Samsui Association Application Requirement Document

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Proposal #1.1

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Executive Summary

The proposed project aims to develop an interactive search screen panel, inclusive of all essential hardware, software, accessories, programming, cabling, and connections. This panel enables users to search for a specific name or control number via screen panel. Upon selection, the corresponding ancestor's tablet, located in the 4th-floor Ancestral Memorial Room (consisting of approximately 888 tablets with a 5% spare capacity at each of the 8 stations), will illuminate. Each tablet features 3 LED bulbs, with the central bulb remaining lit 24/7, and the side bulbs illuminating upon selection.

Additionally, provide a user-friendly, web-based or templated design interface for office administrators to easily upload, download, or modify necessary data for new applicants on the 3rd-floor office.

Include a "Memories Presentation" feature, allowing for the showcasing of slideshow photos and/or video scripts of ancestors' memories for a specified duration, ranging from 20 seconds to 2 minutes or longer (matching the duration of the Tablet's LED light activation upon selection). This feature aims to manage queues and crowds by pre-setting the duration at the search screen panel or the office computer.

Introduction

Project Objective

Our primary goal is to envision and bring to fruition an advanced digital ecosystem that seamlessly integrates with the proposed system, Search Panel application, and Association Members Appointment management system. This integrated approach will provide an enhanced experience for both Association administrators and Members. The proposed solution will transform Associations operations by:

Designing and Developing the System: Craft a robust system tailored to the unique needs, meticulously engineered to facilitate the Project objective. The system will be meticulously integrated with the cloud platform to ensure real-time synchronization of data and streamline administrative processes.

Creation of Self-Service Application: Develop an intuitive self-service application designed to empower members with the ability to scan independently. The

application will seamlessly integrate with the system, offering a user-friendly interface.

Developing Association Member Management System: Develop an intuitive application facilitating a seamless member's access mechanism. Streamline processes, ensuring efficiency and convenience for users, while prioritizing robust security measures to safeguard access.

The proposed solution will deliver tangible benefits to Samsui Association, including:

Enhanced Operational Efficiency: Automation of transaction processes and integration with system will streamline administrative workflows, reduce manual errors, and optimize resource utilization within the temple ecosystem.

Elevated User Experience: The system and Screen panel application will offer a seamless and intuitive interface, ensuring a frictionless experience for both members and administrators. Enhanced accessibility and responsiveness will further augment user satisfaction and engagement.

Empowered Decision-Making: Through robust reporting and analytics capabilities embedded within the system, administrators will gain valuable insights into trends, service utilization, and facilitating informed decision-making and strategic planning initiatives.

Convenience and Efficiency: Streamlined processes reduce administrative burden and waiting times, enhancing overall operational efficiency.

In summary, the proposed solution represents a transformative step towards modernizing Samsui operations in member management, and enriching the overall experience. we aspire to achieve unparalleled excellence in digital innovation within the sacred realm of Samsui Association.

Goals

Technical Advancement: Implement cutting-edge technologies to develop a robust and scalable system and Self-Service application, ensuring high performance, reliability, and adaptability to meet the evolving needs of HEB temples.

Seamless Integration: Ensure seamless integration between the system, Self-Service Kiosk application, facilitating synchronized operations, data flow, and real-time information exchange across all platforms.

User-Friendly Interface: Design intuitive and user-friendly interfaces for both administrators and devotees, ensuring ease of navigation, transaction initiation, and completion to enhance the overall user experience.

Efficient Data Management: Develop efficient data management systems within the POS system and Kiosk application to handle large volumes of transactions, product/service information, and donor details securely and accurately.

Enhanced Reporting and Analytics: Implement comprehensive reporting and analytics functionalities within the system to generate insightful reports on usability's audit trails, enabling informed decision-making and performance tracking.

