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Project Title: Notice Board Management For School

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I confirm that I understand my coursework needs to be submitted online via Google Classroom under the relevant module page before the deadline in order for my assignment to be accepted and marked. I am fully aware that late submissions will be treated as non-submission and a mark of zero will be awarded.

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1. Introduction to the topic

I have decided to do the final year project on creation of mobile application for school which will be applicable for notice board management of school. A notice board management is the systematic process of management of the database of the concerned authorities as well as the notices and information which allows the people of that concerned organization to see the notices or information provided by the authority. Notice Board Management allows the school authorities to post important notices to online notice board inside the application which can be seen by students and staff members on their home screen after login. Such notifications can be easily seen by the parents as well by logging in the application which eases the keeping up with the students' academic progress.

1.1 Problem scenario

In present context of the world, the development of technologies are growing in a rapid pace which cannot be unseen by we all however the case is not same in Nepal. The people are not aware about the application systems that are way more educational and functional to their day to day basis. The mobile technology is also growing in a rapid pace in Nepal but most of the applications that are used in average day is calculated to be entertainment applications like Facebook, YouTube and other gaming application. The children are also more into mobile and its application.

Since the lockdown due to pandemic, the education system is vastly affected as students were not able to go to school for their studies which made the blockage in the academic loss of almost a year to the student. In the context of Nepal there are very few schools which are facilitated with the mobile application of the school. Only the school with more infrastructures and those having more expenses are using the facility of the mobile application to offer for the students as well as the staffs of the school. As there are many schools in Nepal, all of those are not successful in monetary way which means not all school are economically stable and there are more of them instead of stable cased schools. The authorities of the school are still notifying the students in their

morning and evening lineups which has been passed out since many times but still has not changed the concept of modernizing the information delivering as well as the communications that are possible in everyday usage of mobile phones.

The students are still notified about the class schedule as well as exam routines by typing of the routine in the word file and printing it.

1.2 Project as Solution

There are many schools in Nepal lacking the concept of catching the pace of modernizing its day to day projects and functioning with the simple basis of application so it is important to develop the system for easing the functioning of the school which will be beneficial as well as knowledge gaining to the students of school.

The main purpose of this project is to make the management system of school functioning more convenient and smoother with the keeping of the track with the ongoing pace of development in modernization with application and keep the different database of the school in an application so that all the users can access it. The system will help to keep the database of the school like the attendance, scheduling information related to the school like homework, examinations as well as the special events and complain notice through the mobile application which will go to all the users. It will be easier for the parents to keep the eye on their children's academic progress with the attendance and on-going school programs included in it.

1.3 Aim and Objective

The aim of this project "notice board management" is to maintain the notice board and the information that needs to be shared between the users in the school and the other aim of this application is to ease the working and communication process of the school between the teachers of the separate department.

The Objectives to fulfil the aims are:

- 1. To build the mobile application for easy and smooth functioning of the communication procedure of school
- 2. Calendar of the school with holidays marked by the organization which is updated every year
- 3. Determination of application of the project
- 4. Provide the privilege to the admin for monitoring as well as editing of the schedules
- Develop the application for the school for the academic purpose like. Providing the class schedule to the students as well as teachers, examination deadline, Special events notice.

2. Report Structure

2.1 Background

The project's backdrop refers to a brief summary of the project that aids in clarifying the project's needs as well as the project's description and targeted clients.

2.2 Development

The term "development" refers to the process of creating a project. It describes the approaches chosen and examines the many stages of methodology development. It also displays the work breakdown structure in the form of a gantt chart, which is a timeline format.

2.3 Analysis of progress

The process is explained and analyzed in this section. It gives the present status of the project, reviews it, and shows how far it has progressed. It shows the software and hardware development progress, as well as why the project was behind schedule according to the proposal's gantt chart, and provides an action plan to make up for the lost time and complete the project.

2.4 Future Work

The final section, Future Work, describes the phases that have still to be finished as well as plans for carrying out and completing the project.

3. Background/Literature review:

3.1 Client's Description

3.1.1 Client's Name

Manakamana English Secondary School

3.1.2 Description

Manakamana English Secondary School in Kamalbinayak, Bhaktapur, is the chosen client for the project. It is an organization that provides teaching up to tenth grade standards and has been in operation for more than ten years.

