**“SK MaduyAssist”: A Web-Based platform**

**For Youth Engagement and Community**

**Development**

**A Project Proposal**  
  **Presented to Web Systems**   
**and Techonologies**

**In Partial Fulfilment**

**Of the Requirements for**

**Web System and Technologies**

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**1.1 Project Context**

In every community, young people have the energy, creativity, and passion to create change. However, many struggle to find platforms where they can voice their ideas, access important information, and participate in programs that shape their future. Engagement remains low due to outdated processes, limited accessibility, and communication gaps that make it difficult to connect with local governance. Without an efficient system, opportunities for involvement often go unnoticed, and participation is inconsistent.

The **Sangguniang Kabataan (SK)** is responsible for youth development through programs and initiatives that encourage leadership and civic engagement. However, traditional communication methods such as verbal announcements and scattered social media posts make it difficult for young individuals to stay informed. The absence of a centralized system leads to low awareness, inefficient event coordination, and minimal transparency in decision-making.

To address these issues, **SK MaduyAssist** was developed as a web-based platform that streamlines youth engagement. It provides a structured space for announcements, volunteer opportunities, event updates, and feedback channels, ensuring that young individuals have easy access to relevant information. Instead of relying on informal communication, the platform centralizes updates, making participation more accessible and organized.

Beyond providing information, SK MaduyAssist encourages active involvement by allowing users to interact with SK officers, contribute ideas, and provide feedback on community projects. It eliminates barriers that discourage engagement by ensuring transparency and open communication. The platform enables young individuals to stay updated, collaborate with peers, and participate in shaping their community’s future.

This initiative is more than just a tool for engagement—it empowers young people to take an active role in decision-making and community-building. By modernizing participation, SK MaduyAssist creates an inclusive environment where every young individual has the opportunity to contribute, make an impact, and be a driving force for positive change.

**1.2 Purpose and Description of the project**

Engaging the youth in community development has always been a challenge, not because of a lack of interest but due to barriers that limit their participation. Many young individuals struggle to access relevant information, voice their concerns, and actively contribute to local initiatives. Without an efficient system in place, crucial announcements, programs, and opportunities often go unnoticed, leading to decreased involvement and missed chances for growth and collaboration. Recognizing these challenges, SK MaduyAssist was conceptualized as a web-based platform designed to enhance youth engagement, facilitate direct communication, and streamline project management within the Sangguniang Kabataan (SK) of Barangay Maduyong. It aims to bridge the gap between the local youth sector and their leaders by creating an accessible, centralized hub where young individuals can stay informed, get involved, and contribute to their community’s progress. Through this platform, SK-related programs, announcements, volunteer opportunities, and community initiatives including scholarship applications will be more accessible to all. The initiative seeks to eliminate communication gaps by ensuring that important updates and activities reach the youth in a timely and efficient manner. Beyond just being an informational tool, SK MaduyAssist is a step toward modernizing youth governance, enabling a more interactive and responsive leadership model. In addition to its role as an engagement tool, SK MaduyAssist will feature event tracking, feedback mechanisms, and digital documentation, creating a more structured and transparent way of handling community projects. By integrating technology into youth governance, this platform will encourage higher levels of participation, provide young individuals with a stronger voice in local decision-making, and promote inclusivity in community development efforts. With a vision of fostering sustainable growth and more effective governance, SK MaduyAssist empowers young people to be active agents of change, ensuring that their concerns, aspirations, and contributions are recognized and valued.

**1.3 Objectives of the study**

1.3.1 General Problem

* How can we develop a web-based platform to help community youth leaders efficiently manage projects, events, and scholarship applications?

1.3.2 Specific Problem

* How can the system allow SK members to upload and share project receipts and financial reports easily?

* How can a platform show for announcement and displaying past and upcoming

SK events to the community?

* How can an efficient online scholarship application system be created to ensure all submitted documents are securely stored?

