

CHAPTER VI

PROJECT MANAGEMENT

This chapter examines the various elements that impact the development of Levites, particularly in terms of acquiring the required resources to ensure that the system functions effectively. The team identifies the intended audience of the web application and the specific experiences they desire when browsing through profiles with the help of the application. The chapter delves into development strategies, production techniques, and ways of managing these activities proficiently. The team establishes a timeline for the project's development, and additional tasks such as documentation and packaging are also considered. Finally, this section describes the communication and collaboration strategies employed by the project team.

6.1 Hardware Recommendation

The development and implementation of the application required a variety of machine specifications. A laptop or a desktop is considered to be used to perform data processing for generating reports which are critical to implement in the system. Since the application will mainly be running in a desktop view, it is highly recommended, especially when presenting the features and functionalities of the application. In addition, the algorithm utilized in the development of the system is distinct from those used in other existing systems. Furthermore, the application will have an admin side designed to be accessible only to particular users and is not publicly available. As well as having selected

features that can be publicly accessed. The comparison between both algorithms is presented in Table 2.

6.2 Software Recommendation

The software requirements specifications are chosen based on the application functionality. The project team determined and enumerated the code editor, operating system, programming languages, front-end development tools, frameworks and libraries, APIs, and server and repositories required to implement the application successfully and be able to provide the functions, features, and reports needed (see Table 6). The team maximized the technology by using Microsoft Teams and Discord as communication tools for discussions and virtual meetings.

The application does not have any software recommendations for the users since the application will be on a web platform. The users only need to create an account and log in with their credentials. Users are only required to have the general applications installed by default on most devices, such as browsers with internet access.

6.3 User Classes and Characteristics

In this section, the application's intended users are introduced. The team outlines the advantages of using the system to address the identified problem. The stakeholders are described, and the team identifies the groups that will benefit from the project. This section presents the target users of the application. The team describes each identified stakeholder and explains the benefits of using the application to address the study.

6.3.1 System Admin

Since the application requests users to submit credentials to be validated and have a public feature for the general public, the system admin will manage the user accounts and reports from the users. The application will provide an interface for managing the accounts and reports for a straightforward approach to management. The system admins are the proponents of the system.

6.3.2 Church Admin

Churches are the target users of the application. The content of the application will be dependent on the church's cooperation. A church must register to provide documents and be verified. After a successful verification, the application will create a church admin that can create church users and provide access privileges to each account. The church admin will be managing the church users created. Additionally, the church admin is responsible for accepting requests and requesting collaboration with the other churches. Furthermore, the church admin can access all of the features and functionalities provided by the application.

6.3.3 Church User

The information to be processed by the application will be dependent on the church. It is necessary to have multiple users to distribute and manage the tasks and responsibilities which influence the application to make a sub-user. The church admin can only create the church users. The church users will have different privileges and access based on what the church admin configures. Church users can access any features and functionality except for the accounts module, provided the

account has access privileges. The number of church users is limited depending on the subscription.

The application will help the church workers by providing solutions and features that will efficiently help their work. The application will provide features and applications which the church workers can use in their events and activities. The application will serve as a tool for collaborating with other churches and be a platform for disseminating information and announcement of the church.

6.3.4 Public User

As the primary goal of the churches is to spread and make disciples, the application will provide a public module that the general public can access. An account must be created to allow the public to access the application. A limited feature will only be allowed to be accessed by the public user, such as the calendar of activities and the public folder of the church. The application will be an intermediary between the church and the public. The application will display the information and files provided by the church. Public users can choose or search for a specific church to be viewed.

6.4 Product Feasibility Assessment

To guarantee that the application reaches the target users in connection with the deployment of the proposed project, the team established procedures to promote the web application and its services. This section will be considering the different aspects of the product feasibility in order to accomplish the goal of this project. Including the assessment of marketing strategies, production, management, and economics.

