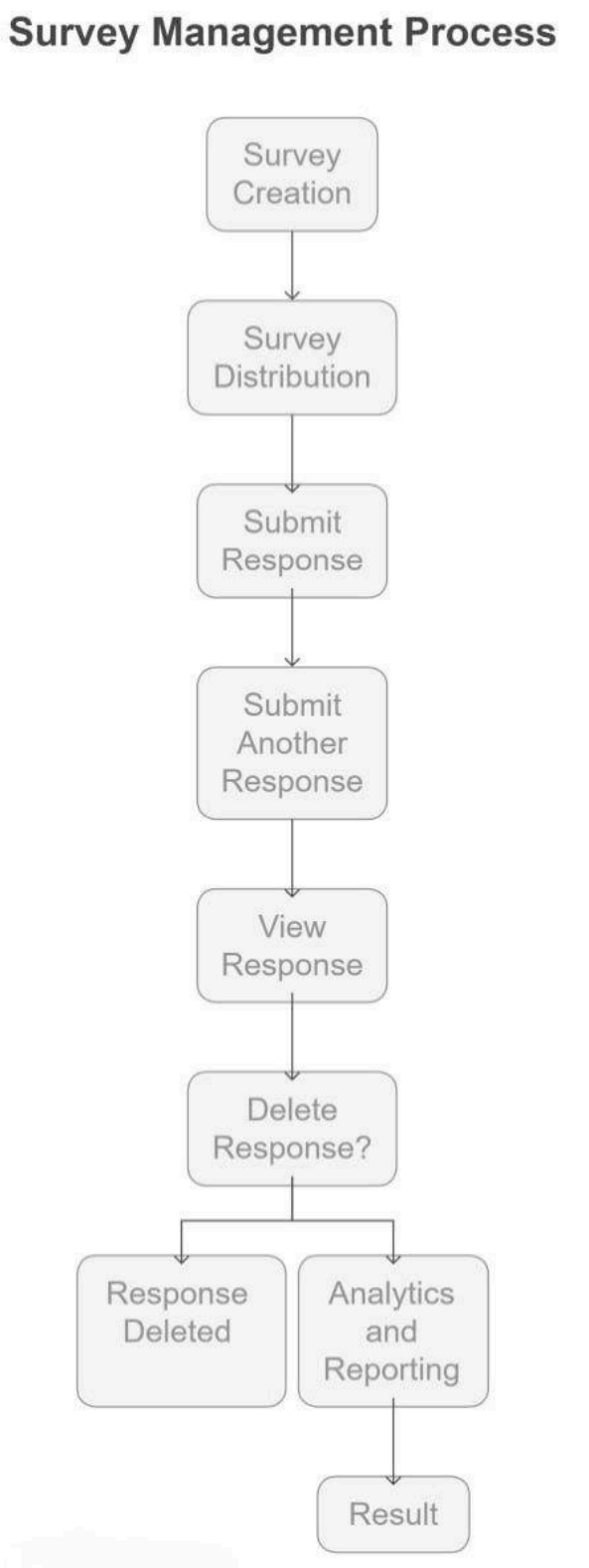


3. **REQUIREMENT ANALYSIS**

3.1 Solution Requirement -

FR No.	Functional Requirement (Epic)	Sub Requirement (Story / Sub-Task)
FR-1	User Registration	Registration through Form Registration through Gmail Registration through LinkedIN
FR-2	User Confirmation	Confirmation via Email Confirmation via OTP
FR-3	Survey Creation	Add multiple question types (MCQ, rating, dropdown, text input) Edit/remove questions dynamically Preview survey before publishing
FR-4	Survey Distribution & Analytics	Distribute via link, email, or website embed View real-time analytics and visual reports Export data to CSV/Excel

3.2 Data Flow Diagram :-



3.3

3.4 Technology Stack :-

Modular Design: The architecture is broken into independent components (UI, logic,storage, APIs) to promote maintainability and scalability.

Cloud-First Deployment: All components are designed with cloud deployment in mind to ensure high availability, elasticity, and global access.

Responsive Design: The frontend is designed to work across all devices—desktop, tablet, and mobile—using responsive web technologies.

Security Best Practices: All data is transmitted over HTTPS, sensitive information is encrypted, and authentication is handled using secure protocols like OAuth 2.0 and JWT.

Separation of Concerns: The application layers (UI, business logic, and data layer) are clearly separated to allow independent development and testing.

Third-Party Integrations: External APIs like Google OAuth and SendGrid are used to enhance functionality without reinventing the wheel.

Data Privacy Compliance: The system is designed to comply with standard data protection laws (like GDPR), ensuring user consent and data confidentiality.

Scalability and Fault Tolerance: The system uses containerization and orchestration tools (e.g., Docker, Kubernetes) to ensure the app can handle varying loads and recover gracefully from failures.

