Technical Project Status Display Information System

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Abstract -
This paper presents the development of a one-page web application aimed at providing stakeholders with a succinct overview of ongoing projects and recently completed ones within a timeframe. Utilizing HTML, CSS, and JavaScript, along with contemporary web technologies, the application delivers an interface that is both user-friendly and informative[1]. By synchronizing data in real-time with project management tools and incorporating data visualization techniques, the application facilitates efficient access to and interpretation of project-related information for stakeholders. Emphasizing the importance of such a tool in fostering transparency, enhancing communication, and supporting decision-making in project management contexts, this paper also delves into technical implementation aspects, such as integration with project management APIs, design, and considerations for responsive design. This work contributes to advancing web-based solutions for project management, offering valuable insights into the creation of streamlined and accessible tools tailored to stakeholder requirements[2].

*Key Words***:** stakeholder, project management, data visualization, decision-making, streamlined.

1.INTRODUCTION

In the realm of project management, the need for streamlined and accessible tools to track project progress, communicate effectively, and make informed decisions is paramount[3]. This paper introduces the development of a one-page web application tailored to meet these needs by providing stakeholders with a concise snapshot of ongoing projects and recently completed ones within a two-week timeframe. Leveraging the fundamental web technologies of HTML, CSS, and JavaScript, along with modern web development practices, the application aims to deliver a user-friendly interface that facilitates efficient access to project-related information. By synchronizing data in real-time with project management tools and incorporating data visualization techniques, the application offers stakeholders an efficient means of interpreting project data and fostering transparency, communication, and decision-making within project management contexts. The significance of such a tool lies in its potential to enhance stakeholder engagement and streamline project management processes, ultimately contributing to improved project outcomes and organizational effectiveness[4]. This paper will delve into the technical implementation aspects, discuss the implications of the developed solution, and offer insights into the advancement of web-based solutions for project management.

2.Literature Review

The authors [1,] discusses web technologies and their different types such as browsers, HTML & CSS, web development frameworks, programming languages, protocols, servers, and data formats. Explains popular technologies used in browsers like Chrome, Firefox, Safari, and Opera. Covers programming languages used in web applications including JavaScript, Python, Ruby, and PHP .Mentions future web technology trends like Motion UI, Serverless architecture, and Single Page Applications (SPAs). These trends point to more interactive, animated, scalable and seamless web experiences being enabled by evolving frameworks and cloud architectures. They tackle key issues in improving user experience - like reducing page load times through SPAs, adding interactivity via Motion UI, and simplifying backend management using serverless platforms.

The authors [2,] highlights the vital role of web programming in shaping online experiences and its impact on modern society. Web programming includes technologies like HTML, CSS, JavaScript and server-side languages that power websites, web apps, and online services. Enables seamless user interactions, responsive design, dynamic content delivery. Also plays a key role in cybersecurity, accessibility, scalability and cross-platform compatibility. The paper underscores web programming's indispensable role in enabling seamless user interactions, responsive designs, engaging web experiences, and secured platforms. As the web advances with growing online usage across devices, understanding web programming is essential for all stakeholders to comprehend the digital experiences shaped by code and develop solutions attuned to evolving user expectations and demands.

The paper [3,] discusses project information systems (PIS) which help managers track and manage projects throughout their life cycle. PIS provides scheduling, resource management, budgeting, collaboration tools to successfully execute projects. Improves efficiency by increasing visibility into project tasks and status. Helps make timely decisions, meet deadlines, and achieve project objectives. Project information systems effectively support the planning, tracking, management and completion of projects by project teams. They lead to tangible improvements in efficiency, cost control, resource allocation, reporting and informed decision making through the project life cycle. Wider PIS adoption coupled with future enhancements can significantly boost productivity across project-driven operations.