6.4.1 Marketing

The proposed project is a web-based application, which implies that any users with devices would be able to access the browser and utilize the application as long as it has an internet connection. The team creates a landing page that emphasizes the main features, functionalities, and benefits that the application can offer. The landing page will also showcase visuals on what to be expected when they avail of the application. The application verifies the legitimacy of a particular registered church or organization, whereas the application deletes an unqualified registered church or organization upon detecting anomalies. For the time being, the legitimate church administrator or organization presents a verified badge, while the other presents a badge of unverified. The team decided to imply this preceding method considering the continuity of the application to accommodate users and utilize the Levites. The proposed project uses social media accounts, church organizations, and contacts to commercialize the project.

To expand the application's popularity, Levites will be accessible to interested churches and organizations. Maximizing this early stage will promote the application significantly and leave a good impression. The proponents decided to take advantage of this opportunity to expand the application's popularity. The proponents will be sending emails to reach out to the intended users, introducing JAJAJO and the application's purposes and features.

Ultimately, the team commences building connections with different churches or organizations. As for the feed publicity, the application allows church administrator users to customize its activities to be visible or not to the public, and

the sub-user will depend on the church administrator's assigned accessibility functions to be able to utilize them. The application provides the users with the previous usable files of activities of particular churches or organizations. Churches efficiently and effectively communicate with their associates and sum up and gather resources together in events or activities. The product and team logo intensify the exposure for the application and development team. This section will illustrate and describe the elements of the logo that presents the application finesse.

6.4.1.1 Levites Product Logo

The product logo is presented in Figure 20. The Levites logo will serve for product packaging, commercials, and other exposition inline in promoting the project. The product logo embodied the concept of the theme for the application. The logo presents the four main functions of the application, which collide in different aspects. The team's in-depth definition of the logo with the theme, in collaboration or unity, there is a resemblance of light. Also, the team decides on the color for a great accent.

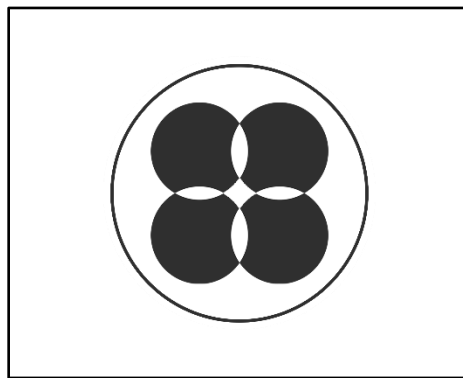


Figure 20. Levites Logo.

In Table 14, the team discusses the significant meanings of the elements implied in the Levites Logo. Also, the team talks through the gray and white color palette to achieve simplicity and a good accent. Additionally, elements such as the logo's circles, overlapping circles, and flowers are discussed.

Element	Description
Four Circles	The four circles in the center represent the four main functions of the Levites, such as Application organizer, Calendar of Activities, Songs and Lyrics, and File Storage, which are recognizable by the users.
Floral	The overlapping circles are the four main functions that collide in the application. The four circles collide in the form somewhat of an illusion of a floral. The floral has an ovary that is diamond and serves as Levites, and the petals are the circles that serve as the four main functions.
Color	The team chooses the grey and white colors to achieve the simplicity of the color accent. Also, to have an aesthetic minimalist look. Additionally, the color grey, when collides, turns white, represents that in terms of collaboration and caring, one person gives the light love.

Table 14. Levites Logo Element Interpretation.

6.4.1.2 Jacinth Jade Joaquinite Enterprise (JAJAJO Enterprise) Logo

It comprises the members, their roles, characteristics, and significance in achieving something. The group's name is Jacinth Jade Joaquinite Enterprise (JAJAJO Enterprise). The group logo is provided in

Figure 21. The team's personality inspires the concept for the team logo and has its strengths and weaknesses, and leaves room for improvement.

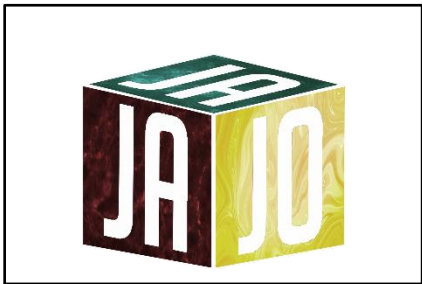


Figure 21. Jacinth Jade Joaquinite Enterprise Logo.

