Cinemust: A Campus Video Library

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BACKGROUND OF THE PROJECT

Cinemust: A Campus Video Library, is a product line software that acts as a place to view, and search for the user's favorite memorial and eventful clips of campus life from Holy Angel University's college departments and its staff, instructors, councils, and other respected parties. This application is a timeless form of media that advocates for the Angelite spirit and to embody a true Angelite's core values with the practice through the means of a media and entertainment software.

This project is designed to showcase the skills and ability of the programmers/students to develop a software that is capable of benefiting the institution in the long-term. Originally based and inspired by IMDB Ratings and Reviews, wherein it is supposed to show trailers from big movies, but it poses a possible infringement case considering the sources of the trailers are mostly from the U.S. As stated by (Ellison, 2024).

Copyright gives the right for the creator/company to reproduce, distribute, and display their work and that includes trailers that should not be uploaded or showcased by any means, unless provided by "fair use" of the low fidelity reproduction. Another inspiration are facebook pages that are for social media of certain departments, although with the benefits of accessibility in mind; these are not formal and easily accessible by outsiders. It is even inspired from the video folder found in every OS that may be simple but contains helpful features like search, modularity by types; dates, and folders, and the video collection itself. This project aims to capture the charm and functionality of IMDB and the features of facebook pages to form an alternate private media platform as the primary vision.

This paper will serve as a documentation to users who are willing to understand our project goals. To showcase our final output, understanding the background would show how the team was able to effectively meet the required output.

The scope for this software is for a small group of students; particularly from the school of HAU targets are the college students from every department. The team is only capable of handling smaller groups and local media from different departments of Holy Angel University as copyrighted works are rough to manage. This boundary is beneficial as it helps the team to focus more on educational and community promotion inside the campus by using requested videos of any academic context.

The significance of this project is helpful in enhancing the developing team skills and in the future, help inspire computer science college students to innovate to solve new problems that they face. Promoting the Angelites spirit of excellence and compassion either by watching the collection of videos or being part of the development of the community.

DESIGN

Design Concept

The product-line software that the team developed is a viewing of videos application, similar design as the well known IMDB movie information website. Instead of showcasing movie trailers, it contains a collection of memorial and eventful clips from Holy Angel University's college departments and its staff, instructors, councils, and other respected parties. As stated in the background, the team focused on the HAU college

students as the main stakeholders. Sharing what is happening around the campus, what is it about and any information that can be consumed by the stakeholders to practice the values of a true Angelite to carry on through their professional careers.

The product supports the ability to search, show lists that are in the same category, user login, and user information profile. In addition, small features that come from different libraries developed by the community from the chosen toolkits are proven useful when making the application functional.

user feedback from every review was incorporated in the software life cycle. The usage of films/media made by college students across all departments instead of international movie trailers was the first recommendation. A bottom navigation is another recommendation to aid users to easily switch from different pages of the application in mobile devices. Another is the use of user login, to give off an application design instead of a website feel. Previously provided are added features also known as user-centric design that helps the developer team to further reach their goal and making the software closer to the user requirements. It was done by using tools from chosen languages and other libraries. The use of Flutter, provides a cross platform feature that is proven helpful for the developer team. Flutter also has capabilities that enable dependencies from other tools such as local database XAMPP.

Development team wanted the application to be coherent, able to provide a simple yet consistent design with the use of traits like colors that affect user engagement. Although lacking in accessibility due to the local database requirement instead of remote; It easily has lower latency and is modifiable by the users if they are willing to implement their ideas

which enables a community support feature instead of a restriction to the developers only. Using “Scrum” a form of Agile model which uses Sprints was a helpful and common use for application development, Enabling iterated development that is improved through the life cycle and is also influenced by users and stakeholders. In conclusion, this software is independent and coherent that is easily understandable and usable for anyone; but is still open for modification for community engagement, promoting transparency and creativity for future generations of computer science students.

SITE CONTEXT

Site Justification

The software is in the form of a virtual application that runs locally, perfect for the average users with basic workstation setups or even a simple android device. Perfect for impulse use, considering the software is not built for application software that manages a physical system. It is built to work on any device's operating system.

