



**Faculty of Technology and Engineering**  
**Chandubhai S. Patel Institute of Technology**  
**Department of Computer Science & Engineering**

**Project Problem Statement for Project-IV**

<b>Project Group ID: CSPIT/CSE/C2/</b>			
<b>Student ID:</b>	D23CS102	D23CS104	D23CS108
<b>Name:</b>	Siddhit Kale	Denis Ruparel	Tanay Mahale
<b>Project Title:</b>	HealthSync: Patient Appointment and Management System with Real-Time Analytics		
<b>Domain of Project Definition:</b>	<p><b><u>Domain:</u></b> Healthcare and Health Information Management Systems.</p> <p><b><u>Project-Definition:</u></b> The project focuses on leveraging technology to streamline patient registration, appointment scheduling, and administration within the healthcare domain. It incorporates features like SMS notifications, secure file storage, performance tracking, and responsive design to enhance efficiency and user experience for both patients and administrators.</p>		
<b>Technology/Methodologies to be used in project:</b>	<p><b>Frontend and Backend</b></p> <ul style="list-style-type: none"><li>• <b>Next.js:</b> A React-based framework for building both the frontend and backend, offering server-side rendering, static site generation, and API routes for efficient development.</li></ul> <p><b>Database</b></p> <ul style="list-style-type: none"><li>• <b>MongoDB:</b> A NoSQL database solution for flexible and scalable data storage, ideal for handling JSON-like documents with dynamic schemas.</li></ul> <p><b>DevOps Tools</b></p> <ul style="list-style-type: none"><li>• <b>GitHub:</b> Platform for version control and collaborative development, ensuring efficient code management and version tracking.</li><li>• <b>Jenkins:</b> A CI/CD automation tool to streamline build, testing, and deployment processes, ensuring continuous integration and delivery.</li><li>• <b>Docker:</b> A containerization platform to package applications and their dependencies, ensuring consistency across different environments.</li><li>• <b>AWS (Amazon Web Services):</b> A cloud computing platform offering scalable infrastructure for hosting the application, databases, and other services.</li></ul>		

	<ul style="list-style-type: none"> <li>• <b>Docker Hub:</b> A cloud-based registry for sharing and managing Docker images, facilitating smooth collaboration and deployment.</li> <li>• <b>JIRA:</b> A project management and issue tracking tool for organizing tasks, managing workflows, and tracking project progress.</li> </ul> <p><b>Data Visualization</b></p> <ul style="list-style-type: none"> <li>• <b>Power BI:</b> A business analytics tool for visualizing data, generating interactive dashboards, and providing insights through reports, aiding in data-driven decision-making.</li> </ul>
<b>Project Objectives</b>	<ul style="list-style-type: none"> <li>• Patient Registration.</li> <li>• Efficient Appointment Management.</li> <li>• Enhanced Communication with SMS Notifications</li> <li>• Real-Time Data Visualization.</li> <li>• Continuous Deployment and Monitoring.</li> <li>• Patient Data Management.</li> <li>• Complete Responsiveness.</li> <li>• Data-Driven Insights with Power BI.</li> <li>• Compliance and Security.</li> <li>• Data-Driven Insights for Better Decision Making.</li> <li>• Ensure Secure and Trustworthy Web-app.</li> <li>• Scalability and Adaptability.</li> </ul>
<b>Brief Description about project:</b>	<ul style="list-style-type: none"> <li>• <b>Patient Registration and Profile Management:</b> Users can securely sign up and manage personal profiles, including medical and personal information, creating a central repository for patient data.</li> <li>• <b>Appointment Scheduling System:</b> Patients can book, reschedule, or cancel appointments at their convenience, while administrators manage, confirm, and oversee all bookings.</li> <li>• <b>Real-Time Analytics:</b> Leverages Power BI to provide real-time visualization and analysis of patient data for better decision-making.</li> <li>• <b>Integrated DevOps Practices:</b> Ensures continuous deployment, monitoring, and seamless updates to maintain system reliability and scalability.</li> <li>• <b>SMS Notification Integration:</b> Patients receive real-time SMS alerts for appointment confirmations, changes, or cancellations, ensuring effective communication.</li> <li>• <b>Secure File Storage:</b> Integration with Appwrite Storage allows users to upload, access, and manage medical documents, ensuring data security and accessibility.</li> <li>• <b>Technology Stack for Scalability and Responsiveness:</b> Built with Next.js for dynamic and SEO-friendly web applications, MongoDB for robust database management, and DevOps for CI/CD and reliable infrastructure.</li> <li>• <b>Scalable and Adaptable Design:</b> Builds a flexible system capable of growing with patient volumes and adapting to evolving healthcare requirements.</li> </ul>



**Siddhit Kale**  
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**Assessment Rubric to evaluate Difficulty level of Project:**

Criteria	D23CS102	D23CS104	D23CS108
Scope and Complexity			
Technical Challenges			
Resource Requirements			
Quality level of Gantt Chart			
Quality level of SWOT analysis chart			
Innovation and Creativity			
<b>Total (Out of 30)</b>			

**Assessment Rubric to evaluate quality of Project Problem Statement:**

Criteria	Marks
Clarity of Problem Statement	
Relevance to Project Objectives	
Clarity of Language and Presentation	
Overall Impression	
<b>Total (Out of 20)</b>	

**Mentor's Comments:**

**Mentor's Sign:**

**HOD's Sign with Comments:**