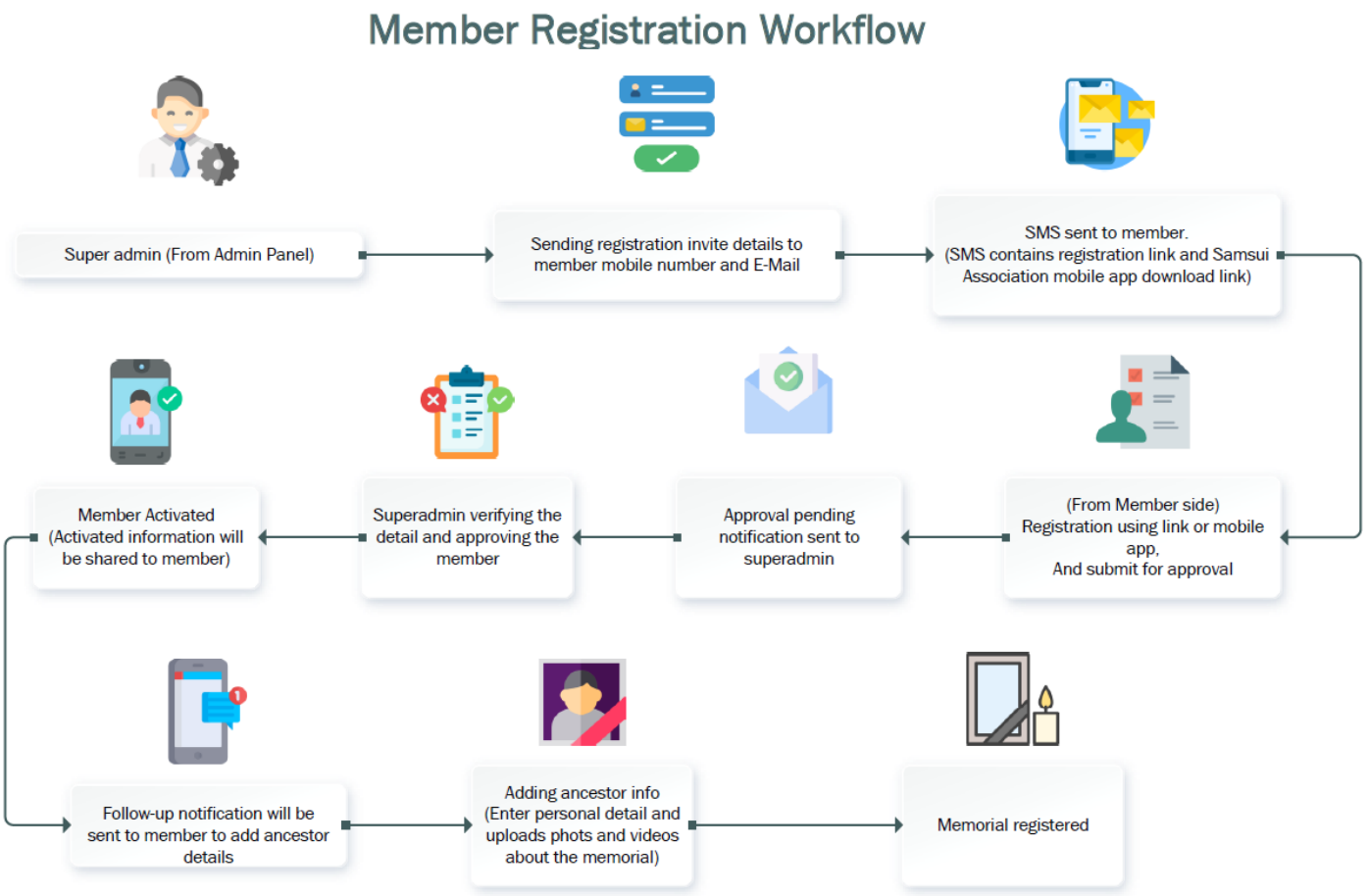
Scalability and Flexibility: Develop the system and Kiosk application with scalability and flexibility in mind, allowing for easy expansion, customization, and integration of new features or services to accommodate future growth and changing requirements.

Offline Capabilities: Ensure that both the system and Kiosk application have robust offline capabilities, enabling uninterrupted operation even in areas with limited internet connectivity, thus enhancing accessibility and reliability for administrators and members.