The team logo was decided after a few revisions in the branding session. The finalization on what symbol could represent the entire team, a cube shape that consists of the acronyms of the team name. The research team also discussed how its name was chosen. Table 15 discusses the individual elements found in the logo.

Element	Description
	A logo consisting of a cube with three people in each space could represent unity, collaboration, and teamwork. The cube itself can represent stability and structure, while the presence of multiple people within each space suggests inclusivity and diversity.

Cube	Red Marble	This interprets the color of the jacinth, which is someone bold, confident, and determined with a fierce sense of ambition and a desire to achieve their goals.
	Green Marble	This interprets the color of the jade in which someone who embodies these qualities might be seen as ambitious, hardworking, and disciplined, with a strong sense of determination and a desire to succeed in their endeavors.
	Yellow Marble	This interprets the color of the joaquinite as someone who embodies these qualities might be seen as a steady, dependable presence in their relationships and community, with a strong sense of responsibility and a desire to support and care for others.
JAJAJO	The name idea "JAJAJO" was formed by using the first two letters or parts of the names of the individuals in the group as an abbreviation. Although initially formed using the abbreviation of the names of the individuals in the group, the team later decided to adopt a concept based on gemstones, with each gemstone representing a particular characteristic or trait. The Jacinth symbolism be perceived as someone with warmth, vibrancy, and passion. Then the Jade symbolism and characteristics describe someone calm, balanced, and grounded. Lastly, the Joaquinite symbolizes a stable, reliable, and down-to-earth person.	

Table 15. JAJAJO Enterprise Logo Interpretation.

6.4.1.3 Product Advertisement

The project team aims to assist churches, organizations, and the public by providing a platform where these users can collaborate and disseminate information about the activities, events, masses, and announcements. The application also aims to efficiently reduce the workload of the church workers by providing features and functions to solve the problem. For advertisement, social media will be the platform for promoting the application and allowing certain churches to try the application, which can spread the reputation of the application and entourage interested users. A product video of Levites will also be created that shows the application features and functionalities, purposes, and the overview of the whole application.

6.4.1.4 Product Packaging

Levite's product packaging is designed to reflect the application. The product packaging includes the application logo, name, features, and description. A visual representation of the materials for the packaging is presented in Appendix I.

6.4.2 Management

Levites is an application developed and owned by JAJAJO Enterprise until turned over to the client. The application is developed by its members mentioned in the concluding section of this chapter. The project team will be accountable for the maintenance of the system, as well as for expansions and improvements. Appendix E depicts the list of activities and the project scheduling concerns.

Utilization of the application is maximized when used by church workers with experience in social platforms and techie. The intended users do not need an extensive skill set; minimal training is necessary. Using and navigating the application will only need inputs from the user and clicking certain buttons, then the application will take care of the necessary process to complete the action. The responsibilities of the users involve examining the output of the profiling, statistics, and reports that the system produces, taking into account the margin of error and any external factors that may influence the application process.

As stated in the previous chapters, Levites is a web application optimized for laptop and desktop computers. The proponents would like to emphasize that the application does not cover updates of the activities, files, and information since it depends on the church users. This means that the information displayed to the public may be outdated, and errors may still occur. The church admin will be responsible for reviewing the information and actions done by the users. Additionally, the accessibility of the application is restricted to be used by churches that are granted access to the application. The general public can only access the permitted features and functions. Finally, to fully appreciate the application functionality, data generation is displayed through reports expected by the churches to assist them in improving their services.

6.4.3 Economic

Equipment, software licenses, and other miscellaneous expenses have been identified and calculated. The specifications of the devices selected for the development and execution of Levites are deemed reasonable and expected to yield

a Return on Investment (ROI). In general, the application aims to minimize the expenses incurred by the stakeholders when seeking legal advice prior to entering into an agreement. Levites will serve as a tool to help the churches to help them with their daily activities, events, and services.