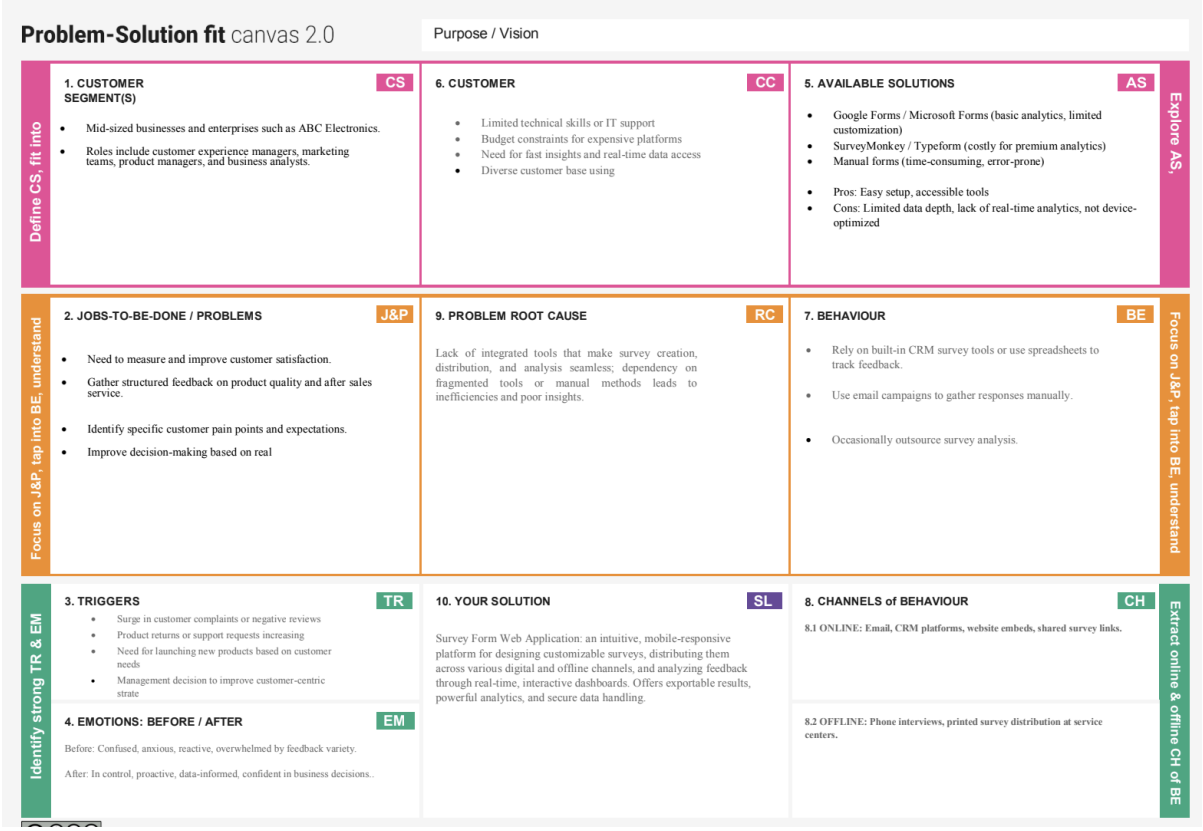
Performance Optimization: Caching layers and CDN services are used to improve load time and reduce server stress.

Extensibility: The architecture allows easy integration of new features such as sentiment analysis or chatbot support in the future.

S.No	Component	Description	Technology
1.	User Interface	Interface for survey creation and participation	HTML, CSS, JavaScript / Angular Js / React Js etc.
2.	Application Logic-1	Handles survey creation and user management	Node.js, Express.js
3.	Application Logic-2	Analytics and reporting module	Python (Pandas, Matplotlib)
4.	Application Logic-3	Optional chat support or assistant module	IBM Watson Assistant
5.	Database	Stores survey data and user info.	MongoDB
6.	Cloud Database	Cloud-hosted database service	MongoDB Atlas
7.	File Storage	Stores exported reports and media	AWS S3
8.	External API-1	OAuth login for users	Google OAuth, Facebook Login
9.	External API-2	Email notifications	SendGrid API
10.	Machine Learning Model	Optional: Sentiment analysis on survey	Custom ML model via Python
11.	Infrastructure (Server / Cloud)	Deployment environment	AWS EC2, Docker, Kubernetes.