System Analysis

As stated previously, this software is located to run in operating systems locally and is not a web application. With those specifications stated together with the database feature, Users are required to have XAMPP database tools to run the software; it is although possible to run independently if its database is remote which requires dependencies.

DESIGN POTENTIAL

Internal Characteristic

For the internal design layout for our software, the team focused on improving user engagement within the campus. It works similar to an installed app in the operating system that works independently from the internet; similar to a digital library of videos of campus life. This is done by implementing UI design that will help users experience events digitally and timelessly from the app by making it seamless to use and attractive. Allowing for the betterment of college lifestyle within the HAU campus.

External Characteristic

The design is simple and far from competitive from community trends; it is a showcase of the developer team's understanding of software development and tools; to effectively implement the software life cycle and following certain methodologies and frameworks. It is still important to make the design as creative and conformable to community trends. Certain requirements like functional requirements that are documented to follow standards. It is about following the trends with our own ideas to implement that is useful for the promotion of the institution rather than focusing on innovation.

LIST OF TOOLS, LANGUAGES, AND LIBRARIES

TYPE	NAME	USAGE
Language	Dart	mainly used for logic and style
Language	Php	Used for the api

Tool	Flutter	toolkit for dart
Tool	XAMPP	local database
Tool	Github	repository and collaboration
Tool	VsCode	editor
Imports	Libraries	added features
Imports	Dependencies	remote connectors for the base program

In this framework and prior to the design phase and its functional and nonfunctional requirements, communicating and further knowing the specifications allows the team to identify what languages fit best and tools to use. An application like this one is supported best by specially made tools which will make the workflow easier for the team; certain programming languages also offer features that are more robust and flexible.

DESIGN LAYOUT

In addition to what was included in the design potential, design layouts for this software have been included already. The importance of having a comprehensive design that is coherent is essential for user engagement. The team also needs to follow standards and are limited by constraints depending on context; this is by a group of students aiming to learn and perform by creating their software for educational purposes. As the standards suggest, an organized content, complete, legible, and overall follows design standards.

Organization of content

Having a structured arrangement of the layout in a hierarchical format promotes an intuitive navigation for users ease of use. The main contents such as the clips, and search tool are not only the main feature of this software but are also what should be the first thing that users will encounter. It was designed to have a linear flow and be easily usable without training and demonstration for users; the team develops with common trends and standards while also having the prime structure to be similar to inspirations such as IMDB. In conclusion, it should be uniform and consistent, while also eliminating unnecessary complex features found in other well known softwares; a user can fully experience the application by a few clicks taking their patience in consideration.

Completeness

In-line with the organization that promotes ease of use, it will not function well without the benefits of efficiency and user support that completeness of necessary features offers. In this portion, having tools like search, asking the user to login and providing a library of videos is proven to be helpful for usage. Front end is the prime product that is used by the stakeholders; if the frontend is incomplete with the requirements, it will not meet the user satisfaction.

Legibility

Part of the UI design are fonts and base colors palettes “usually 4-5”. When knowing what are the psychological effects of font and colors & tones; design will be easier. Although proper usage of fonts and colors are useful; improper usage is proven to do the opposite which does more harm than good, (Interaction Design Foundation, 2016) "Color theory enables you to pick colors that go well together and convey the right mood or message in your work". Flowy and Large fonts are distracting and hard to understand, simplicity will enable users to focus more on the actual content. Considering the fact that this product-line software is part of the entertainment field, muted color tones will set the mood of the user into focusing and calming mode. These muted and dark colors of red, blue and even black and white for fonts are widely used in the entertainment media.