One other reason that target stakeholders are encouraged to invest in the application is that, in the long-term perspective, it has the potential to become a platform for churches where the public can view the different activities, events, and services that a church can offer. The application can also be capable of spreading the influence of the church to the public. Given the available resources to deploy Levites, the term legitimacy was validated solely for statements concerning data utilization. If the application were to be extended, examining provisions related to the data subjects' obligations, liabilities, fees, and termination policies concerning the service-providing organization will be conducted.

6.4.4 Production

Levites is a web-based application, and the final product will be deployed using web hosting services. Prior to implementing the hosting system, it is essential to carry out development and testing procedures to verify the accuracy of each criterion. The Program Evaluation and Review Technique (PERT) Table indicates the development activities. After following these procedures, the application is approved for its initial release. The project manager will gather the requirements needed, such as the authorization for production. Consultants and advisors perform inspections and quality control measures to aid the system's continued assessment.

The project team takes feedback into account as they gradually update the application while making the first version available to the public.

6.5 Time Management.

The project team listed down the deliverables for developing and implementing Levites. These deliverables include the composition of documentation sections, creating development procedures, testing, debugging, and deployment. For this project, one week is equivalent to seven days since certain activities do not require the developers' intervention and can proceed even on non-working days. The PERT Table is presented in Appendix E, and the PERT diagram is in Appendix F.

6.6 Communication, Coordination, and Team Composition

The team initiates themselves and their groups to fulfill the affiliation to begin in the section. The discussion of communication platforms is in this section, in which the project development team members collaborate. The developer will attain this assigned task to ensure the success of the development of the project.

6.6.1 Communication

The collaboration of the three team members made the project's conceptualization possible. The team members communicate remotely through Microsoft Teams, a platform for discussions, walkthroughs, updates, and scheduling. Moreover, all documents and files related to Levites' development are stored in a single folder on Google Drive, accessible through the email address unor.jajajo2024@gmail.com. Technical consultations with the project consultant

take place through a face-to-face meeting established at UNO-R, as well as updates through our chat group's messenger. The meeting schedule ensures that suggestions and recommendations are made to improve the final output's quality. During every meeting, the team also reminds the adviser to provide updates on the project's progress from the proposal to the developmental phase until the documentation and product packaging closing activities.

6.6.2 Coordination

To ensure a coordinated development process, the project manager builds walkthrough progress to resolve problems and designates tasks for each team member. The team discussed the challenges they encountered in collaborating between the primary and secondary functions. Regular meetings with consultants are scheduled by the project manager and held in school. The team ensures the project uses a designated repository during development, which allows developers to push and pull updates when new functionalities are added. The project manager is responsible for organizing the activities related to the new functionalities.

6.6.3 Team Composition

Until the project team has finished its activities, the prototype is presented to the technical consultant and adviser for further testing and feedback to improve the application's functionality.

The JAJAJO team is responsible for developing the application, reflecting the team's commitment and expertise in the technological industry. Their goal is to contribute to the industry, and this project was created for that purpose. With each team member's high-quality skills and knowledge, they can excel in their field of

study and profession, which is information technology. The upcoming section will discuss each team member's assigned task in completing the developed project.

6.6.3.1 Lead Developer

The lead developer is responsible for backend development and ensuring the quality of the team's workflow and technical needs. They are responsible for major project revisions and collaboratively assessing all reports. Additionally, they lead and guide the application team in developing the logic, integrating external services, and ensuring the application's performance, scalability, and security. The team believes the lead developer maintains the backend flow using various languages such as PHP, JavaScript, and CSS and manages the data in SQL.

6.6.3.2 Front-end Developer

The front-end developer possesses the skills to design the visual aspects of web application software. The team believes the developer creates applications that attract users and encourage them to use the system. They are responsible for ensuring that the team's graphical representation, including responsiveness in different devices, typography, color schemes, and other visual aspects, accurately represents the team. The front-end developer is also responsible for additional functionality such as navigation and accessibility, ensuring compatibility with different browsers and devices. They stay updated with the latest technologies and best practices to ensure the application is high quality and meets positive user experience.