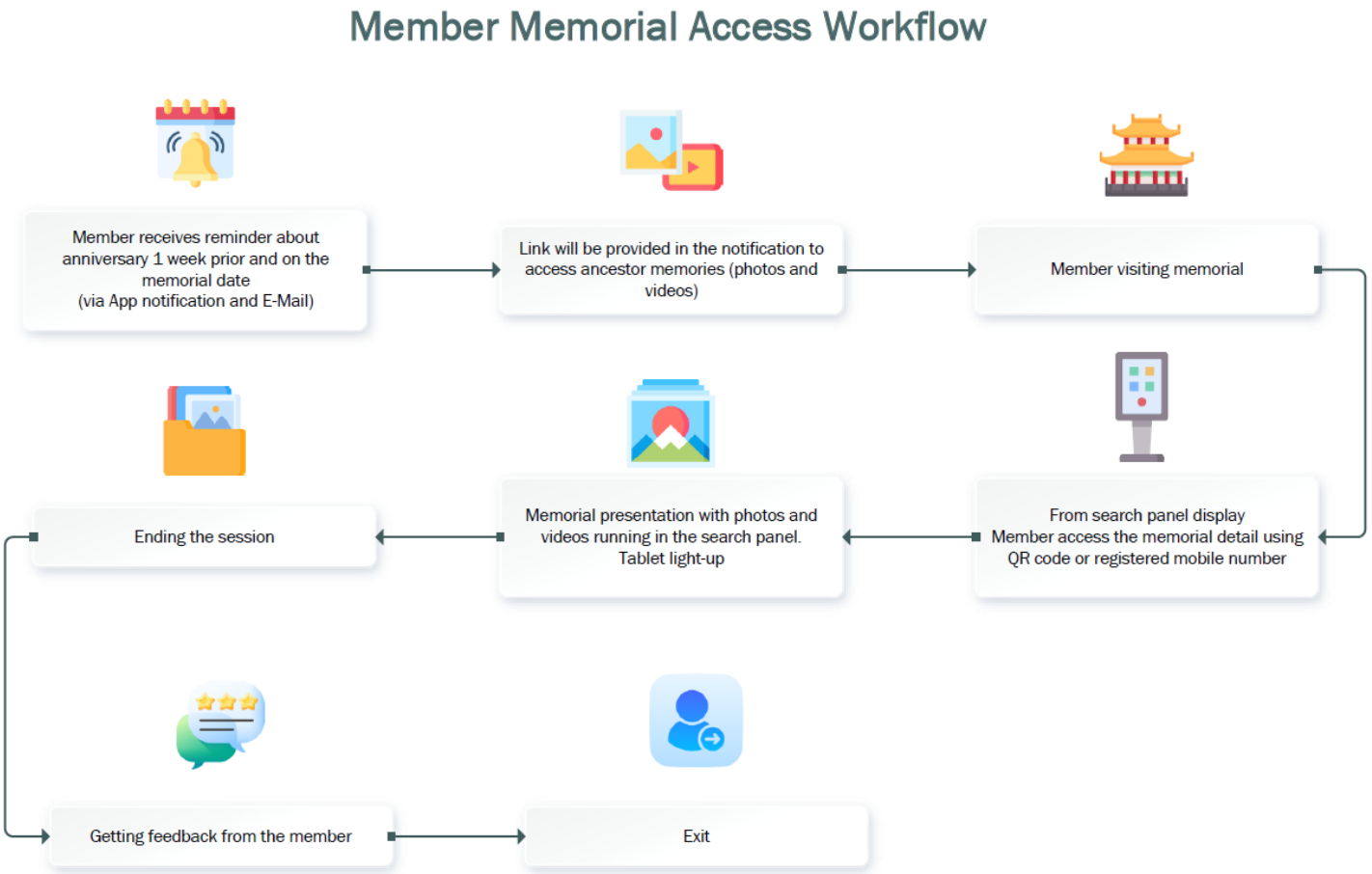
Compliance and Security: Adhere to industry standards and best practices for data security and compliance, ensuring the protection of sensitive information and maintaining the integrity and confidentiality of operations and transactions.