The paper [4,] presents a cost-effective information display system for showing announcements and news on screens across a university. Uses Raspberry Pi devices running web browsers

to display dynamic web content pulled from a database. An in-house content management system built with PHP, MySQL manages display content. Users can interact with screens by scanning QR codes with smartphones. The paper demonstrates a practical low-cost information display system built using Raspberry Pi devices and open source software. It fulfills key requirements like displaying multimedia content, managing display content from a centralized system, while enabling user interactivity via QR codes. Such solutions can be extended across education, corporate or public information display needs in a budget-friendly manner.

The paper [5,] in the process of creating an information system for project monitoring, various data collection and system development methods are employed. These methods help in designing a system that can effectively track and manage the progress of specific projects. In this context, the system is proposed to be implemented within PT TPK (presumably a company or organization) to assist them in monitoring the advancement of their projects. The system is constructed using several technologies and tools. PHP programming language is chosen as the primary language for building the system's functionality due to its versatility and widespread use in web development. MySQL is utilized as the database management system, providing a robust and scalable platform for storing and managing project-related data efficiently. Additionally, Fusion Chart is incorporated as a data visualization application within the system. This tool enables the representation of project data in various graphical formats, enhancing the understanding and analysis of project progress for stakeholders.

3.Data Representation

3.1 Project Cards:

-Each project can be represented as a card, displaying key information such as project name, status, progress, and completion date.

-Visual cues like color-coded tags or icons can indicate project status (e.g., "In Progress," "Completed," "Delayed").

3.2 Progress Bars:

-Utilize progress bars to visually represent the completion status of ongoing projects.

-Progress bars can provide stakeholders with a quick visual indication of how far along a project is toward completion.

3.3 Timeline Visualization:

-This timeline visualization allows stakeholders to quickly grasp the timing and frequency of project completions within the two-week timeframe.

3.4 Responsive Design:

-Ensure that the data representation is responsive and adapts to different screen sizes and devices.

-This ensures that stakeholders can access and interpret project information seamlessly across various platforms.
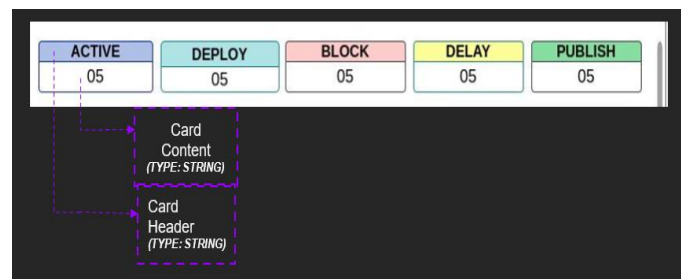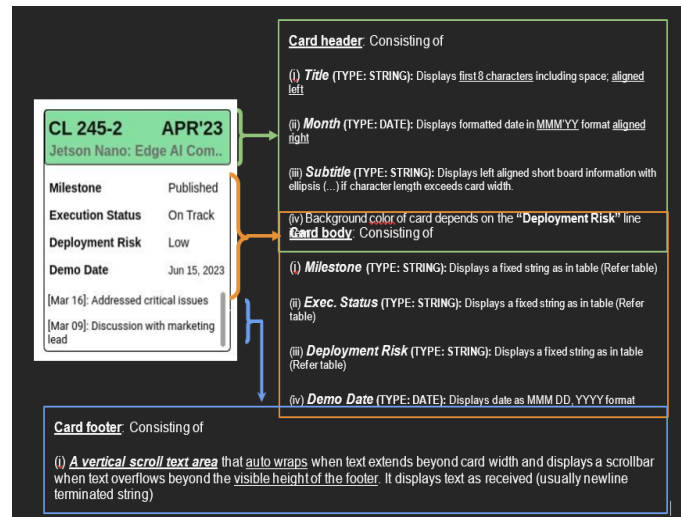
4. Design Diagram