* How can user engagement be encouraged to maximize participation in SK events and initiatives?

1.3.3 General Objectives

* Develop a web-based platform to help community youth leaders effectively oversee projects, coordinate events, and manage scholarship applications. This system seeks to optimize administrative processes, enhance communication, and serve as a centralized hub for monitoring youth programs and initiatives.

1.3.4 Specific Objectives

* To develop a Transparency module that allows SK members to upload and share

receipts and financial reports for better accountability.

* To create an Event Management System where SK officers can announce and display upcoming and completed projects or events for the community.
* To build an Online Scholarship Application Portal that allows youth members to

submit their applications documents.

* To develop SK MaduyAssist, a web-based platform that will help SK members and the youth community manage projects, events, and scholarships more effectively.

**1.4 Scope and Limitation**

1.4.1 Scope

* SK members can securely upload project receipts and financial reports, accessible

only to authorized personnel for transparency.

* SK officers can manage and display past and upcoming events with filtering options.
* The scholarship system allows applicants to submit documents securely, while SK

officials review applications efficiently.

* A comment section enables discussions, and a feedback form collects user opinions to improve community initiatives.

1.4.2 Limitations

While the system aims to enhance community engagement through discussions and feedback collection, certain functionalities will not be included due to technical constraints and project scope. These limitations include:

* Real-time messaging or live chat will not be available, limiting discussions to the comment section.
* The feedback form will not provide automated responses or track issue resolutions;

SK officials must manually review and address submissions.

* AI-based filtering or automated spam detection will not be included, meaning SK

officers must moderate comments and feedback manually.

* Multimedia uploads such as images, videos, or attachments will not be supported,

restricting users to text-based discussions in the comment section.

* A dedicated mobile application will not be available, making the platform

accessible only via a web browser.

* Automated notifications for new comments or feedback will not be sent, requiring

users to check the platform manually for updates.

* Users cannot be able to submit feedback or participate in discussions without registering an account, which may discourage some from sharing honest opinions.

**Review of Related Literature**

**2.1 Overview of the Subject**

The internet has become a vital tool in promoting youth engagement in community activities. Many organizations and local governments now use digital platforms to disseminate information, manage events, and encourage participation. These online systems provide structured and accessible ways for young individuals to connect with their local governance, contribute to decision-making, and stay updated on opportunities.

SK MaduyAssist serves as a web-based platform designed to bridge the gap between the Sangguniang Kabataan (SK) and the youth. It aims to centralize important community updates, facilitate transparent project management, and streamline processes such as event coordination and scholarship applications. This review explores related studies and existing systems, highlighting their contributions to youth engagement and how SK MaduyAssist builds upon them to offer a more comprehensive solution.

**2.2 Related Studies**

**Digital Platforms for Youth Engagement**

Digital platforms play a significant role in increasing youth involvement in governance and community projects. Putnam (2000) states that online engagement tools provide structured ways for young people to participate in civic activities. Bennett, Wells, & Freelon (2011) further emphasize that the internet gives youth a stronger voice in governance, allowing them to share opinions, raise concerns, and contribute to community discussions. These studies highlight the importance of SK MaduyAssist, which provides an accessible platform where young individuals can stay involved in SK-led initiatives, share feedback, and participate in decision-making processes.

**Transparency in Community Projects**

Transparency is essential in building trust between local government units and the community. Fung, Graham, & Weil (2007) explain that public access to financial records fosters accountability and strengthens governance credibility. Similarly, Bertot, Jaeger, & Grimes (2010) found that digital transparency tools help prevent corruption by ensuring that financial transactions are recorded and easily monitored. SK MaduyAssist incorporates these principles by allowing SK officials to upload project receipts and financial reports, ensuring that the community can review and verify how funds are managed.