6.6.3.3 Project Manager

The project manager is responsible for overseeing the completion of tasks by each team member, organizing the development activities, and updating the team on progress. They are involved in all project stages, from the initial planning to the final delivery. The project manager plays a critical role in directing complex operations, ensuring that tasks are completed efficiently and on time. They provide feedback to team members to improve the quality of the application and ensure that resources are allocated effectively.

This chapter covers the recommendations for both hardware and software necessary for developing the project. The users were identified along with their classes and characteristics that are considered to determine their importance in Levites and associated privileges. Additionally, it covers production, marketing strategies, and other resources necessary to promote the application to end users. The product advertisement and logo are also discussed regarding the project's purpose. The team's time management is highlighted to gauge the time required for deploying and preparing Levites. Additionally, the project's communication, coordination, and team structure are deliberated upon to determine each team member's responsibilities, which will help in successfully finishing the project.

APPENDIX A

Mutual Agreement Form for Co-Authorship (Adopted from Philippine Association of Institutions for Research (PAIR), Inc.)

WE, the researcher and research adviser/consultant, have worked together in a capstone project from January 2023 to October 2023.

WE have used various forms of contact during the thesis work such as Discord, Microsoft Teams, and Messenger, among others.

WE agree that

- the academic partnership leads to publication of the manuscript with the research consultant as the author and the researcher, the primary author.
- the paper be presented in public forum by the researcher if available at such an opportunity or by the research adviser/consultant if the researcher is no longer around.
- only the name of the oral presenter shall be submitted to the Conference organizer.

WE agree to dress formally and prepare adequately for the formal oral presentation in both the oral defense panel and the public presentations.

Signed this 19th of May in the year of our Lord 2023 in Bacolod City, Philippines.

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Witness

APPENDIX B

System Budget.

PROJECT COST	YEARLY COST	SERVICE
1.Design		
1.1 Prototype	7,920.00	Figma
1.2 Contents	7,920.00	Grammarly
2.Development		
2.1 Template	845.00	
2.2 Web Hosting	2,028.00	Hostinger
2.3 API	3,300.00	Genius
2.4 File Storage	3,564	Google Workspace
TOTAL SYSTEM COST	24,317	
3. Operation and Maintenance		
3.1 Web Hosting	2,028.00	Hostinger
3.2 File Storage	7,128.00	Google Workspace
OPERATION AND MAINTENANCE COST	9,156.00	

APPENDIX C

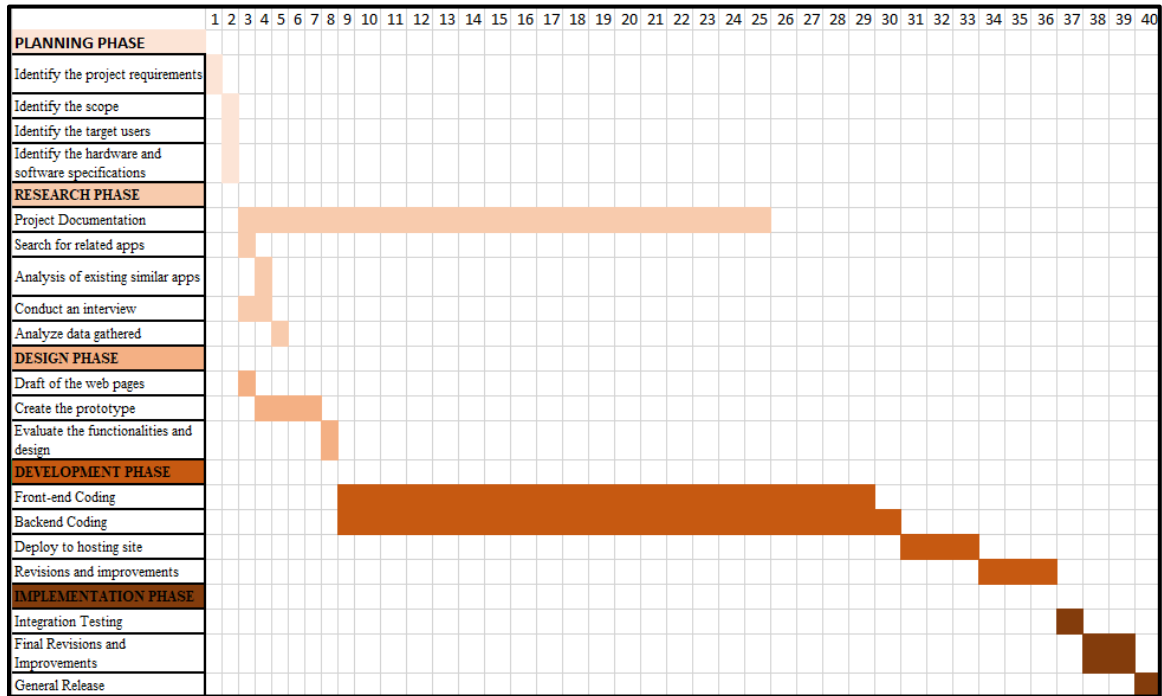
Cost Benefit Analysis.