The design diagram serves as a visual representation of the architecture and structure of the one-page web application developed to provide stakeholders with project-related information. It illustrates the layout, components, and interactions within the application, offering insights into how data is presented and accessed. The design diagram acts as a blueprint for developers, guiding the implementation process and ensuring consistency across the application
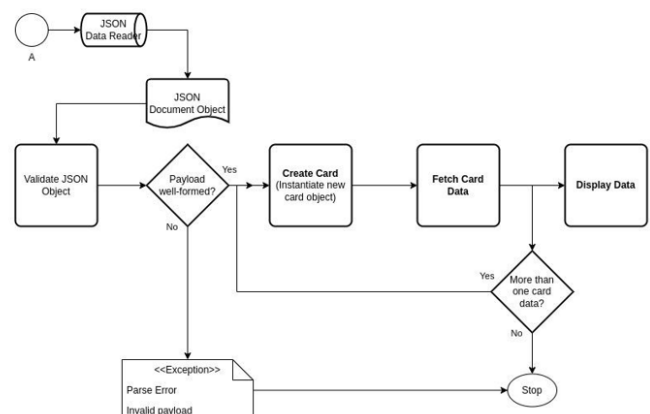
Design Diagram

Fig -1: Order of Process

Process:

1. Start
   Start -> Fetch Data from JSON
2. Fetch Data from JSON
   Fetch Data from JSON -> Handle Response based on the status
3. Handle Response
   Handle Response -> Extract Projects Data from JSON file
4. Extract Projects
   Extract Projects -> Create Project Elements Dynamically
5. Create Project Elements Dynamically
   Create Project Elements Dynamically -> Iterate Over Projects
6. Iterate Over Projects
   Iterate Over Projects -> Create ProjectDiv
7. Create ProjectDiv
   Create ProjectDiv -> Section 1 Creation
   Create ProjectDiv -> Section 2 Creation
   Create ProjectDiv -> Section 3 Creation
8. Section 1 Creation
   Section 1 Creation -> Create Name Element and display Title from JSON in this element
   Section 1 Creation -> Create Date Element and display Date from JSON in this element
   Section 1 Creation -> Create Subtitle Element and display Subtitle from JSON in this   element
9. Create Name Element
   Create Name Element -> Append Name Element to Section1
10. Create Date Element
   Create Date Element -> Append Date Element to Section1
11. Create Subtitle Element
   Create Subtitle Element -> Append Subtitle Element to Section1
12. Section 2 Creation
   Section 2 Creation -> Create Milestone Element and display Milestone from JSON in this element
   Section 2 Creation -> Create Exec-Status Element and display Exec-Status from JSON in this element
   Section 2 Creation -> Create Deployment risk Element and display Deployment risk from JSON in this element
   Section 2 Creation -> Create Demo Date Element and display Demo date from JSON in this element
13. Create Milestone Element
   Create Milestone Element -> Append Milestone Element to Section2
14. Create Exec-Status Element
   Create Exec-Status Element -> Append Exec-Status Element to Section2
15. Create Deployment risk Element
   Create Deployment risk Element -> Append Deployment risk Element to Section2
16. Create Demo Date Element
   Create Demo Date Element -> Append Demo Date Element to Section2
17. Section 3 Creation
   Section 3 Creation -> Create Notes Element and display Notes from JSON in this element
18. Create Notes Element
   Create Notes Element -> Append Notes Element to Section3

19. Assemble ProjectDiv
   Assemble ProjectDiv -> Append Section1 to ProjectDiv
   Assemble ProjectDiv -> Append Section2 to ProjectDiv
   Assemble ProjectDiv -> Append Section3 to ProjectDiv
20. Append ProjectDiv to Dashboard
   Append ProjectDiv to Dashboard -> Iterate Over Projects (loop back)
21. End
   Iterate Over Projects -> End