4. PROJECT DESIGN

4.1 Problem Solution Fit :

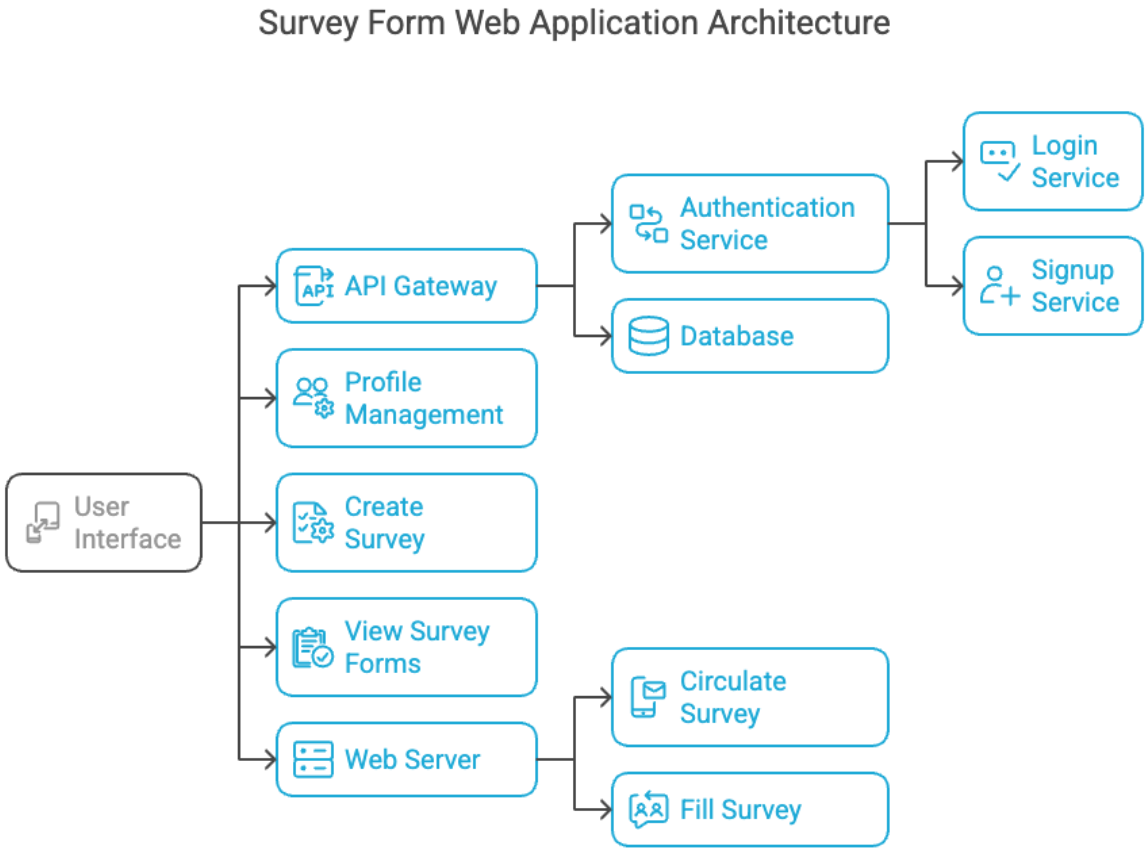


4.2 Proposed Solution :-

1.Problem Statement (Problem to be solved)	ABC Electronics has received mixed customer feedback, especially regarding product quality and after-sales support. The company lacks an efficient, centralized tool to collect and analyze customer insights, making it difficult to identify and address issues promptly. There is a need for a seamless, scalable solution to improve feedback collection and drive customer satisfaction.
2. Idea / Solution description	The proposed solution is the Survey Form Web Application, a user-friendly platform that allows businesses to create, distribute, and analyze surveys effortlessly. It offers various question formats, real-time analytics, data export options, and cross-platform compatibility. It helps businesses like ABC Electronics gather customer feedback to identify problem areas

	and implement data-driven improvements.

4.3 Solution Architecture :-



5. PROJECT PLANNING & SCHEDULING

5.1 Project Planning :-

Sprint 1:

Requirements Gathering & Backend Foundation (6 Days)

Requirements Gathering & Planning - 3

Define core features (survey creation, distribution, response collection, analytics).

Project Setup - 2

Set up Git repo, virtual environment, and Flask app structure.

Initialize MongoDB database (local or Atlas).

MongoDB Integration - 1

Create database schemas/collections:

o users, surveys, questions, responses, etc.

Survey Model & API - 1

Define question types (MCQ, dropdowns, text, etc.) and structure.

Sprint 2: Frontend & Survey Builder (6 Days)

Frontend Setup - 3

Use HTML, CSS (or Tailwind/Bootstrap), and JavaScript.

Survey Builder UI - 3

Allow adding/removing/editing different question types dynamically.Survey Submission & Saving - 1

Handle form data on the frontend and send it to the backend API.

Validation & User Feedback - 1

Add validation for required fields, duplicate questions, etc.

Sprint 3: Distribution & Response Handling (6 Days)

Survey Sharing - 1

Generate unique URLs for each survey.