**Event Management Systems**

Online platforms improve event organization and participation by making event details more accessible. Preece & Maloney-Krichmar (2003) studied online communities and found that publicizing event information on digital platforms increases engagement and encourages attendance. SK MaduyAssist applies this concept by offering a dedicated event management system where SK officers can announce upcoming activities, track past events, and engage youth members in community projects.

**Online Scholarship Applications**

Digitizing scholarship applications helps simplify the process and improve efficiency. Lee & Zhang (2018) found that universities using online scholarship portals processed applications faster and ensured better record-keeping. However, they noted that manual verification remained necessary to confirm document authenticity. SK MaduyAssist integrates a similar approach, allowing applicants to submit their scholarship forms and documents online while requiring SK officials to review and approve them manually.

**2.3 Related Systems**

**2.3.1 Foreign Systems**

**Youth.gov (USA)**

Youth.gov is a government-managed online platform in the United States that serves as a resource hub for young individuals seeking opportunities for education, employment, and civic engagement. The website provides a wide range of information on government-funded programs, leadership training, scholarships, and funding options for youth organizations. It is designed to help young people explore ways to contribute to their communities through volunteer work, mentorship, and leadership roles.

Despite its usefulness, Youth.gov primarily functions as an informational platform rather than an interactive system. It does not provide direct engagement features such as event participation, feedback submission, or financial transparency for youth programs. Unlike SK MaduyAssist, which facilitates real-time involvement and interaction with SK officers, Youth.gov mainly acts as a directory of resources, making it a passive tool rather than an active engagement platform.

**VolunteerMatch.org**

VolunteerMatch.org is an online platform designed to connect volunteers with nonprofit organizations and community-driven initiatives. It allows organizations to post volunteer opportunities, enabling individuals to search for roles that align with their interests, skills, and location. The platform promotes civic engagement by making volunteerism more accessible and helping organizations find the right individuals for their projects.

However, VolunteerMatch.org is specifically focused on volunteer recruitment and does not include additional community engagement tools such as event coordination, financial transparency, or scholarship applications. While it shares similarities with the volunteer registration feature of SK MaduyAssist, it lacks a broader approach to youth participation. Unlike SK MaduyAssist, which integrates multiple functions for a more comprehensive community engagement system, VolunteerMatch.org serves a more specialized purpose.

**2.3.2 Local Systems**

**Sangguniang Kabataan Information System (SKIS) (Philippines)**

The Sangguniang Kabataan Information System (SKIS) is a digital platform designed to assist SK units in managing administrative tasks, records, and projects. It provides SK officials with an organized system to store member information, track community initiatives, and generate reports on completed programs. By digitizing these processes, SKIS improves efficiency and reduces the reliance on paper-based documentation.

Despite its usefulness in internal management, SKIS does not offer features that enable public participation. It functions mainly as an internal database rather than an engagement tool for the youth. Unlike SK MaduyAssist, which includes features for event announcements, financial transparency, and scholarship applications, SKIS is limited to administrative use and lacks the interactive features necessary to directly involve the youth in decision-making and community activities.

**Iskolar ng Bayan Portal (Philippines)**

The Iskolar ng Bayan Portal is an online system dedicated to managing scholarship applications in the Philippines. It allows students to submit applications digitally, track the status of their submissions, and receive updates on financial aid programs. The platform helps reduce paperwork and streamlines the scholarship application process for both applicants and administrators.

While this system is efficient in handling scholarships, it is limited in scope. It focuses solely on scholarship applications and does not provide other engagement tools such as event coordination, financial transparency, or volunteer opportunities. Unlike SK MaduyAssist, which integrates multiple functions into a single platform, the Iskolar ng Bayan Portal serves a specific purpose, making it a more specialized system rather than a comprehensive youth engagement platform.

**Synthesis**

The studies and systems reviewed demonstrate that digital platforms are effective tools for youth engagement, event coordination, and financial transparency. However, most existing systems focus on individual aspects, such as event management or scholarship applications, without integrating multiple functionalities into a single platform.