5.Implementation Results

->After doing some research about it we were able to create elements by using the following pseudocode

```
const projectDiv = document.createElement('div');
projectDiv.classList.add('project');

const section1 = document.createElement('div');
section1.classList.add('section1');

const name = document.createElement('h3');
name.textContent = project.title;
```
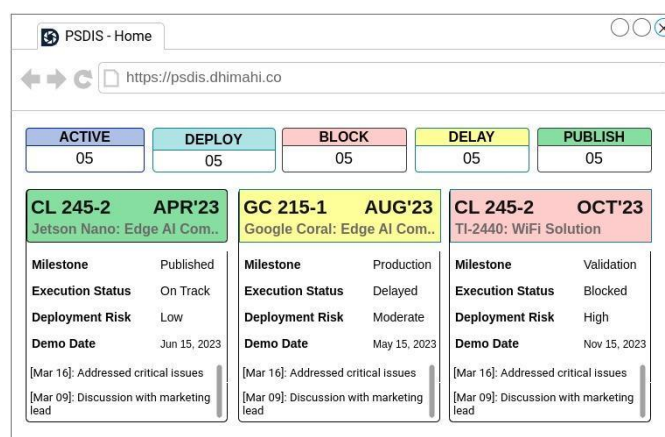
->We could also use some queries in JavaScript to extract Date in the required format which we were not able to do majorly in our first approach.

```
const date = document.createElement('h3');
const currentDate = new Date();

const options = { month: 'short', year: '2-digit' };
const formattedDate = currentDate.toLocaleDateString('en-US', options);

date.textContent = formattedDate.replace(' ', "'");
```
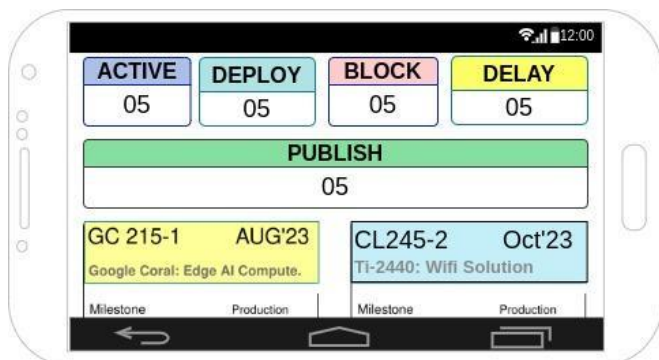

Fig -2 PC or Tablet View

Fig -3 Phone Portrait View

Fig -4 Phone Landscape View

6. GITHUB LINK

Kindly access the code for this project under the following Github link

" https://github.com/dhimahi-tech/project-status-display-information-system.git "

6.CONCLUSIONS

The development of the one-page web application aimed at providing stakeholders with a snapshot of ongoing and recently completed projects yields numerous benefits for project management and stakeholder engagement. By leveraging modern web technologies and incorporating real-time data synchronization and data visualization techniques, the application offers a streamlined and efficient means of accessing and interpreting project-related information.

One of the primary benefits of the application is its ability to enhance transparency within project management contexts. Stakeholders gain immediate insight into the current status of projects, enabling them to track progress, identify potential issues, and make timely decisions. Additionally, the application fosters communication among project team members and stakeholders by providing a centralized platform for sharing updates, feedback, and insights.

Furthermore, the application supports informed decision-making processes by presenting project data in a clear and digestible format. Stakeholders can quickly assess project metrics, trends, and priorities, empowering them to allocate resources effectively and prioritize tasks accordingly. Moreover, the integration with project management tools and the inclusion of interactive features enable stakeholders to customize their view of project data, enhancing usability and relevance.

Overall, the one-page web application contributes to the advancement of project management solutions by offering a user-friendly and accessible tool tailored to stakeholder needs. Its benefits extend beyond individual projects to encompass organizational effectiveness and efficiency. By providing stakeholders with a comprehensive overview of project status and facilitating communication and decision-making processes, the application enhances project outcomes and drives overall success. As organizations continue to embrace digital transformation and seek innovative solutions for project management, the development of streamlined and accessible tools like this web application remains essential for staying competitive and achieving strategic objectives.

ACKNOWLEDGEMENT

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