Northeastern Mindanao Colleges
COLLEGE OF INFORMATION TECHNOLOGY
Surigao City, Philippines

"Youth Network: A Web Platform for Barangay Participation"

A Project Proposal

Presented to the

Faculty of College of Information Technology

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In partial fulfilment

Of the Requirements for System Integration and Architecture 2 (Elective 4)

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ABSTRACT

This capstone project titled *"Youth Network: A Web Platform for Barangay Participation"* presents an innovative online system designed to enhance the engagement of youth in barangay-level activities and governance. Drawing from both local and international studies, the project is grounded in evidence that digital platforms and AI-driven systems can significantly improve civic participation, especially among the younger population.

The Youth Network platform addresses key challenges such as limited youth involvement and inefficient communication between barangay officials and the youth sector. By integrating features like announcements, event registration, feedback mechanisms, and community discussions, the platform fosters accessibility, transparency, and interaction. It applies insights from literature advocating for technology-driven engagement to create personalized and user-friendly experiences.

Developed using Agile methodology, the system emphasizes responsiveness and secure, real-time communication. Ultimately, it seeks to empower local youth by providing a digital space that promotes civic responsibility, leadership, and collaboration, effectively bridging the gap between young citizens and barangay governance

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CHAPTER 1

INTRODUCTION

This chapter constitute the idea of project context, purpose and description, objective of the study and scope and limitation.

Project Context

The participation of youth in barangay activities is crucial for fostering a sense of community, leadership, and civic responsibility. However, many youth encounter barriers such as lack of awareness, limited communication channels, and inadequate platform for active engagement. To address these issues, the Youth Network project aims to create a web-based platform that serves as a bridge between barangay officials and the youth, enhancing collaboration, transparency, and participation in local activities.

This platform will allow barangay officials to post announcement, share event schedules, and invite volunteers, while also enabling the youth to stay informed, register for events, and provide feedback, By leveraging modern technology, the project seeks to empower young individuals to contribute meaningfully to their communities.

Purpose and Description

The Youth Network is an online platform designed to foster active participation among the youth in barangay programs and activities. Its main purpose is to provide a digital space where young residents can share ideas, give feedback, and stay updated on community events. By doing so, it encourages collaboration between barangay officials and the youth, ensuring their involvement in building a more inclusive and dynamic community.

The platform offers features such as event announcements, discussion forums, and tools for suggesting projects. With its user-friendly design, it makes communication between the barangay and its young residents easy and accessible. This project is essential in connecting the barangay with its youth, amplifying their voices, and strengthening community bonds.

Objective of the Project

General Objective:

To provide a centralized and accessible web platform for the youth to engage with barangay programs, activities, and initiatives. It seeks to encourage young residents to take an active role in their community, promoting collaboration and inclusivity.

Specific Objective:

- To provide features such as event updates, discussion forums, and the project suggestion tools that enable youth participation in barangay activities.
- To create a user-friendly interface that allows seamless communication between barangay officials and young residents.
- To empower the youth by giving them platform to voice their opinions and contribute to barangay decisions and initiatives.
- To offer relevant youth-focused content, such as education, career guidance, self-development resources, and social impact opportunities, to enhance their personal and professional growth.

Scope and Limitations

Scope

- Youth can register, create profiles, and track their participation in barangay activities.
- Barangay officials can post events, and youth can register and join them.
- Includes announcement and simple forums or chat for discussions.
- Users can give feedback and suggest ideas to improve barangay activities.
- Designed to work on smartphones, tables, and computers.

- User data will be protected with secure login features.

Limitations

- Needs a stable connection, which might be a problem in areas with poor internet.
- Some youth may not have access to smartphones or computers.
- Primarily targets youth, with limited features for other age groups.
- Relies on barangay officials to updates events and announcements regularly.
- Users can’t access features without the internet.
- Advanced tools like gamification or detailed analytics may not be available at launch.

CHAPTER 2

REVIEW RELATED LITERTURE

This part discusses the review of related literature and relevant studies in connection with the proposed system titled *Youth Network: A Web Platform for Barangay Participation*. These references help establish the significance and potential of integrating modern technology to improve youth engagement in barangay affairs.