SK MaduyAssist addresses this gap by combining essential features—announcements, event coordination, financial transparency, and scholarship management—into one unified system. It provides SK officials with a structured way to manage programs while ensuring that young individuals can easily access opportunities, track project progress, and actively participate in governance. Unlike other platforms that serve limited purposes, SK MaduyAssist offers a more comprehensive solution that fosters greater transparency, accessibility, and involvement among the youth.

**Methodology**

**Methodology to be Used**

The development of SK MaduyAssist follows the Agile Methodology, an iterative and incremental approach that ensures flexibility, adaptability, and continuous feedback throughout the development process. Agile allows for ongoing collaboration with stakeholders, frequent testing, and the ability to refine system functionalities based on real-time requirements. This methodology is well-suited for the SK MaduyAssist platform as it prioritizes user engagement, transparency, and responsiveness to community needs.

Agile methodology is characterized by iterative development cycles known as sprints, where small, functional parts of the system are designed, developed, tested, and deployed in phases. This approach ensures that the system remains flexible and accommodates changing requirements from SK officials and youth users. The project began with a planning phase, where the core functionalities of SK MaduyAssist were identified. These included event management for SK initiatives, transparency features for financial reporting, a scholarship application system, and a feedback and engagement platform. The project team, consisting of developers and stakeholders, collaborated to prioritize requirements and establish a product backlog containing all necessary system features.

The development process was divided into multiple sprints, each lasting two to three weeks. Each sprint focused on a specific module or feature, ensuring systematic progress. The initial sprints involved setting up the core infrastructure, including the server environment, database configuration, and basic user authentication. Subsequent sprints focused on developing key functionalities, such as the event management module, which enabled SK officials to announce and manage events effectively. The financial transparency module allowed SK members to upload receipts and financial reports, ensuring accountability within the community. Additionally, the scholarship application system facilitated the secure submission and review of scholarship documents, providing young individuals with greater accessibility to financial aid opportunities.

User engagement and feedback were integral to the Agile approach. Each feature underwent rigorous testing before deployment, including unit testing, integration testing, and user acceptance testing. SK officials and community youth were actively involved in testing the platform to ensure usability and efficiency. Their feedback was incorporated into subsequent sprints, allowing for continuous improvements and refinements.

Once the sprint cycles were completed, the system was deployed in phases. The initial beta launch was introduced to a limited group of users to gather real-world feedback and identify potential issues. After necessary adjustments were made, the platform was officially deployed for the broader community. Post-deployment maintenance ensured continuous monitoring, bug fixes, and future enhancements based on user needs.

The use of Agile methodology in developing SK MaduyAssist provided a structured yet flexible approach to system development. By engaging stakeholders throughout the process, incorporating iterative testing, and refining features based on user needs, the platform successfully met its goal of enhancing youth engagement, financial transparency, and community development. This methodology ensures that the system remains adaptable, scalable, and responsive to future enhancements, ultimately empowering young individuals to participate actively in governance and decision-making.

**Technical Background**

**Technologies to be Used**

**HTML5**

In the development of SK MaduyAssist, HTML5 serves as the cornerstone for building a structured, accessible, and semantically rich interface. By utilizing semantic elements such as <header>, <nav>, <article>, and <footer>, the platform can organize content in a logical and easily navigable manner. This not only improves the overall user experience by ensuring that information is clearly presented, but it also enhances search engine optimization and accessibility for users with disabilities. Additionally, HTML5's native support for multimedia—through <video> and <audio> elements—allows SK MaduyAssist to seamlessly integrate rich media content, such as tutorial videos or audio instructions, thereby enriching user engagement and interaction.

