

HACKATHON PROBLEM STATEMENT

Fusion Hack 2025 — In Collaboration with SDC × SPARSHNFC × NEXGEN

Frontend Problem Statements

Problem 1: Research and Design a Website in Figma

Objective:

Research and conceptualize an **NFC card-based business**, then create a **complete landing page design** in Figma.

Key Focus:

The landing page should be **modern, visually appealing, and user-friendly**, designed to **guide visitors seamlessly toward conversion** (e.g., requesting a demo, or making a purchase).

Expected Outcome:

- A **fully designed landing page in Figma** that communicates the NFC business/product effectively.
- Clear **user journey** from awareness to conversion.
- Ready-to-hand-off design for further implementation or marketing use.

Problem 2: UI Implementation from Figma Design

Objective:

Develop a **fully responsive frontend** that replicates the provided Figma design with pixel-perfect accuracy.

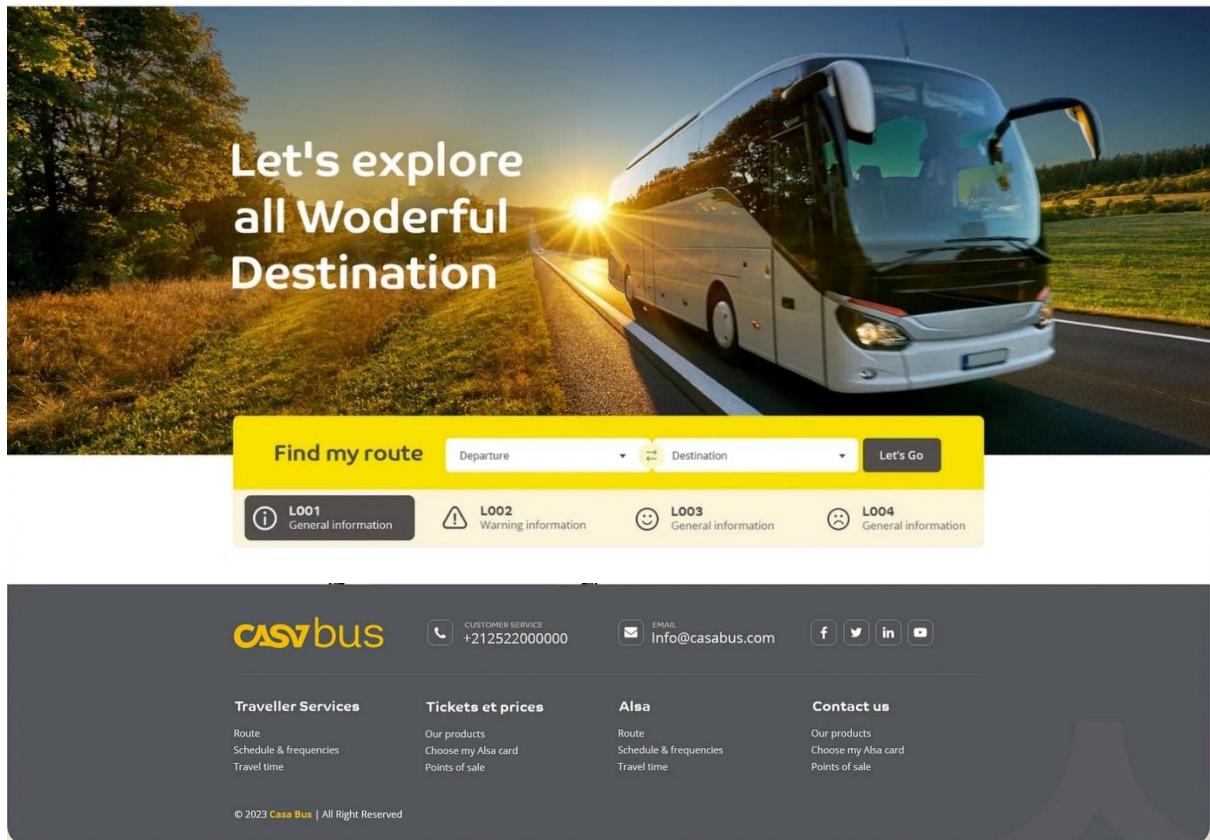
Participants are required to:

1. Implement all screens and components exactly as shown in the Figma design.
2. Ensure responsive layouts for desktop, tablet, and mobile views.
3. Use modern frontend technologies (HTML, CSS, JavaScript, or frameworks like React/Vue) to match interactions, animations, and UI behavior in the Figma file.
4. Follow design specifications.

figma Link :- <https://www.figma.com/design/U AwMO3APurvcmOEUpIplNKf/Untitled?node-id=0-1&t=IL7pN3i8tir6RkQ2-1>

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Problem 3 : Implement below image using HTML, CSS, and JavaScript



Problem 4: User-Choice Frontend Project

Participants will create a **frontend project of their choice** (e.g., landing page, dashboard, portfolio, product showcase) while **fulfilling the required criteria** listed below. This allows creativity while ensuring essential frontend skills are tested.

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Backend Problem Statements

Problem 5: User Authentication

Objective:

Implement a secure system for user registration and login.

Requirements:

- Users can **register** with email/username and password.
- Authentication can be implemented using **JWT tokens** or **sessions**.
- Ensure proper **password validation**

Expected Outcome:

- A working authentication system where only registered users can access certain endpoints.

Problem 6: Product Management – CRUD Operations

Objective:

Create a system where administrators can manage products efficiently.

Requirements:

1. **Create:** Add new products with fields.
2. **Read:** Fetch all products or a single product by ID.
3. **Update:** Update product details.
4. **Delete:** Delete a product.
5. **Data Storage:** Store products in a database.

Expected Outcome:

- Fully functional backend API allowing admins to **create, view, update, and delete products.**

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Problem 7: Job Search & Filter System

Objective:

Build a backend system that allows users to **search and filter job listings** efficiently.

Requirements:

1. Search Functionality:

- Search by keywords (e.g., "web Developer").
- Partial and case-insensitive matches.

2. Filtering Options:

- Filter by **Location** (e.g., Surat, Bangalore)
- Filter by **Domain/Role** (e.g., Web Developer, Data Science)
- Filter by **Company** (e.g., Infosys, TCS)

3. Combined Filters:

- Apply multiple filters together.
- Example: Domain = Web Developer + Company = Infosys + Location = Surat.

Expected Outcome:

- API that returns relevant job listings based on search and filter criteria.

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Problem 8: User-Driven Content Posting System

Objective:

Design a system where registered users can **create posts and comments**, with proper ownership control.

Requirements:

1. User Authentication:

- Only registered users can create posts or comments.

2. Post Creation:

- Users can create posts in multiple formats (text, image).

3. Post Ownership & Deletion:

- Only the **author** can delete their post.
- No other user can modify or delete it.

4. Comment System:

- Any registered user can comment on posts.
- Only the **comment author** can delete their comment.
- Post authors **cannot delete others' comments**.

Expected Outcome:

- Backend API allowing users to **create posts, comment, and manage content** securely with ownership rules enforced.

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Post & Video Creation Problem Statements

Problem 9: Personal Brand Card Design

Objective:

Design a **personal brand card** that represents an individual's identity professionally. The card should clearly showcase the person's **name, role, contact information, and branding elements**, and be visually appealing for sharing digitally or in an NFC-enabled application.

Requirements:

1. Card Content:

- Full Name
- Title / Role / Profession
- Contact details (phone, email, social links)
- Optional: Short tagline or personal motto

2. Design & Branding:

- Use a **consistent color palette, typography, and layout** reflecting the individual's brand.
- Include **profile image or logo** if desired.
- Ensure **visual hierarchy** for easy reading.

3. Interactivity (Optional):

- Hover effects, clickable links, or QR/NFC integration for digital sharing.