Functional Requirements

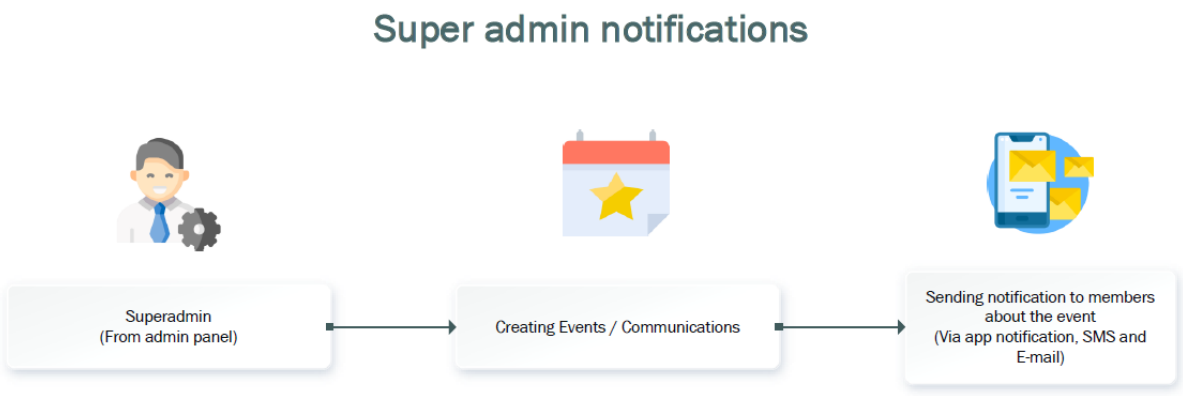
Workflow 1: Member Registration Process



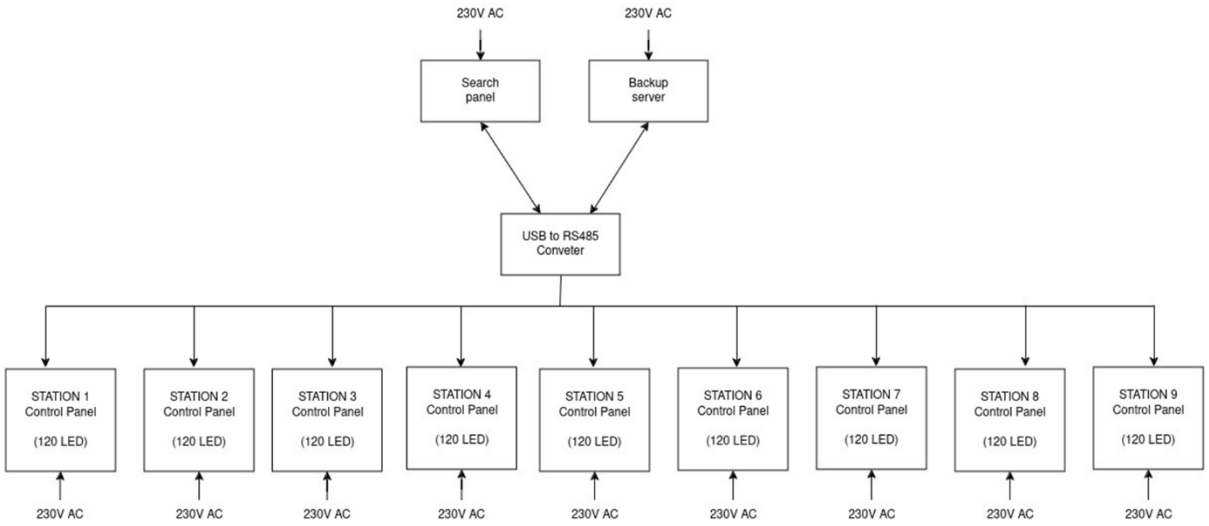
Workflow – 2 : Member Access – Ancestor Info Creation and Usage