	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5
Total System Cost	₱24,317.00					
Operation and Maintenance Cost + (10%)		₱9,156.00	₱9,156.00	₱10,071.60	₱11,078.76	₱12,186.64
Discount Factor (12%)	1.00	0.89	0.80	0.71	0.64	0.57
Time Adjusted Cost	₱24,317.00	₱8,175.00	₱7,299.11	₱7,168.77	₱7,040.75	₱6,915.02
Cumulative Adjusted Cost over Time	₱24,317.00	₱32,492.00	₱39,791.11	₱46,959.87	₱54,000.63	₱60,915.65
Benefits derived from operation of new system + (5% starting Year 2)		₱150,000.00	₱157,500.00	₱165,375.00	₱173,643.75	₱182,325.94
Discount Factor (12%)	1.00	0.89	0.80	0.71	0.64	0.57
Time Adjusted Benefits		₱133,928.57	₱125,558.04	₱117,710.66	₱110,353.74	₱103,456.36
Cumulative Time Adjusted Benefits over Time		₱119,579.08	₱245,137.12	₱362,847.78	₱473,201.52	₱576,658.15
Cumulative Time Adjusted Cost + Benefits	₱24,317.00	₱87,087.08	₱205,346.01	₱315,887.90	₱419,200.89	₱515,742.50

Return on Investments (ROI)	8.467 or 847%
Net Present Value (NPV)	₱515,742.50
Payback Period	0.27

APPENDIX D

Gantt Chart.



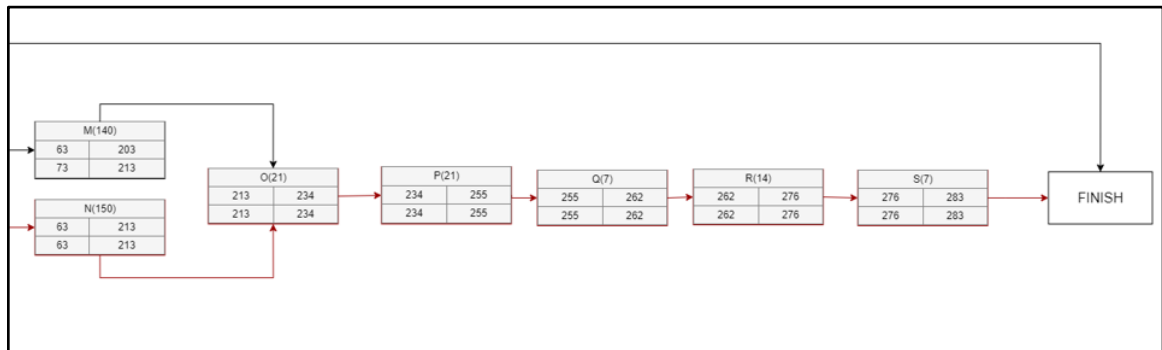
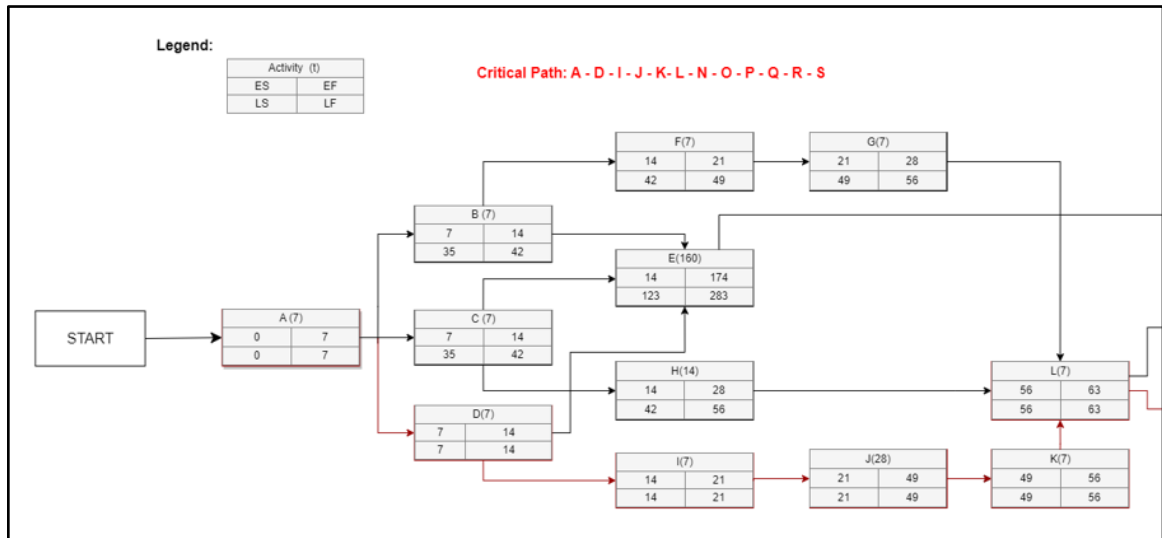
APPENDIX E