4. Format & Responsiveness:

- Design should work for **digital sharing** (social media, email, app) and adapt to **different screen sizes**.
- Maintain clarity and aesthetics even at smaller sizes.

5. Creativity & Professionalism:

- Showcase **personal branding** through colors, fonts, icons, or unique design elements.
- Keep a **clean, modern, and professional look**.

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Expected Outcome:

- A **polished personal brand card** that can be shared digitally or integrated into NFC applications.
- Demonstrates **design sensibility, clarity, and professional branding**.
- Ready-to-use Figma design with clear content hierarchy and visual appeal.

Problem 10: Post Redesign Challenge

On Hackathon Day, you will be provided with an existing post. Your challenge is to redesign the post to make it more impactful and engaging.

Your redesign must focus on:

- 💡 **Innovative visuals** – creative layouts, graphics, and design elements.
- 📝 **Crisp, engaging content** – short, clear, and attention-grabbing text.
- 🎯 **Strong storytelling through design** – a flow that connects with the audience.
- 📌 **Goal:** Transform the given post into a version that is visually appealing, communicates effectively, and leaves a lasting impression

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Problem 11: video Challenge

Objective:

Create a complete video from scratch that looks refined, creative, and engaging.

Your video should show:

- 🎨 Creativity in idea and design
 - ✨ Good detailing with smooth edits and visuals
 - 🎯 Clear storytelling that connects with viewers
- 📌 **Goal:** Make a video that is polished, eye-catching, and delivers a strong message.

Problem 12: content creation Challenge

Objective:

Create a 1-minute Reel that is engaging, creative, and delivers a clear message.

Requirements:

- Duration must be within 60 seconds
- Use creative storytelling, captions, or voiceover
- Ensure content is crisp, engaging, and easy to understand
- Focus on originality and audience appeal

Expected Outcome:

A scroll-stopping 1-minute Reel that captures attention, communicates effectively, and leaves an impact.

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App Development problem statement

Problem 13: User Authentication App

Objective:

Build a secure user authentication system with registration and login features.

Requirements:

- Users can register with email/username and password
- Authentication must be handled using JWT tokens or sessions
- Enforce proper password validation (length, complexity, etc.)
- Only registered and logged-in users can access protected endpoints

Expected Outcome:

A working authentication app where users can securely sign up, log in, and access restricted resources.

Problem 14: Static E-Commerce App

Objective:

Develop a mobile app (Flutter/Android) that demonstrates a simple e-commerce flow.

Requirements:

- **Splash Screen** → Display app logo/name on launch
- **Onboarding Screens** → 2–3 screens explaining app features
- **Login & Logout** → User authentication (static)
- **Product Listing** → Show product images with names & prices
- **WhatsApp Chat Option** → Button to open a direct chat via WhatsApp

Expected Outcome:

A functional mobile prototype app where users can explore a product catalog, log in/out, and contact via WhatsApp.

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Open Innovation

Problem 15: Open Innovation Challenge

Objective:

Think beyond fixed problem statements! Identify a real-world problem in any domain (tech, social, business, education, environment, etc.) and propose an innovative solution using technology, design, or creative ideas.

Guidelines:

- Define the problem statement clearly
- Explain your proposed solution and its impact
- Build a prototype, demo, or concept design to showcase your idea
- Focus on innovation, feasibility, and creativity

Expected Outcome:

A unique, impactful project that solves a real problem with a fresh approach, showing your team's originality and vision.

What's Next?

Form your team, brainstorm innovative solutions, and be ready to present your ideas at **Fusion Hack 2025!**

- 👉 **Register here:** <https://fusionhackathon2025.netlify.app/>
 - 👉 **Check rules & guidelines:** Available on Website
 - 👉 **Event Date & Time:** 12 September (9 am to 4 pm)
 - 👉 **Venue:** Lab no: 303 Bhagwan Mahavir Polytechnic
- 💡 This Problem Statement is powered by **SDC × SPARSHNFC × NEXGEN**.

We're excited to see your creativity in action — let's build the future together!