Workflow 3 SuperAdmin : Notifications / Message - Memebers



SCHEMATIC


230V AC
230V AC
Search panel
Backup server
USB to RS485 Conveter
STATION 1 Control Panel (120 LED)
STATION 2 Control Panel (120 LED)
STATION 3 Control Panel (120 LED)
STATION 4 Control Panel (120 LED)
STATION 5 Control Panel (120 LED)
STATION 6 Control Panel (120 LED)
STATION 7 Control Panel (120 LED)
STATION 8 Control Panel (120 LED)
STATION 9 Control Panel (120 LED)
230V AC
230V AC
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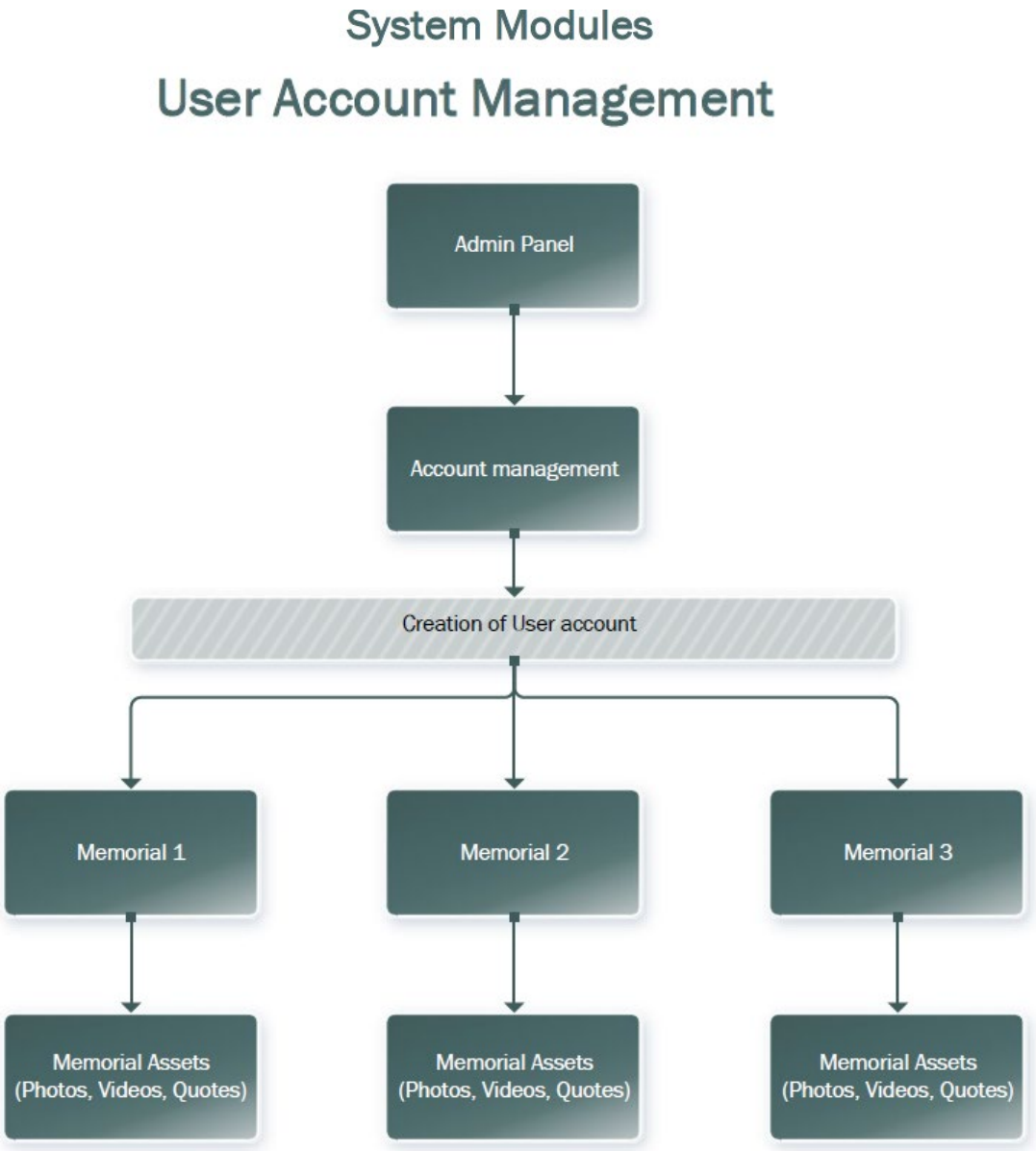
230V AC