**CSS3**

CSS3 is pivotal in shaping the visual identity and responsive design of SK MaduyAssist. Leveraging advanced features such as Flexbox, Grid Layout, and media queries, CSS3 ensures that the platform adapts effortlessly across a wide range of devices, from desktops to smartphones. This responsive approach is crucial for delivering a consistent user experience regardless of screen size. Furthermore, CSS3's capabilities for creating smooth transitions, animations, and interactive effects help to craft an interface that is both modern and engaging. For SK MaduyAssist, these stylistic elements not only enhance usability but also reinforce the brand’s identity by offering a visually appealing and intuitive environment for users to interact with the digital assistant.

**JavaScript**

JavaScript is the driving force behind the interactivity and dynamic functionalities of SK MaduyAssist. It enables the platform to respond to user inputs in real time by manipulating the Document Object Model (DOM) and handling asynchronous communications with the back-end via API calls. When a user submits a query through the chat interface, JavaScript processes the input, retrieves relevant data, and updates the conversation dynamically, ensuring a smooth and immediate interaction. This capability is essential for maintaining the responsiveness of the digital assistant, which must operate efficiently 24/7. Moreover, JavaScript's flexibility allows for the integration of additional libraries and frameworks if needed, ensuring that SK MaduyAssist can evolve and scale its features to meet growing user demands and emerging technological trends.

**Visual Studio Code**

Visual Studio Code (VS Code) is our Integrated Development Environment (IDE) of choice for developing SK MaduyAssist. VS Code offers a powerful, streamlined coding environment that supports HTML5, CSS3, and JavaScript through features such as syntax highlighting, intelligent code completion, and integrated debugging tools. Its extensive ecosystem of extensions facilitates version control, linting, and task automation, thereby enhancing developer productivity and collaboration. By utilizing VS Code, we ensure a smooth and efficient development process, ultimately leading to a more robust and maintainable digital assistant platform.

**SQL Server**

SQL Server serves as the backbone of SK MaduyAssist’s database management, ensuring secure and efficient data storage and retrieval. By leveraging SQL Server, the platform can handle user registrations, chat logs, and other essential data with high reliability and performance. The relational database structure enables efficient querying and data relationships, making it easier to manage and process information. Additionally, SQL Server’s security features, including role-based access control and encryption, ensure that sensitive user data remains protected against unauthorized access and breaches. The integration of stored procedures and triggers further enhances the system’s capability to automate tasks and maintain data integrity.

**Microsoft SQL Server Management Studio (SSMS)**

Microsoft SQL Server Management Studio (SSMS) is the primary tool used for managing SK MaduyAssist’s SQL Server database. SSMS provides a comprehensive interface for database administrators and developers to perform tasks such as database creation, query execution, and performance monitoring. With SSMS, the development team can efficiently manage database schemas, optimize queries, and troubleshoot issues in real-time. The tool's built-in support for SQL scripting and visual query design makes it easier to implement and maintain the database structure. By utilizing SSMS, SK MaduyAssist ensures that its database operations remain streamlined, scalable, and well-maintained, contributing to the overall efficiency and reliability of the platform.

**Resources**

Hardware Resources

|  |  |
| --- | --- |
| **Processor** | Ryzen 5 3400g, 3700Mhz, 4 Cores, 8 Threads |
| **RAM** | 8gb x 2 total of 16gb of RAM |
| **Storage** | 256GB SSD |
| **Graphics Card** | Integrated GPU |
| **Display** | Full HD (1920x1080) resolution monitor or higher |
| **Internet Connection** | 40Mbps of Fiber Speed Connection |

**Software Resources**

|  |  |
| --- | --- |
| Operating Systems | Windows 10/11 |
| Integrated Development Environment | Visual Studio Code (VS Code) |
| Version Control System | Git (GitHub/GitLab) |
| Web Browsers | Google Chrome, Mozilla Firefox, Microsoft Edge (for testing and debugging) |

**Requirements Analysis**

The SK MaduyAssist system is designed to improve youth engagement and community development by providing a structured digital platform for communication, event management, and financial transparency. This innovative platform aims to address the needs of its users by streamlining key functions, ensuring efficient governance, and fostering active participation in local initiatives.