Foreign Literature

Numerous studies have explored the impact of AI and digital platforms in civic engagement, particularly how they empower communities through better information dissemination and participation. Research conducted by Bessen (2019) highlights how AI technologies can enhance the efficiency of data processing and communication, critical for online community platforms. Digitalist (2024) notes that AI-powered systems improve user matching and content relevance—key features in platforms aiming to engage users, such as youth in local governance. Kuncel et al. (2020) further emphasize that AI can reduce bias and improve the accuracy of user profiling and recommendations, which could be applied to match youth interests with barangay projects and initiatives.

Local Literature

In the local context, Santos and Reyes (2021) examined the challenges in community participation among young people, revealing a lack of effective digital tools tailored to their needs. Their findings show that traditional methods are often inaccessible or unengaging for the youth. Meanwhile, Anju Pradhan explored how recommender systems and AI could address these challenges, offering digital platforms that align user profiles with specific community needs and initiatives. The Department of Labor and Employment (2022) also highlighted the growing tech-savviness of Filipino youth, emphasizing the need for innovative tools that foster their active involvement in governance and development at the barangay level.

Synthesis of the Review

The literature reviewed indicates a growing recognition of the potential of AI in transforming the job matching process. Both foreign and local studies underscore the importance of leveraging technology to enhance the efficiency and effectiveness of recruitment. The findings suggest that an AI-based job matching system for fresh graduates can address existing challenges in the job market, providing tailored solutions that benefit both candidates and employers. By integrating insights from these studies, the proposed system

aims to fill the gap in the current job matching landscape, ultimately facilitating smoother transitions for graduates into the workforce.

CHAPTER 3

TECHNICAL BACKGROUND

This chapter discusses the technicality of the project, details of the technologies to be used, and how the project will work

Conceptual Framework

The conceptual framework of this study illustration the overall structure and Research model of the application, highlighting its components: input, process and output This framework details how the "Youth Network" system, designed for barangay participation, will be developed**.**

Figure 1, presents the schematic diagram of the study, comprising three boxes that represents the input, process, and output scenarios, which collectively outline the flow and development of the system. Each box illustrates distinct tasks that contribute to the creation of the platform as a whole. These components ensure the systematic representation of the development process.

The first box in the diagram represents the Input, where the proponents conducted research to analyze the current manual processes of the barangay participation and youth engagement. Data collection methods, such as creating surveys and conducting interviews with barangay officials and youth participants, were utilized to gather relevant information.

The second box describes the Process**,** detailing the methods and tools used by the proponents to create the system. These include designing the platform's user interface, coding its functionalities using Laravel and Vue.js, and performing rigorous testing to ensure reliability and usability.

Finally, the third box represents the Output, which is the "Youth Network: A Web Platform for Barangay Participation". This system aims to address the limitations of manual processes, such as lack of efficient communication and difficulty in tracking participation. The platform will streamline activities like event coordination, feedback collection, and youth registration, reducing human errors and improving overall barangay.