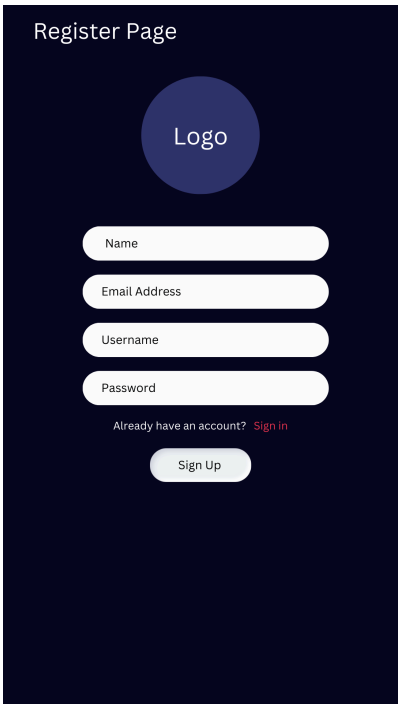
Design Standards

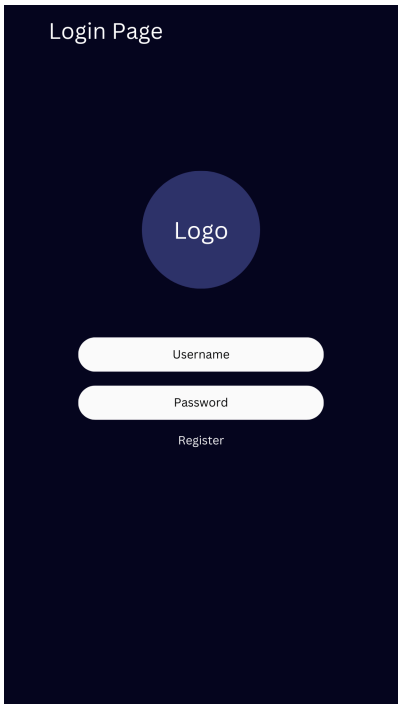
application must adhere to established design standards in consideration with users. Part of having a good design is making it familiar in nature; and this familiarity is evident in every application that also follows the standard that we are accustomed to.

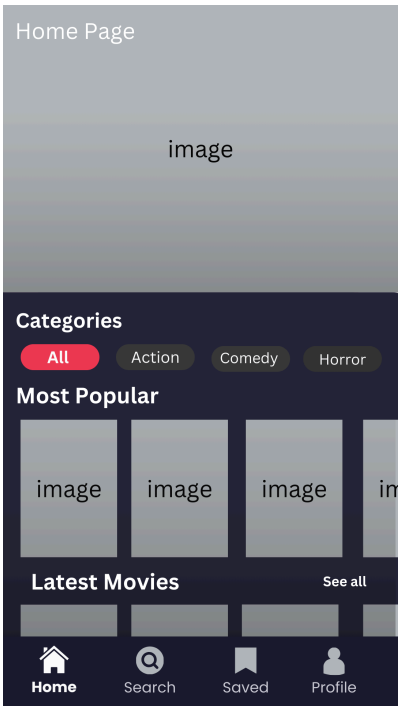
- **Material design -** the developers followed design standards for “visual” and “interaction”. A familiar visual design that is commonly seen in entertainment softwares. Interactions like, taps & swipes for mobile devices; clicks & scroll for PC’s.
- **Responsive design -** by using flutter, it is easy to implement the cross platform feature for our software which is also part of the basic requirements when

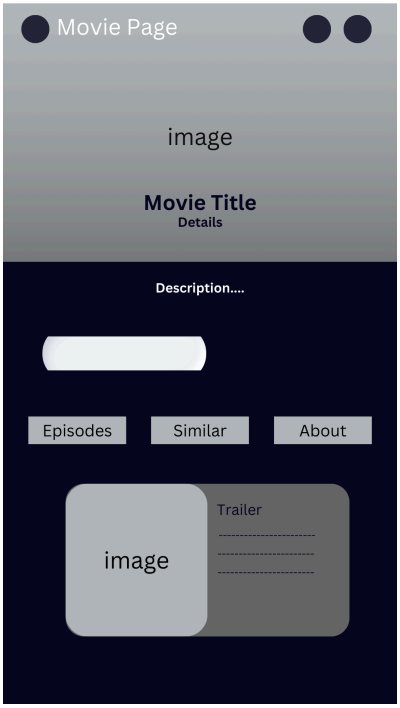
developing a software. Working on different platforms and being responsive for different locations.

