HackINSAN 2024 Project Report

Hack Wizards | Madani IT

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Source of Inspiration

We received the problem statement from Madani IT Experts, which had asked us how to integrate IT, UAV and GIS to improve daily tasks. While we went through the target requirement, we thought about the possible challenges that the government, students, property agents or event organisers are currently facing. We were reminded of one of our member's mom, who was tasked to organise an event for her company. She struggled to survey locations because most resources don't provide complete information such as the layout and the facilities provided. Even after she found the perfect place, she had a hard time to plan out the events because it involved making tentatives, record attendees, etc, and these require too many sites or apps to use. We all felt bad for her when our friend told us about it. That was when we thought to easen organisers' work using only one website, thus EventMaster came to life.

Project Overview

EventMaster is an innovative IT platform designed to streamline event planning and maximise facility utilisation. Organisers begin by registering and creating an account, followed by selecting from various subscription plans. Once registered, organisers can efficiently plan their events using our key features: an interactive GIS map with detailed aerial views, vendor and attendee management tools, and robust IT analytics. The interactive GIS map allows organisers to select event locations, set dates and times, and view available facilities, aided by UAV-captured aerial images for enhanced layout visualisation. Additionally, organisers can utilise customizable event templates and manage vendor and attendee details through a centralised form, simplifying event coordination. A dedicated page provides comprehensive insights into past events through intuitive charts and graphs, offering valuable metrics on event types, locations, and frequencies.

Development Process

In the process of developing this website, we began with a productive brainstorming session to generate and refine our ideas. Once our concepts were finalised, we divided our tasks efficiently among team members. Two team members focused on coding, ensuring the technical implementation met our requirements, while another member took charge of designing an intuitive and visually appealing interface. Simultaneously, the remaining team members handled the creation of slides and

reports to effectively communicate our project's progress and features. Despite our designated roles, collaboration remained integral throughout the process. We regularly exchanged feedback, provided assistance in design decisions, and collectively brainstormed ways to enhance the usability and functionality of our pages. This collaborative approach not only facilitated a cohesive development process but also contributed to the overall success and quality of our prototype presentation. The development of our community event planning application was driven by a systematic approach aimed at delivering a robust prototype within the constraints of a hackathon timeline. Our initial focus was on defining and prioritising essential features tailored specifically for event organisers. These included user authentication, streamlined event creation and management functionalities, integration of UAV-captured aerial mapping, interactive GIS-based event layout customization, and real-time notification capabilities. We utilised a frontend tech stack comprising HTML, CSS, and JavaScript to ensure a user-friendly interface and seamless interaction flow. Throughout the development cycle, rigorous testing and debugging phases were implemented to ensure all features operated smoothly and reliably. Additionally, we invested in thorough documentation and presentation preparation to effectively communicate the application's functionality and benefits. This structured approach enabled us to efficiently achieve our development goals and present a compelling prototype for evaluation.

Challenges Encountered

Throughout our development process, we faced a series of challenges that tested our patience and problem-solving skills. Initially, our lagging laptop struggled to keep up with the demands of VS Code and Typeform, hindering our progress. This forced us to pivot from converting Figma designs directly into HTML and CSS to using Framer for website development, a shift that required us to adapt quickly to unfamiliar tools and workflows. Despite completing codes for an interactive map, integrating it into Framer proved challenging, leading to numerous errors that consumed valuable time and effort. Compounding our technical hurdles was the interruption from a friend seeking attention, which caused further delays and added to our time constraints.

To overcome these obstacles, we relied on patience and resourcefulness. We actively sought solutions by watching tutorials on YouTube to troubleshoot coding issues and optimize our use of Framer. Team collaboration was essential; despite individual setbacks, we supported each other through brainstorming sessions and shared insights to refine our approach. Additionally, managing physical discomfort from prolonged sitting was addressed by taking breaks and adjusting workspace ergonomics. Ultimately, our perseverance and willingness to learn enabled us to navigate these challenges effectively, leading to the successful completion of our prototype and presentation within the allotted time frame.

Key Learnings

Throughout our project, we encountered numerous challenges that provided invaluable learning opportunities. First and foremost, we delved into coding fundamentals, mastering JavaScript, CSS, and HTML to bring our vision to life effectively. This foundational knowledge not only empowered us to understand technical aspects but also enabled us to troubleshoot and refine our code continuously. Patience emerged as a crucial skill as we navigated setbacks and coding errors, learning to approach challenges methodically and persist until solutions were found. Working under pressure with tight deadlines was another significant lesson, teaching us to prioritise tasks efficiently and maintain focus amidst time constraints. Additionally, the process of website development taught us invaluable lessons in collaboration and brainstorming, where sharing ideas and iterating designs led to innovative solutions. Overall, this project provided a comprehensive learning experience, equipping us with technical skills, resilience, and effective teamwork strategies essential for future endeavours in web development and beyond.

Future Directions for Project

Looking ahead, our project has exciting opportunities to enhance event planning and attendee experiences through advanced features and integrations. One key direction involves optimising layouts and improving crowd control mechanisms. By leveraging AI-driven analytics, we can refine event layouts based on historical data and real-time feedback, ensuring efficient space utilisation and seamless crowd flow. Augmented reality (AR) features represent another frontier, offering interactive navigation to guide attendees through event spaces and enhance engagement. Integrating with third-party services such as CRM systems for attendee management, ticketing platforms for seamless entry, and social media for broader outreach will streamline event operations and enhance participant interaction. Offering customizable templates for event layouts will provide organisers with flexible options tailored to their specific needs, facilitating quick setup and customization. Security remains paramount; incorporating tools to monitor crowd density and detect potential threats will ensure attendee safety and operational continuity. These future directions aim to elevate our project's impact, delivering enhanced efficiency, engagement, and security in event planning and management.