Responsive Design - 1

Ensure survey forms are mobile/tablet-friendly.

Submit & Store Responses - 1

Build response form pages using Flask.

Basic Response Analytics - 1

responses per question, show simple stats (total responses, most selected option, etc.).

Sprint 4: Dashboard, Export, & Security (6 Days)

Admin Dashboard - 3

Show list of created surveys.

Display stats: number of responses, charts (e.g., bar/pie using Chart.js).

Authentication & Authorization - 3

Implement user registration/login system (Flask-Login).

Restrict survey creation/viewing based on user access.

Security & Finishing Touches - 3

Sanitize inputs to avoid injection.

Use HTTPS and secure session handling.Total Story Points

- **Sprint 1 = 7**
- **Sprint 2 = 8**
- **Sprint 3 = 4**
- **Sprint 4 = 9**

Velocity= Total Story Points Completed/ Number of Sprints

Total story Points= 7 + 8 + 4 + 9 = 28

No of Sprints= 4

Velocity = (28/4)= 7

7 (Story Points per Sprint)

Our team’s velocity is 7 Story Points per Sprint.

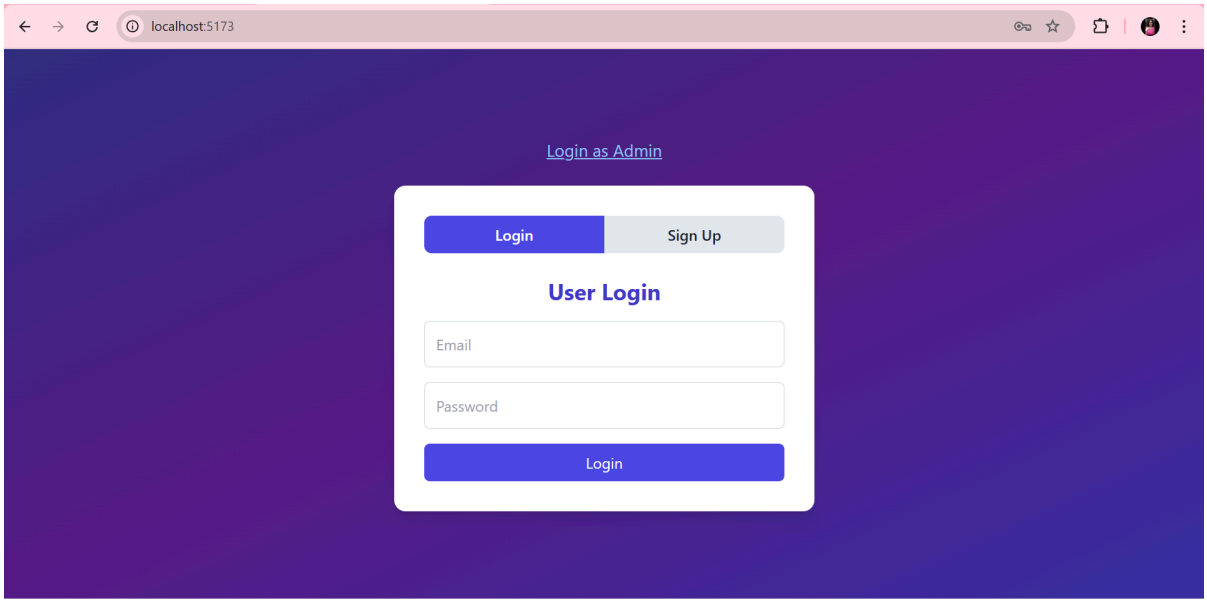
6. Performance Testing :-

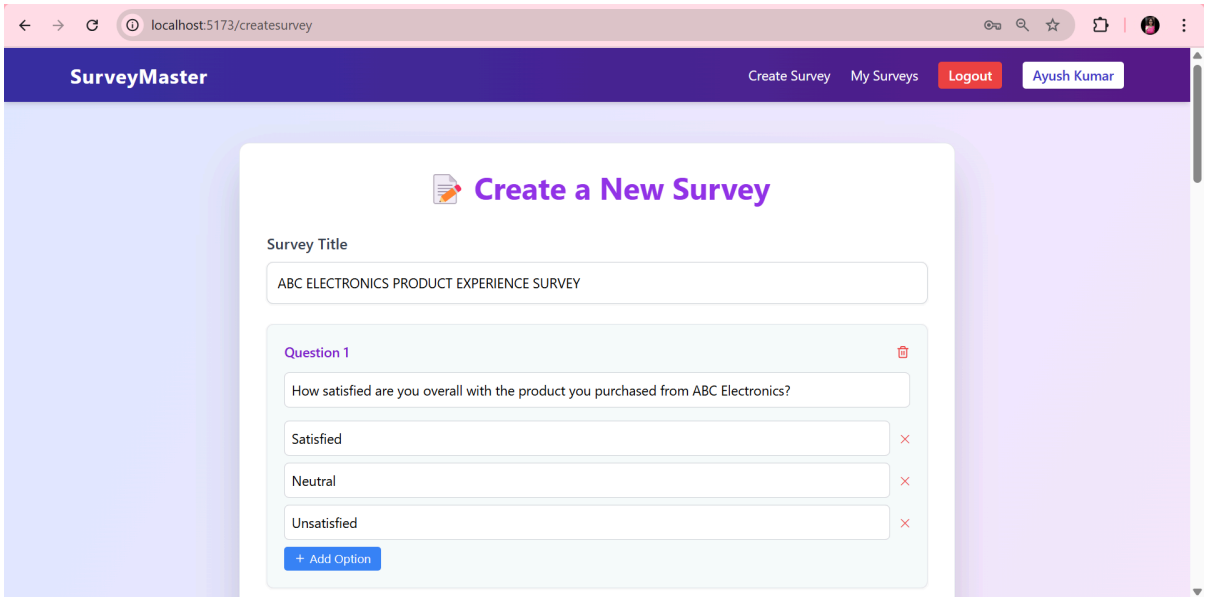
Test Cases:

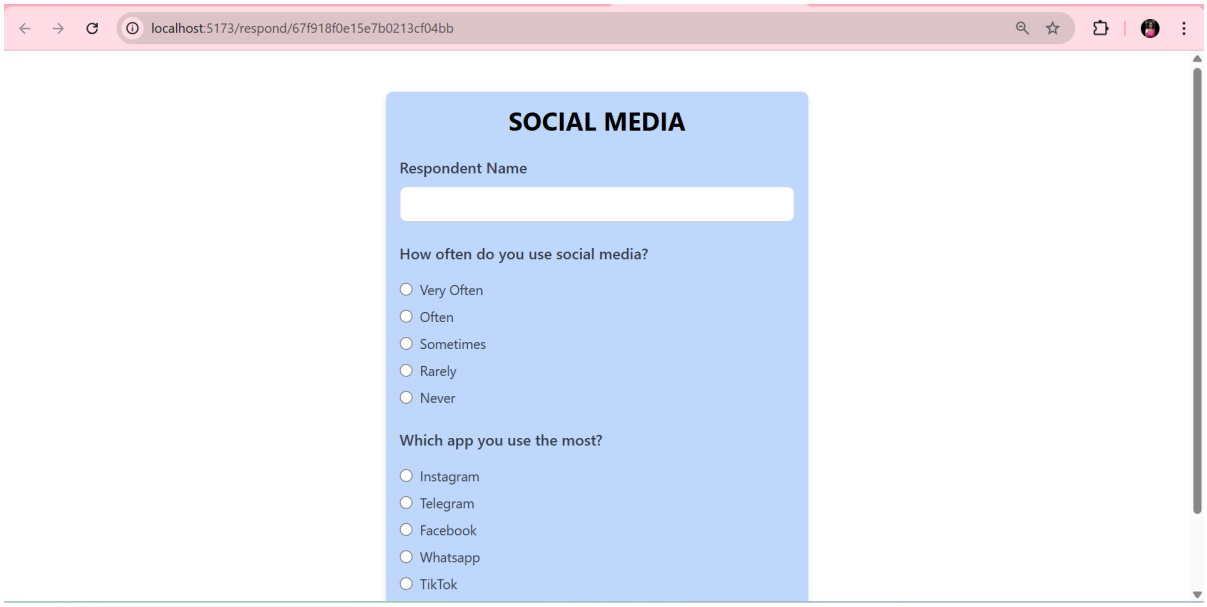
Test Case ID	Test Scenario	Test Steps	Expected Result	Actual Result	Pass/Fail
TC-001	Create and publish a basic survey form	1. Login to the SurveyMaster app 2. Click “Create New Survey” 3. Add questions 4. Click “Publish”	Survey is saved and published with a shareable link	Survey published successfully with active link	Pass
TC-002	Customize survey theme	1. Open an existing survey 2. Go to “Theme” tab 3. Select colors and fonts 4. Save changes	Survey theme updates as selected	Theme reflected correctly in preview and link	Pass