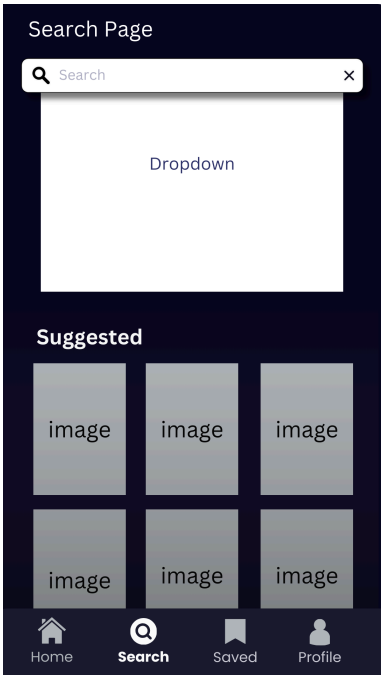
Wireframe

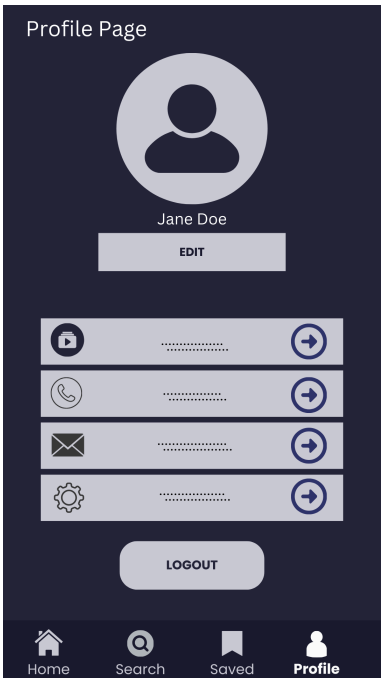










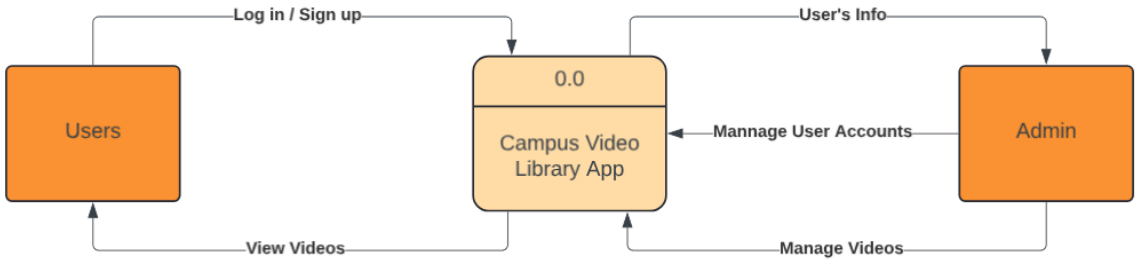


FUNCTIONAL AND NON-FUNCTIONAL REQUIREMENTS

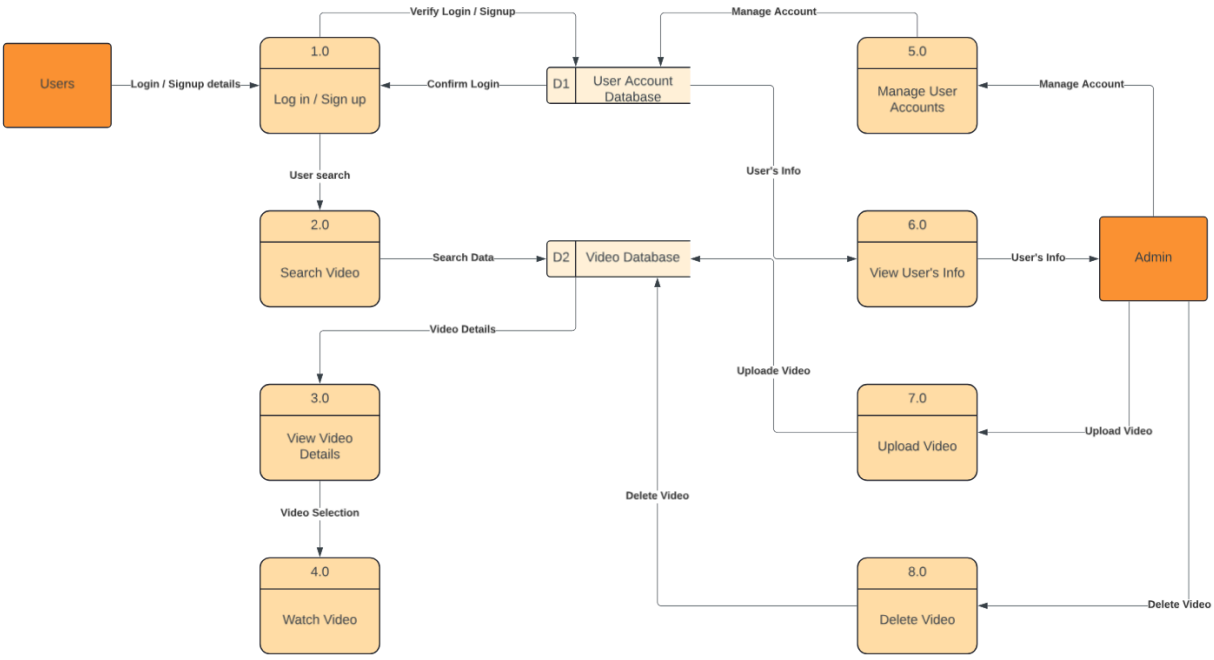
Functional Requirements	Non-Functional Requirements
The app should allow the users to register in order to use it.	**Security**: User passwords must be encrypted to ensure data protection.
Users should be able to play videos.	**Performance:** The videos should load within at least 3 seconds and run smoothly.
Users should be able search for videos.	**Usability:** The interface should be user-friendly and simple to navigate, making it accessible and straightforward for first-time users.
Users should be able to browse and filter the videos by department.	**Responsiveness**: The app should look and work the same on all devices, like phones, tablets, and computers.
Users must be able to update profile details, including their profile picture, username, and email.	**Performance**: The profile update process must be completed within 2 seconds under normal network conditions to ensure a smooth user experience.