One of the fundamental aspects of SK MaduyAssist is the identification of its primary users. The system will cater to SK officials, youth members, and community residents. SK officials will manage the platform by posting announcements, organizing events, handling scholarship applications, and ensuring financial transparency through accessible reports. Youth members will benefit by gaining real-time updates on activities, participating in community programs, and applying for scholarships with ease. Additionally, community residents will have access to public reports, view SK initiatives, and stay informed about local projects, promoting broader participation in governance and development efforts.

The primary function of SK MaduyAssist is to centralize and streamline the activities of the Sangguniang Kabataan. The system will serve as a hub for SK officials to post and manage announcements regarding programs, projects, and opportunities, ensuring that vital information reaches the youth in a timely manner. Financial transparency is a key component, allowing SK officials to upload project receipts and financial reports, enabling the public to review fund allocations and expenditures. Another significant feature is the event management module, which will display past and upcoming SK events to encourage greater community involvement. Furthermore, the platform will include an online scholarship application system, allowing youth members to submit required documents securely and track their application status. SK MaduyAssist will also promote community engagement through interactive features, where users can discuss issues, provide feedback, and actively contribute to local initiatives.

As a web-based platform, SK MaduyAssist will be accessible through modern web browsers on desktops, laptops, tablets, and smartphones. Hosted on a secured web server, the system ensures convenience by allowing SK officials and community members to access information anytime, from anywhere with an internet connection. The online nature of the system eliminates the need for physical presence, making it easier for users to stay informed about SK activities regardless of their location.

The system will provide continuous access to announcements, events, and financial reports, ensuring that the community receives timely updates on SK activities. SK officials will be able to update the platform as needed, maintaining a steady flow of information for the youth and community residents. Scholarship applications will be available during designated periods, while event details will be published as new projects are confirmed. The accessibility of the system will ensure that youth members and community residents can participate in SK programs more effectively, leading to a more engaged and informed society.

Currently, SK officials rely on traditional methods such as social media posts, printed posters, and verbal announcements to communicate with the youth about community programs and initiatives. These methods often result in inconsistent communication, as not all individuals receive updates in a timely manner. SK MaduyAssist seeks to modernize these processes by providing a centralized digital platform where all announcements, events, and reports can be accessed instantly. The system will also digitize scholarship applications, ensuring secure submission and reducing paperwork. Financial transparency will be significantly improved, as SK officials will be able to upload receipts and financial reports directly to the platform, ensuring accountability and fostering trust within the community. By transitioning to a structured digital system, SK MaduyAssist will enhance the efficiency, accessibility, and transparency of SK operations, ultimately contributing to a more engaged and empowered youth sector.

In conclusion, SK MaduyAssist represents a significant advancement in the way SK officials interact with the youth and the broader community. By offering a structured and accessible platform, the system will not only improve communication but also enhance participation in community programs and ensure financial accountability. With its innovative features and user-centric approach, SK MaduyAssist has the potential to transform the governance and development of youth-oriented initiatives, creating a more informed, engaged, and empowered community.

**Design of System and Processes**

**Landing Page:**A screenshot of a computer

AI-generated content may be incorrect.

**Login page**

A screenshot of a login form

AI-generated content may be incorrect.

**Registration page**

**A screenshot of a login form

AI-generated content may be incorrect.**

**Contact us page**

**A screenshot of a contact page

AI-generated content may be incorrect.**

**About us page**

**A screenshot of a web page

AI-generated content may be incorrect.**

**Home page**

**A screenshot of a web page

AI-generated content may be incorrect.**

**Financial Report Page**

**A screenshot of a website

AI-generated content may be incorrect.**

**A screenshot of a web page

AI-generated content may be incorrect.Event Management page**

**Schol**

**A screenshot of a computer

AI-generated content may be incorrect.Scholarship application page**

**Community posting page**

**A screenshot of a web page

AI-generated content may be incorrect.**

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