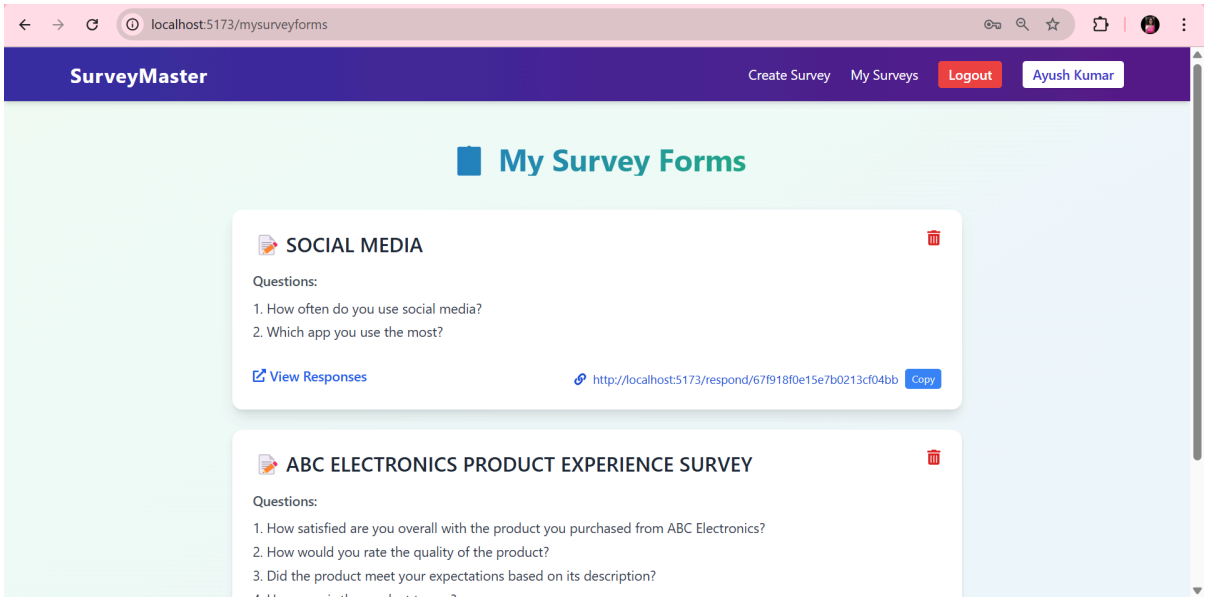
7. RESULTS

7.1 Output Screenshots :- User Page

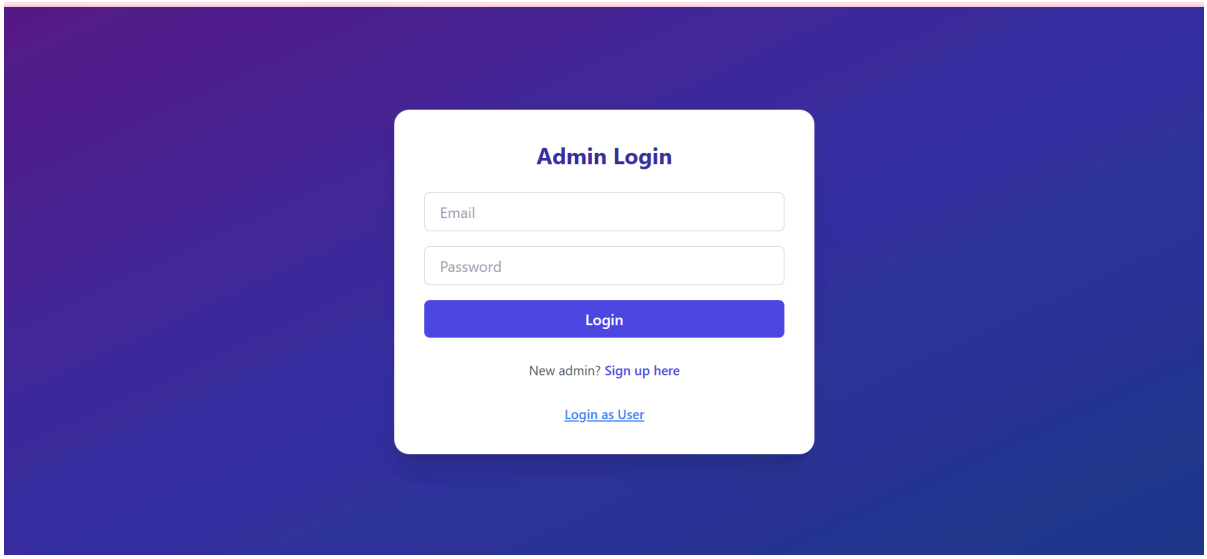