SOFTWARE ANALYSIS DEVELOPMENT TOOL

Level 0

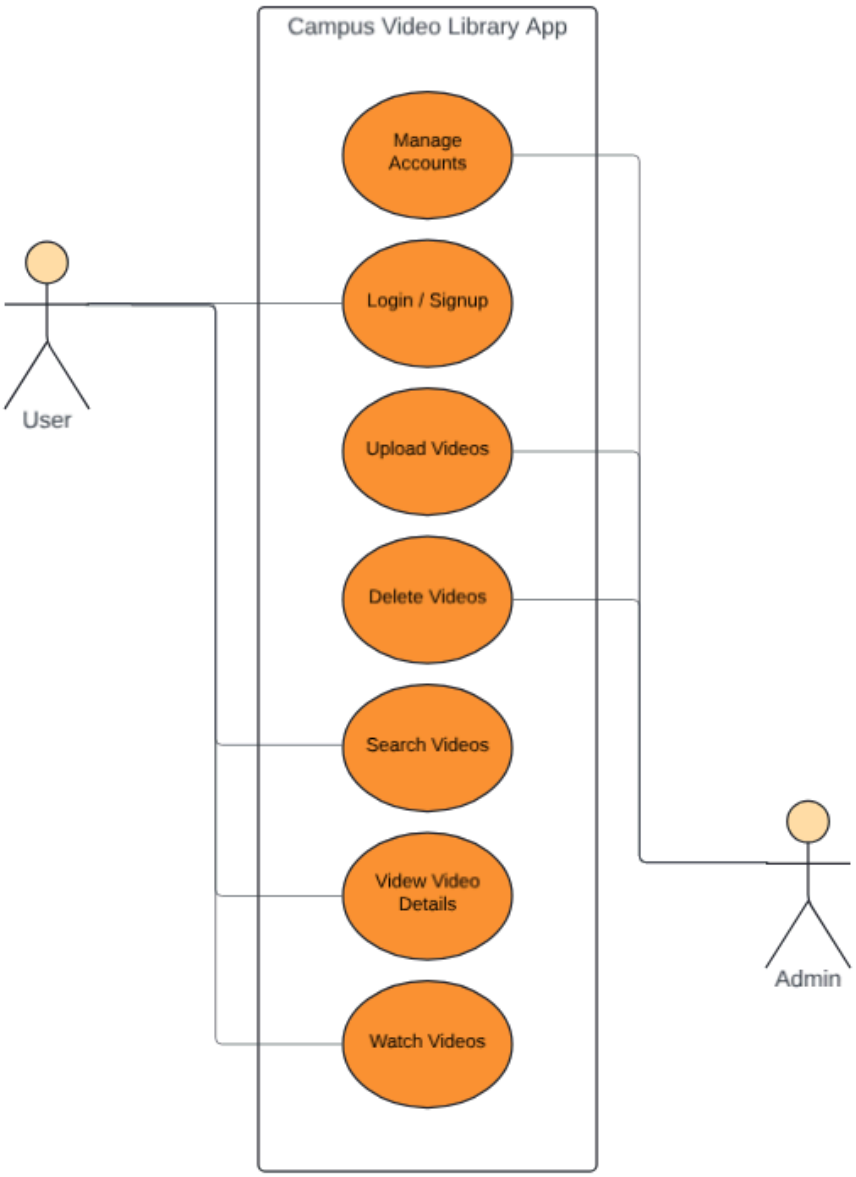


Level 1



SOFTWARE MODEL

Use-Case Diagram



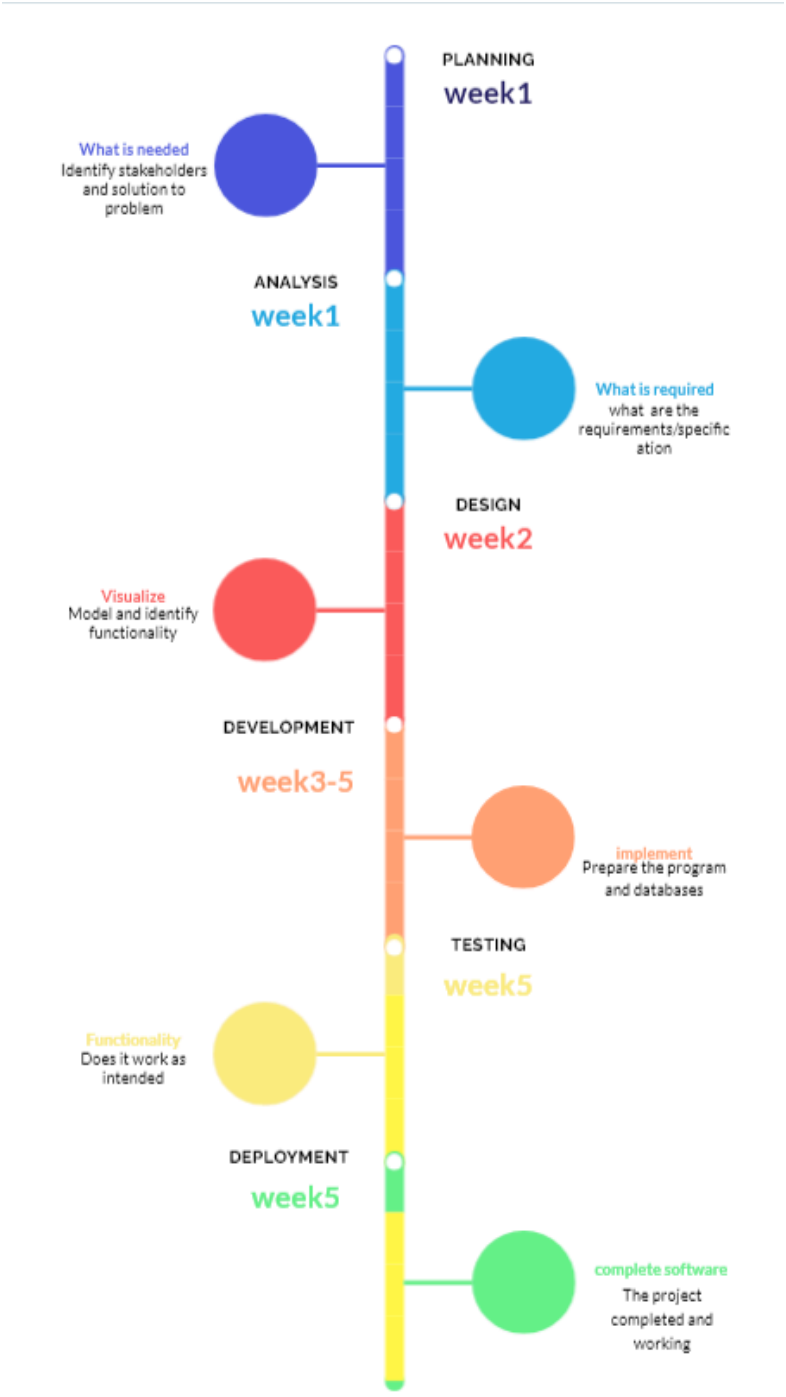
PROCESS DEVELOPMENT MODEL

Using the software methodology Scrum, under the Agile model, the developers require constant iterations called “sprints” with the consideration of previous sprint retrospectives and begin each with sprint planning. The developers must share their progress report weekly to the stakeholders and the scrum master, which in this case is the professor while the product owner as the development team. The team started with the concept and wireframe of the product-line software, this is prior to the project management using Scrum. The next step is the beginning of the first sprint; it is to plan how the software wireframe will be translated into code, and what repository will be used. As the product to be reviewed from the first iteration was a basic page switching feature and frontend design; it still needs the logic code for it to function; which will be the next focus on the second sprint. The output was reviewed with a few documentations to be used for the progress report for the professor to see the progress and share recommendations. With the recommendations in mind, the developers developed the product backlog; changing the previous plans for the software. In the second sprint is where the logic, basic features, and contents were made based on the sprint backlog. The same process was issued during the progress report and communication with the professor. After that, it is the last sprint to be conducted; having both the recommendations and databases to implement as the priority to fully polish the working product.

The repeated improvements from the previous sprints, together with the planning with the team and communicating to the professor is a form of Agile ‘Scrum” which the team used for their project development. Although lacking documentation as its feature, the