System Modules:



Project Schedule

	Tasks	Start Date	End Date	Status
1	Procrument			
2	Kiosk model selection	03/25/24	03/29/24	Complete
3	Kiosk purchase	03/25/24	03/29/24	Complete
4	Workflow confirmation			
5	Member Registration Workflow	04/01/24	04/05/24	Complete
6	Member Memorial Access Workflow	04/01/24	04/05/24	Complete
7	Admin notifications	04/01/24	04/05/24	Complete
8	Cloud setup			
9	Web server configuration	04/08/24	04/12/24	Not Started
10	Database configuration	04/08/24	04/12/24	Not Started
11	DNS config	04/08/24	04/12/24	Not Started
12	DevOps configuration	04/08/24	04/12/24	Not Started
13	Architecture Design			
14	Screen wireframe design	04/08/24	04/09/24	Not Started
15	Database architecture	04/10/24	04/12/24	Not Started
16	Web portal - Admin panel			
17	Admin panel UI design	04/15/24	04/16/24	Not Started
18	Member preregistration			
19	Page UI design	04/17/24	04/19/24	Not Started
20	API creation	04/17/24	04/19/24	Not Started
21	API Integration	04/17/24	04/19/24	Not Started
22	Member management			
23	Page UI design	04/22/24	04/24/24	Not Started
24	API creation	04/22/24	04/24/24	Not Started
25	API Integration	04/22/24	04/24/24	Not Started
26	Memorial Management			
27	Page UI design	04/25/24	04/29/24	Not Started
28	API creation	04/25/24	04/29/24	Not Started
29	API Integration	04/25/24	04/29/24	Not Started
30	Memorial Asset Management			
31	Page UI design	04/29/24	05/01/24	Not Started
32	API creation	04/29/24	05/01/24	Not Started
33	API Integration	04/29/24	05/01/24	Not Started
34	Memorial Service Management			

	Tasks	Start Date	End Date	Status
35	Page UI design	05/02/24	05/06/24	Not Started
36	API creation	05/02/24	05/06/24	Not Started
37	API Integration	05/02/24	05/06/24	Not Started
38	Events and Communications Management			
39	Page UI design	05/06/24	05/08/24	Not Started
40	API creation	05/06/24	05/08/24	Not Started
41	API Integration	05/06/24	05/08/24	Not Started
42	Web Portal - Member			
43	User profile			
44	Page UI design	04/15/24	04/17/24	Not Started
45	API creation	04/15/24	04/17/24	Not Started
46	API Integration	04/15/24	04/17/24	Not Started
47	Memorial maintenance (photos, videos)			
48	Page UI design	04/18/24	04/22/24	Not Started
49	API creation	04/18/24	04/22/24	Not Started
50	API Integration	04/18/24	04/22/24	Not Started
51	Notification hub			
52	Page UI design	04/23/24	04/24/24	Not Started
53	API creation	04/23/24	04/24/24	Not Started
54	API Integration	04/23/24	04/24/24	Not Started
55	Mobile app - member			
56	User profile			
57	Page UI design	04/15/24	04/17/24	Not Started
58	API Integration	04/15/24	04/17/24	Not Started
59	Memorial maintenance (photos, videos)			
60	Page UI design	04/18/24	04/22/24	Not Started
61	API Integration	04/18/24	04/22/24	Not Started
62	Notification hub			
63	Page UI design	04/23/24	04/24/24	Not Started
64	API Integration	04/23/24	04/24/24	Not Started
65	Search panel			
66	Memorial service slide			
67	Page UI design	04/25/24	04/26/24	Not Started
68	API creation	04/26/24	04/29/24	Not Started
69	API Integration	04/30/24	05/01/24	Not Started
70	Function testing	05/01/24	05/10/24	Not Started