PERT Table.

ACTIVITIES	PREDECESSOR	DURATION (In Day/s)
A. Identify the project requirements	-	7
B. Identify the scope	A	7
C. Identify the target users	A	7
D. Identify the hardware and software specifications	A	7
E. Project Documentation	B, C, D	160
F. Search for related apps	B	7
G. Analysis of existing similar apps	F	7
H. Conduct an interview	C	14
I. Draft of the web pages	D	7
J. Create the prototype	I	28
K. Evaluate the functionalities and design	J	7
L. Analyze data gathered	H, G, K	7
M. Front-end Coding	L	140
N. Backend Coding	L	150
O. Deploy to hosting site	M, N	21
P. Revisions and improvements	O	21
Q. Integration Testing	P	7
R. Final Revisions and Improvements	Q	14
S. General Release	R	7

APPENDIX F

PERT Diagram.



APPENDIX G

Team Logo.



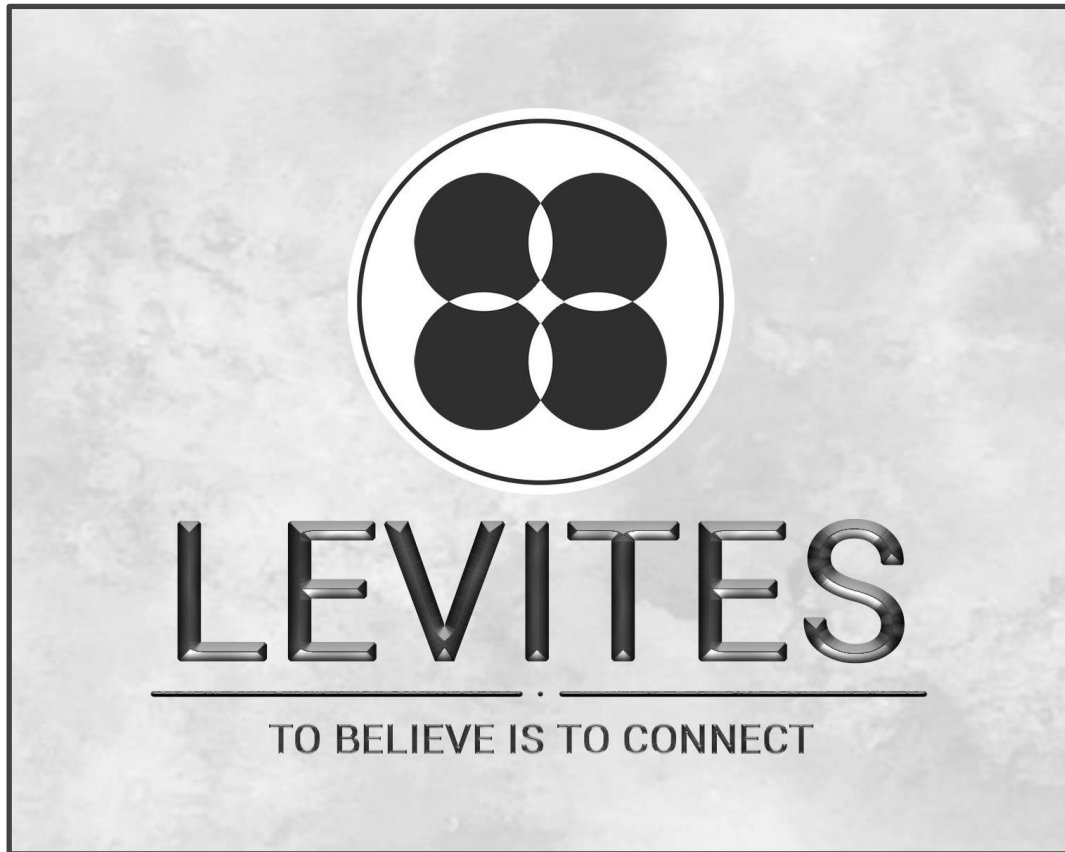
The elements of a group called Jacinth Jade Joaquinite Enterprise (JAJAJO Enterprise) include the members, their roles, characteristics, and significance in achieving something. The team's name is derived from the first two letters or parts of the names of the individuals in the group, namely Jan Ryan Divinagracia, JayCobb Andrew Moya, and John Cliff Fortaleza. Later, the team adopted a concept based on gemstones, with each gemstone representing a particular characteristic or trait. The symbolism of Jacinth represents warmth, vibrancy, and passion, while Jade represents calmness, balance, and groundedness, and Joaquinite represents stability, reliability, and a down-to-earth personality.

Additionally elaborates on the team logo and how it was developed through revisions in the branding session. The final design is a cube shape that consists of the acronyms of the team name, representing unity, collaboration, and teamwork. The cube represents stability and structure, while multiple people within each space suggest inclusivity and diversity. The logo also incorporates three different marble colors, each representing the symbolism of the three gemstones mentioned earlier.