continuous development through sprints was proven to be useful when having to do a product that has a short allotted time such as for product-line software of this application.

Timeline



IMPLEMENTATION

Planning - The project identified for development is a form of mobile product-line software aiming to immerse the stakeholders about the events within the campus. This can be done by offering features like organization of specific categories, ability to save and search media that are borrowed for educational reasons. The backend and frontend system within this software contains the user accessing the application and the applications logic working together with the database.

A comprehensive feasibility assessment was conducted to evaluate the project's viability:

- **Economical** - Considering the production of the app was not primarily made for profit in mind, the goals and potential benefits are to showcase works within the institution and to comply with the skill based project.
- **Technical** - The usage of tools like XAMPP and Flutter with Dart are proven to be efficient, effective and offer the basic requirements that are needed to be accomplished in the provided time period.
- **Operational** - The software was developed to fully implement the lessons that have been taught throughout the semester.

Analysis - The team analyzed all requirements given and is documented to communicate and implement throughout the process. Aiming to achieve the required output, satisfy, and meet the expectations of the stakeholders to what must be achieved. Within the project's context, this includes the functional and non-functional requirements. In contrast, not all

requirements are features; it is also identifying boundaries and constraints like how a local database has its pros and cons, others are time bound cases like providing an automatic user creation that enables variation for user profiles and automatically creates a foreign key to be used for their credentials and their saved media.