	Tasks	Start Date	End Date	Status
71	Function testing bug fixing	05/01/24	05/10/24	Not Started
72	UAT testing	05/13/24	05/16/24	Not Started
73	UAT testing bug fixing	05/13/24	05/16/24	Not Started
74	User manual documentation	05/13/24	05/17/24	Not Started
75	Application delivery	05/17/24	05/17/24	Not Started

SAMSUI Association Booking System

Admin Portal:

Registration & Authentication: Develop robust registration and authentication processes for secure user access.

Login Functionality: Implement a secure login system for users and administrators.

User Management: Enable comprehensive management of user profiles, allowing for easy creation, viewing, updating, and deletion.

Member Management: Provide the capability to create, edit, and remove email templates for efficient communication.

Terms and Conditions Management: Allow for easy management of terms and conditions with support for CRUD operations.

Email & App notification Services : Incorporate email services for timely notifications and effective communication.

SMS Services: Implement SMS services for convenient notifications and reminders.

Business Logic Implementation: Implement intelligent business logic to streamline booking processes and enhance user experience.

QR Reader: Integrate QR code reader to control members access and exit.

Reports & Dashboard: Deliver insightful reports and an intuitive dashboard for effective monitoring and analysis.

Self Service Portal:
Implement a search feature allowing users to retrieve their member details using either their mobile number or their QR Code. This functionality enhances user convenience and accessibility, ensuring they can easily access their booking information without hassle.

QR Code Generation: Research and develop a QR code generation system integrated into the system to create unique QR codes for each member, enabling easy verification and confirmation.

Mobile Apps: Play Store Android & App Store

Roles & Responsibilities

Client Side

Requirement Definition: The client is responsible for clearly defining the requirements and specifications of the POS system and Kiosk application, including desired features, functionalities, and integration points with existing systems.

Provide Resources: The client should provide necessary resources such as access to temple facilities, data, and personnel required for the development and testing phases of the project.

Feedback and Approval: Provide timely feedback on project progress, review deliverables, and approve design mockups, prototypes, and final implementations to ensure alignment with expectations.

User Acceptance Testing (UAT): Conduct thorough user acceptance testing to validate that the developed system and Kiosk application meet the functional requirements and usability expectations of temple administrators and devotees.

Training and Support: Facilitate training sessions for temple administrators and staff to familiarize them with the functionalities of the POS system and Kiosk application. Provide ongoing support and assistance post-deployment as needed.

Data Management: Ensure the availability of accurate and up-to-date data required for integration with the POS system, including product/service information, inventory data, and donor details.

Compliance and Security: Ensure compliance with regulatory requirements and security standards applicable to the handling of sensitive data within the POS system and Kiosk application.

Development Side

Requirement Analysis: Thoroughly analyze the client's requirements and specifications to understand the scope of the project and identify potential challenges and dependencies.

System Design and Development: Design and develop the POS system and Kiosk application according to the defined requirements, ensuring adherence to best practices in software architecture, design patterns, and coding standards.

Integration with HEB's ERP: Develop integration mechanisms to seamlessly connect the POS system and Kiosk application with HEB's ERP system (A2000), enabling real-time data synchronization and exchange.

User Interface Design: Design intuitive and user-friendly interfaces for both the POS system and Kiosk application, focusing on usability, accessibility, and visual appeal to enhance the overall user experience.

Quality Assurance and Testing: Conduct rigorous testing of the POS system and Kiosk application to identify and rectify any defects or issues before deployment. This includes functional testing, performance testing, and security testing.

Deployment and Configuration: Deploy the POS system and Kiosk application in the client's environment, ensuring proper configuration and integration with existing systems. Provide guidance and support during the deployment process to minimize disruptions.

Documentation: Prepare comprehensive documentation including user manuals, technical specifications, and system architecture diagrams to facilitate understanding and future maintenance of the POS system and Kiosk application.