Overall, the passage highlights the importance of developing a clear understanding of the elements that make up a team, including its name, logo, and characteristics of its members. By adopting a concept based on gemstones, the JAJAJO Enterprise team can represent a wide range of positive traits and characteristics essential for achieving success, including passion, determination, balance, stability, and reliability. Additionally, the team logo visually represents these qualities, emphasizing the importance of unity, collaboration, and inclusivity.

APPENDIX H

Application Logo.



The logo is intended to be a prominent visual representation of Levites application, featured on product packaging, commercials, and other promotional materials. To ensure that the logo accurately reflects the application's core theme and functions, the design team carefully crafted the logo to embody the four main functions of the application.

The team chose a color palette of gray and white to achieve a simple, minimalist aesthetic. These colors were selected to highlight the logo's accent and emphasize the

importance of collaboration and caring. When the colors gray and white collide, they represent working together and giving the light of love. By utilizing these colors, the team created a logo that reflects the collaborative and unified spirit of the Levite's application.

The four circles featured prominently in the center of the logo represent the four main functions of the application, making it easy for users to recognize and understand the purpose of the product. Additionally, the overlapping circles create an illusion of a floral design, highlighting the application's theme of collaboration and unity.

The diamond ovary at the center of the floral design represents Levites, while the petals symbolize the four main functions of the application. The team carefully considered these design elements to ensure the logo accurately reflected the Levites application's key features and theme. By thoughtfully incorporating these design elements into the logo, the team created a visually striking and meaningful representation of the Levites application.

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