Design - Is designed to work in different platforms and common OS (Operating Systems) like Android and MacOS. Designed to work with low latency due to the local database; together it compliments the security of the usage. In addition, Other visual models and few documentations were made and proven to further help for future references of the development that are also open for improvements during and after the development of the system software.

Development - Developing the IT infrastructure for this project:

- Database - Installing XAMPP, creation of databases locally
- Dependencies - What dependencies are needed to the development
- Tools - Identified tools like github are useful for collaboration while development tools like flutter are for the actual development and encoding.

Development of database and code:

- Database - creating the database schema to be used, connecting it to the program
- Logic - The development of the actual code that enables functionality

Testing - Software must meet and has met the required features and requirements free from bugs and errors that could affect the total functionality of this software. The ability to properly search, login, view videos, and edit credentials are working as intended free from errors.

Deployment - after testing, it is to be deployed to the professors ready for evaluation and grading; documentations are needed to showcase for the users. After the evaluation, if the app would be deployed to the public, support and maintenance would be provided by the students to keep updating the videos posted on the platform.

References

- Interaction Design Foundation. (2016, June 6)**.** *What is color theory?* https://www.interaction-design.org/literature/topics/color-theory
- Ellison, J. (2024, September 7). Are Movie Trailers Copyrighted? Everything You Need to Know.blinksandbuttons. https://blinksandbuttons.net/are-movie-trailers-copyrighted/