Training and Knowledge Transfer: Conduct training sessions for client personnel to ensure they are proficient in using and maintaining the POS system and Kiosk application. Provide knowledge transfer sessions to empower the client team to handle routine maintenance tasks independently.

Development Team

1. Solution Architect:

System Design & Planning:

- Design and plan the system architecture based on requirements.
- Define technology stacks, frameworks, and infrastructure.
- Create high-level system diagrams and architectural documents.
- Ensure scalability, security, and reliability in the solution.

Technical Guidance:

- Provide technical guidance to development teams.
- Collaborate with stakeholders to align technical solutions with business goals.

2. **Back-End Developer:**

Server-Side Development:

- Develop server-side logic, APIs, and databases.
- Ensure optimal performance and responsiveness of the back-end.
- Implement security and data protection measures.

Database Management:

- Design and maintain databases, ensuring data integrity and efficiency.
- Optimize database queries and performance.

3. **Mobile App Developer:**

UI/UX Implementation:

- Implement user interfaces based on design specifications.
- Develop responsive and intuitive user experiences.
- Collaborate with designers to ensure UI/UX consistency.

Integration with Back-End:

- Integrate front-end elements with back-end services.
- Ensure seamless communication between front-end and back-end systems.

4. **Business Analyst:**

Requirement Gathering:

- Gather, analyze, and document project requirements.
- Create user stories, functional specifications, and process flows.

Communication & Clarification:

- Act as a liaison between stakeholders and development teams.
- Clarify requirements and provide ongoing support to development.

5. **System/Quality Analyst:**

Test Planning:

- Plan test strategies and approaches based on requirements.
- Identify test scenarios and create test plans.

Test Execution & Reporting:

- Execute test cases, capture results, and document discrepancies.
- Report and track identified issues for resolution.

6. **UI/UX Designer:**

User-Centric Design:

- Create wireframes, prototypes, and UI designs aligned with user needs.
- Ensure designs are intuitive, visually appealing, and user-friendly.

Collaboration & Iteration:

- Collaborate with developers to implement design elements.
- Iterate designs based on feedback and usability testing results.

Hardware: Search Panel

- 23.6 inch wall mount Touch
- Android 13 (A527 2G+32G)
- 10 dots capacitive Touch
- Built in QR scanner

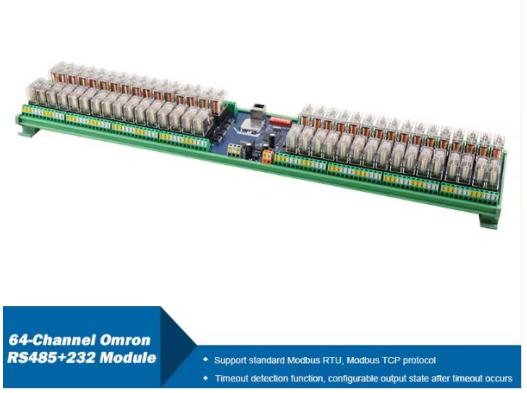
Backup Server

Intel NUC

INTEL RNUC12WSHi70001 NUC 12 PRO KIT (i7-1260P, DDR4,IRIS Xe, NO CORD)

USB TO RS485 CONVERTER

- 64-Channel RS485 Ethernet Relay Module
- **Input signal**: RS485 MODBUS RTU/TCP
- **Inductive Load:** 7.5A at 250 VAC, 5A at 30 VDC
- **Supply voltage:** 12/24VDC, power reverse protection



COMPUTER SPECIFICATION

LENOVO IDEACENTRE 3 07IRB8 90VT002CST I5-13400 8GB INTEL UHD 730 512GB SSD WIN 11

PRODUCT FEATURES

- Main Memory: 8gb Udimm Ddr4-3200
- Warranty: 3 Yrs ON-Site
- Graphics Processor: Intel Uhd Graphics 730
- Internal Storage: 512gb Ssd
- Operating System: Win 11
- Processor Model: Intel Core I5-13400

Private & Confidential

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