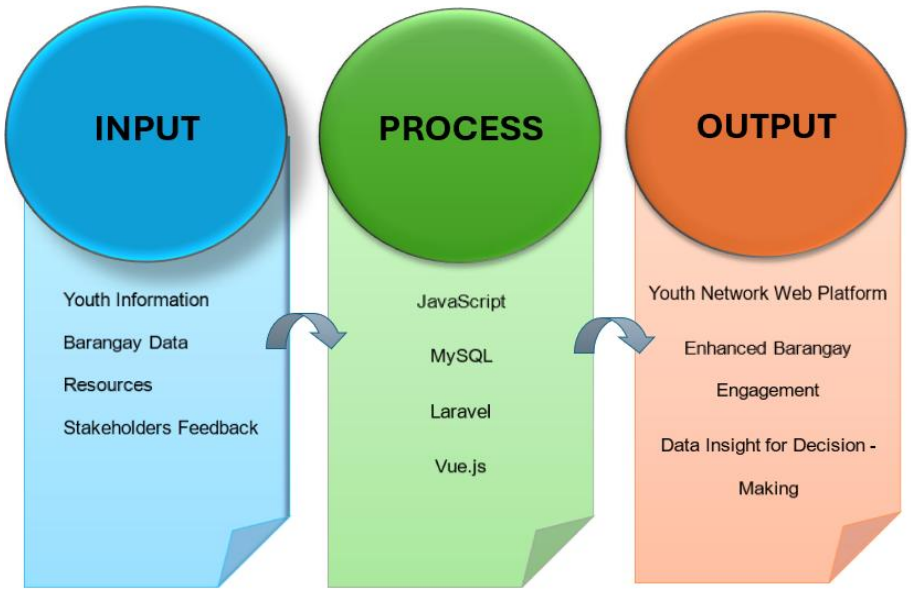

Figure 1: Schematic Diagram of the Study

METHODOLOGY

The Agile Model Methodology approach used by our group in the project "Youth Network: A Web Platform for Barangay Participation" involves breaking down the development process into several iterations. In each iteration, we deliver a functional part of the platform that can be reviewed and tested by stakeholders (e.g., barangay officials and youth members). This ensures that the product evolves in alignment with user needs and receives continuous feedback for improvement.

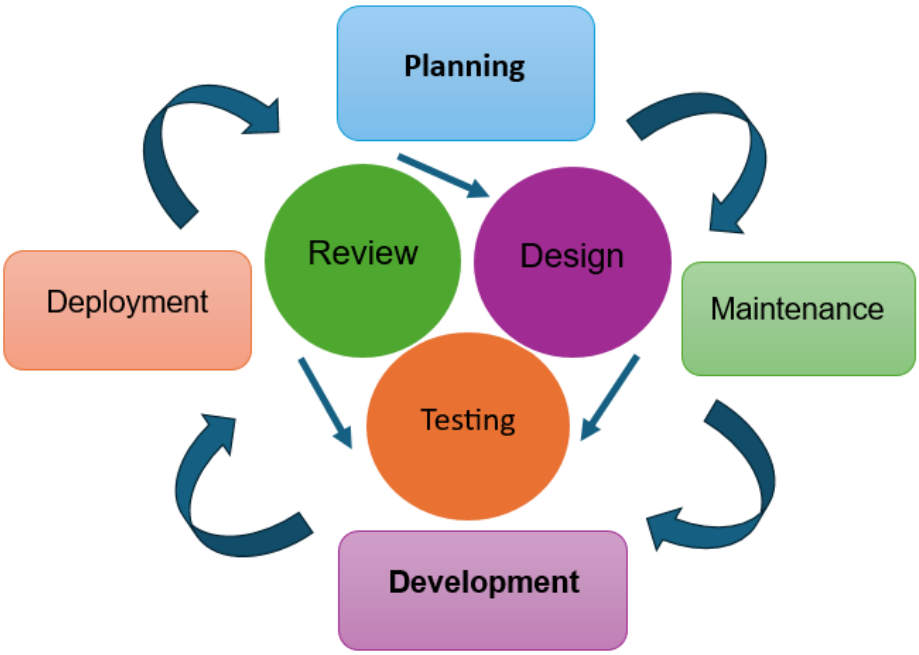

Figure 2: Agile Model Methodology

Planning:

In this phase, the team talks with barangay leaders and youth to understand what the platform needs to do. The main goal is to define key features like event management, member registration, and communication tools, so the platform meets the needs of the community.

Design:

The team creates simple designs or mockups of how the platform will look and how users will interact with it. These designs ensure that the platform is easy to use for both the youth and barangay officials.

Development:

This is when the platform is actually built. The team develops the platform in small parts or "sprints." For example, one sprint might focus on the registration system, while another focuses on the event management feature. This allows the platform to be developed step by step.

Test:

After each sprint, the platform is tested by real users (like youth and barangay leaders) to make sure everything works. This helps find and fix problems early, such as issues with signing up or attending events.

Review:

At the end of each sprint, the team reviews the progress with stakeholders. Feedback is collected to improve the platform in the next sprint. This ensures that the platform is always improving based on what users need.