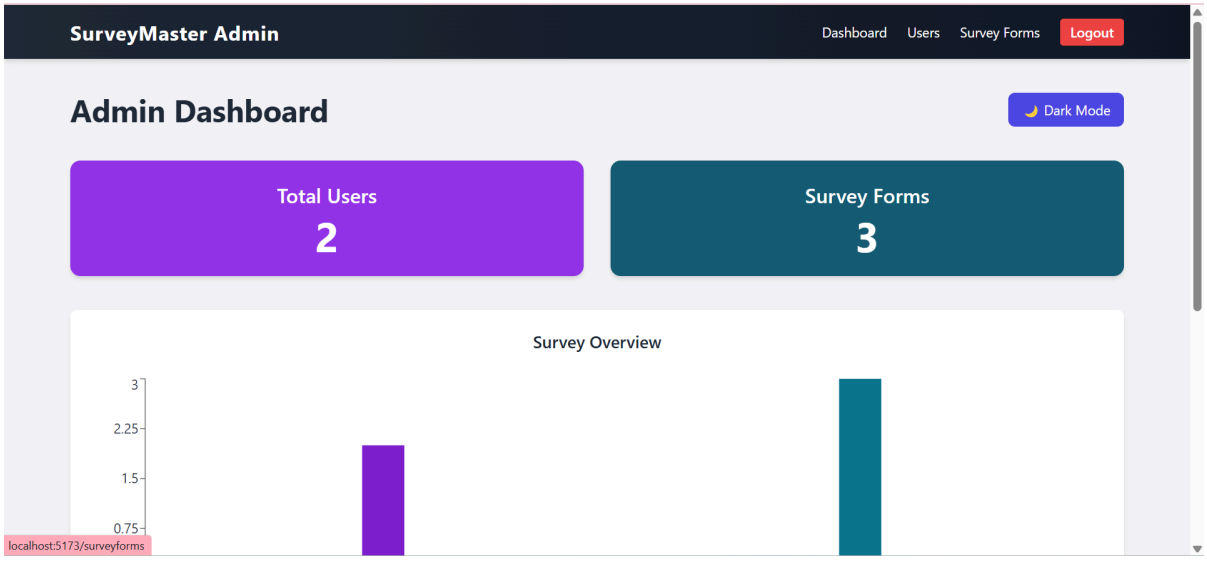


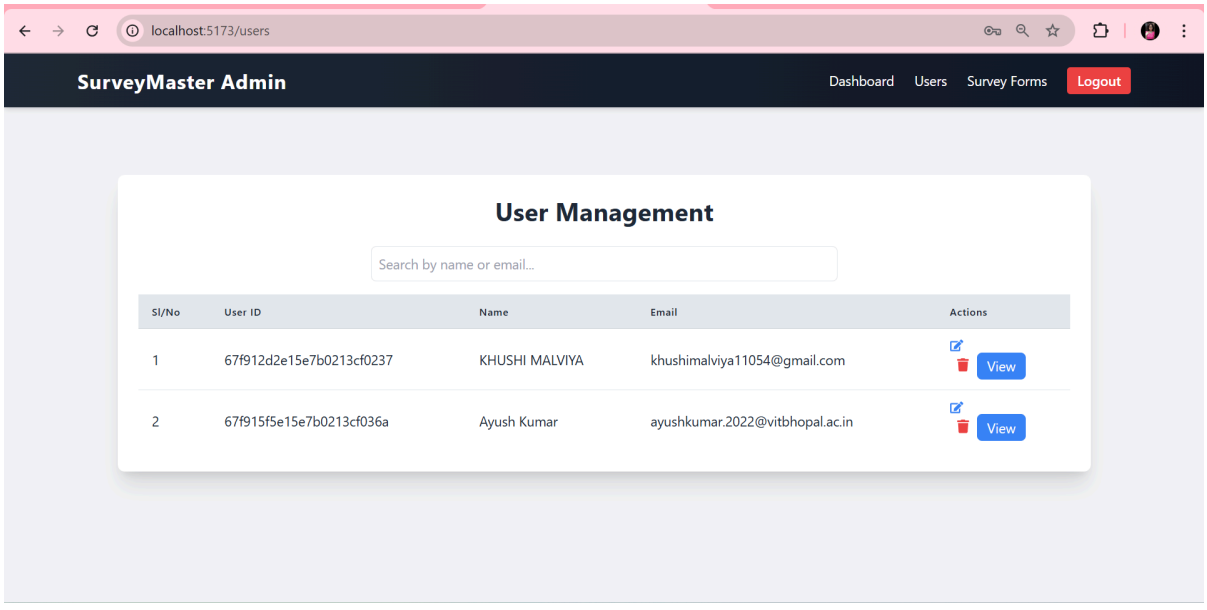




ADMIN ACCOUNT PAGE:


Admin Login
Email
Password
Login
New admin? Sign up here
Login as User


SurveyMaster Admin
Dashboard
Users
Survey Forms
Logout
Admin Dashboard
Dark Mode
Total Users
2
Survey Forms
3
Survey Overview
3
2.25
1.5
0.75
localhost:5173/surveyforms


localhost:5173/users
SurveyMaster Admin
Dashboard
Users
Survey Forms
Logout
User Management
Search by name or email...
Sl/No
User ID
Name
Email
Actions
1
67f912d2e15e7b0213cf0237
KHUSHI MALVIYA
khushimalviya11054@gmail.com
View
2
67f915f5e15e7b0213cf036a
Ayush Kumar
ayushkumar.2022@vitbhopal.ac.in
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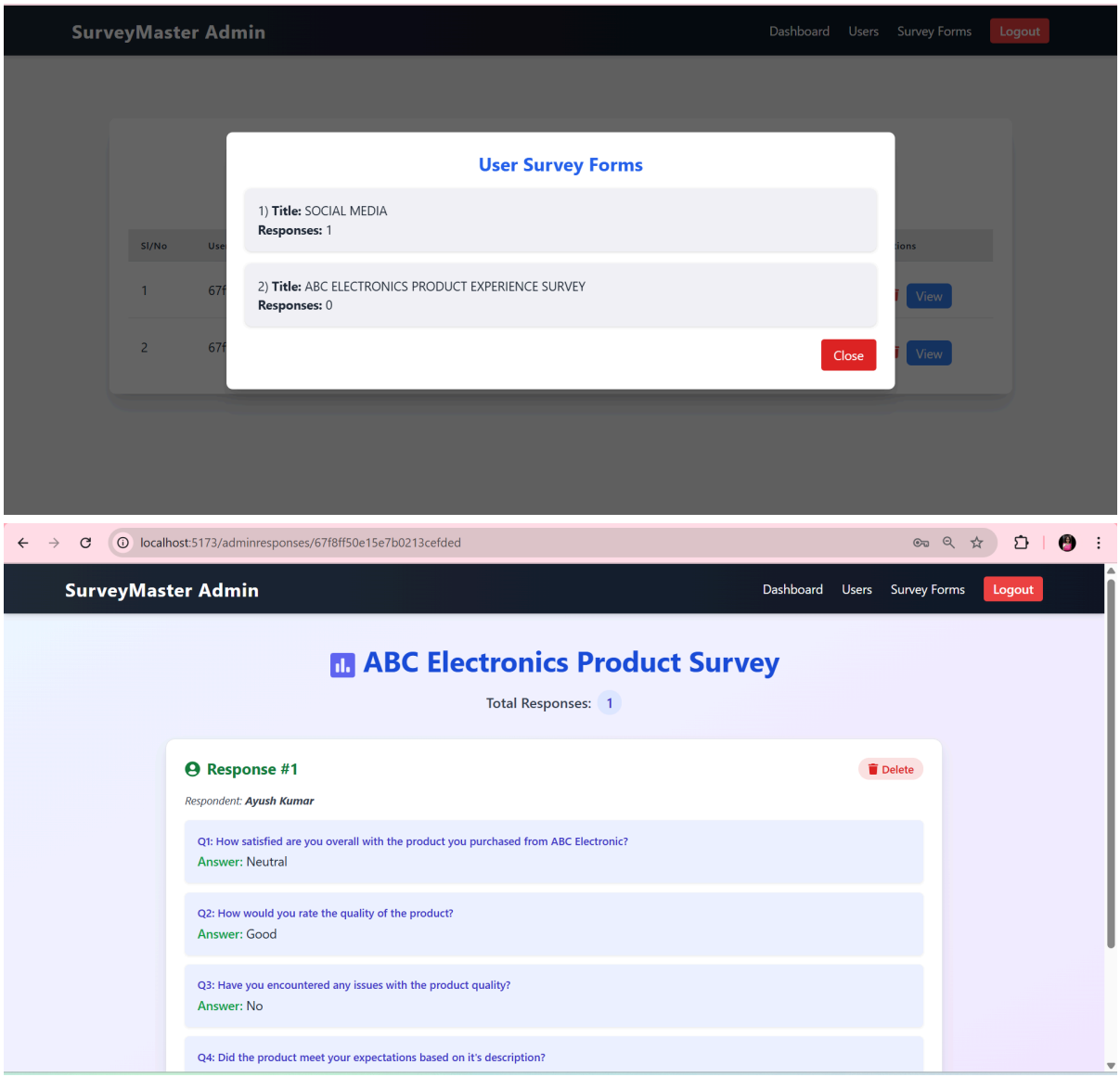

Link for the demo video : - https://drive.google.com/file/d/1iSA_SDdiexkV1q88JeMKyCxEErBTaA8h/view?usp=drive_link

8. ADVANTAGES & DISADVANTAGES :-

Advantages:

- Easy to use
- Secure login and access control
- Real-time updates

Disadvantages:

- Limited question types
- Lacks offline mode

9. CONCLUSION :-

The project successfully delivered a modern, responsive survey platform enabling smooth creation and analysis of surveys for diverse use cases.

10. **FUTURE SCOPE :-**
    - Add more question types
    - Export results to PDF/CSV
    - Offline access to fill surveys
11. **APPENDIX**

    Github Link - https://github.com/khushi-malviya/SurveyMaster

    Demo Link - Demo Video