Deployment:

Features are released and made available to users. This means the youth and barangay officials can start using the platform, even while new features are still being developed in future sprints.

Maintenance:

Once the platform is up and running, the team keeps it updated, fixing any problems and adding new features based on user feedback. This ensures the platform remains useful over time.

System Requirement:

Table 1

Software Requirement

Operating System	Window 10/Linux
Web Server	Apache 2.4 or Nginx
Development Tools	Visual Studio Code, MySQL Workbench

Table 2

Hardware Requirement

Processor	Intel Core i5 or equivalent
RAM	8 GB or higher
Storage	500 GB SSD
Server	Dual-core processor, 16 GB RAM, 1 TB storage

Process Model

Existing Context Diagram

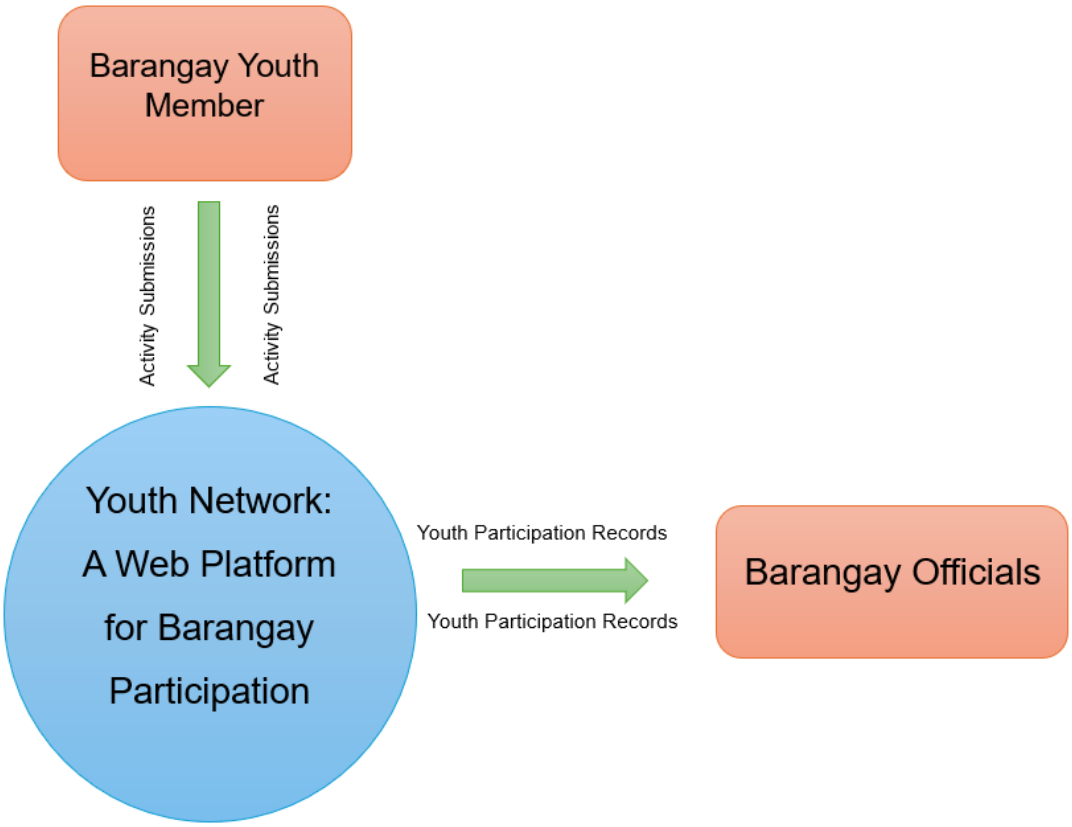

Figure 3: Existing Context Diagram

Existing Data Flow Diagram

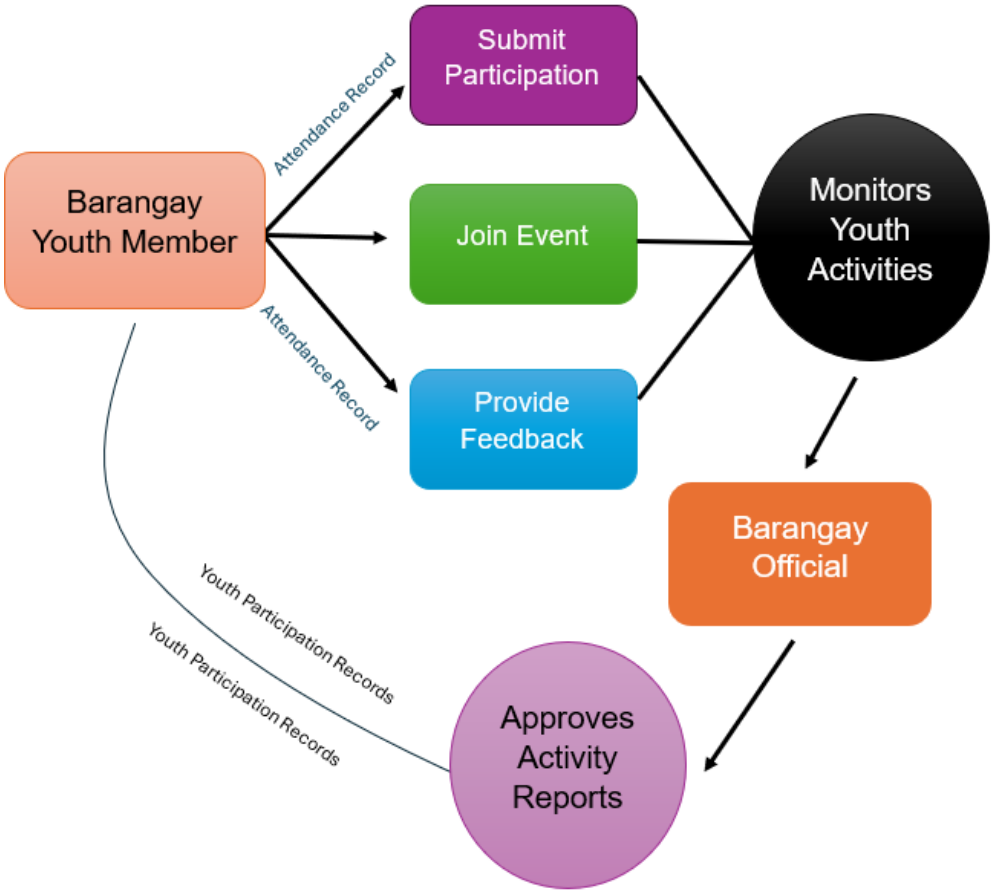

Figure 4: Existing Data Flow Diagram

Proposed Context Diagram

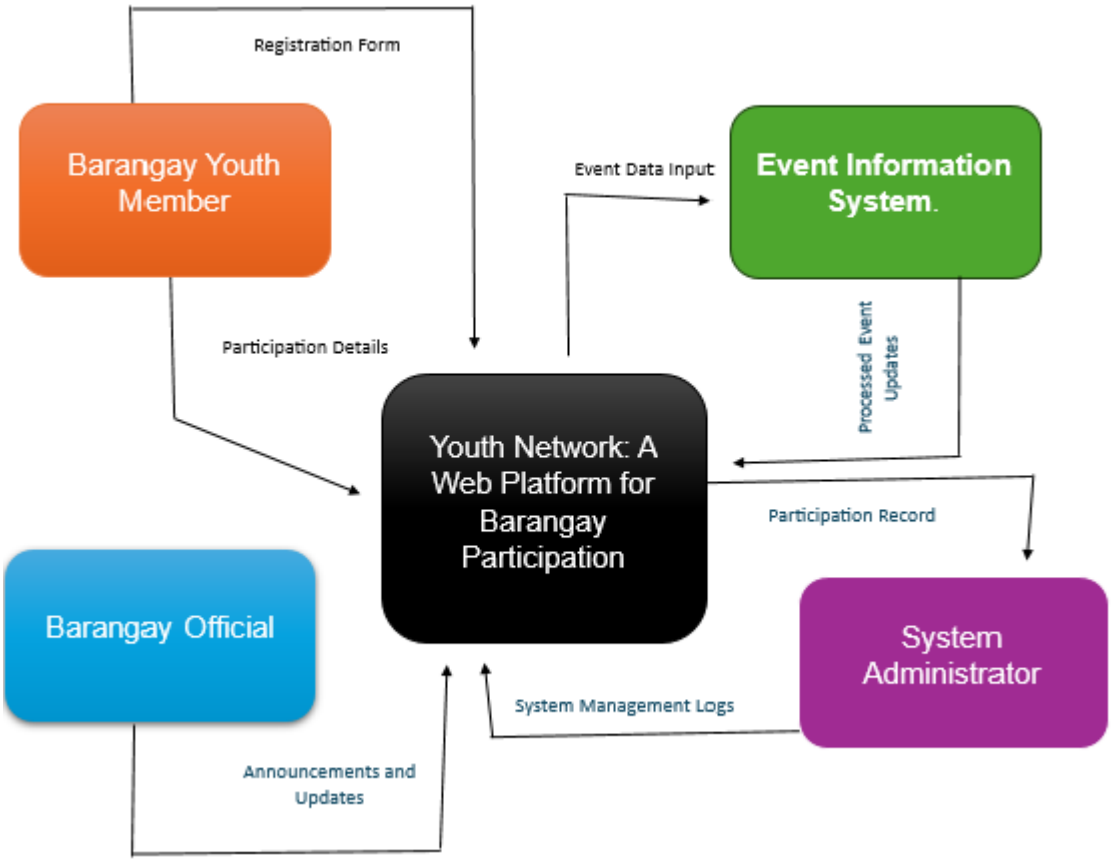

Figure 5: Proposed Context Diagram

Proposed Data Flow Diagram

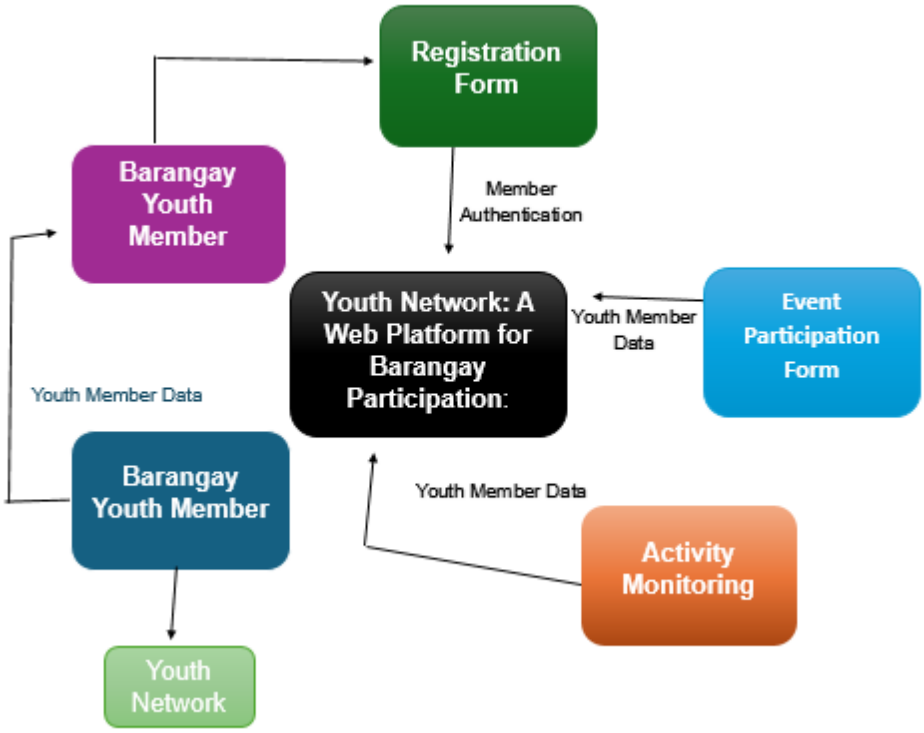

Figure 6: Proposed Data Flow Diagram