Manakamana English Secondary School accepted to be the project's customer because they considered it to be very applicable and valuable to the organization's operations. They are open to recommendations and giving the essential needs, as well as assisting with the next project.

3.2. Review of similar projects:

♣ Everest English secondary School:

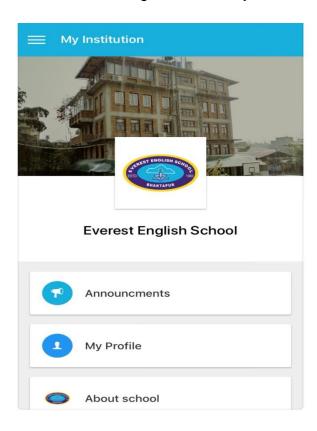


Figure 1: Review on Everest secondary school mobile app

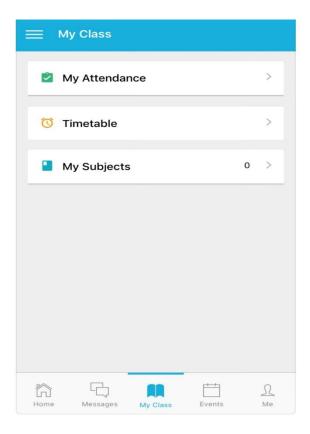


Figure 2: Class terminal of the app

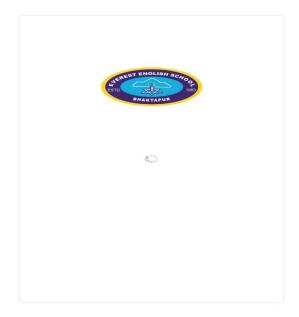


Figure 3: Login terminal

♣ Nepal Police School Samakhusi

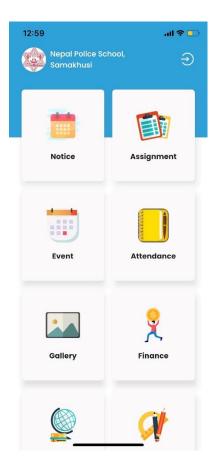


Figure 4: Mobile app of NPS samakhusi

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Figure 5: Notice terminal of the app

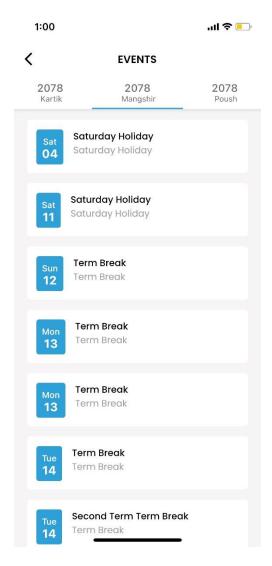


Figure 6: Calendar of the app

3.2.1 Analysis of the similar projects with my project

Both the mobile applications of Everest secondary school and the Nepal police school are similar to the application that I am developing, with features that are quite similar to those in my project and are used in the day-to-day operations of the two organizations. The most important thing is that the organization, or more accurately, the client with whom I collaborated, has no prior experience with such an application system and is very new to the operation of the application using the mobile app, which will greatly aid in the organization's operation, making administration very smooth and convenient.

4. Methodology

Flutter is a lightweight, high-performance framework based on the Dart programming language. It does this by drawing the user interface directly on the operating system's canvas rather than using a native framework. Flutter also comes with a number of ready-to-use widgets (UI) for building a modern app. These widgets are mobile-friendly, and creating an application with them is as simple as creating an HTML page. The Flutter application is a widget in and of itself. Animations and motions are also supported by Flutter widgets. Reactive programming is used to build the application logic. A state is an option for a widget. Flutters will automatically (reactive programming) compare the widget's state (old and new) and render the widget with only the necessary modifications rather than re-rendering the entire widget when the state of the widget is changed (tutorialspoint, 2021).

4.1 Types of Methodology

4.1.1 Waterfall Methodology

The first Process Model to be introduced was the Waterfall Model. A linear-sequential life cycle model is another name for and is really easy to comprehend and use (Srivastava, 2021). In a waterfall model, each phase must be completed before moving on to the next, and the phases do not overlap. It is the most basic SDLC approach for software development which depicts the software development process as a sequential flow of events and indicates that any step of the development process can start only after the previous one has finished (Srivastava, 2021). The Waterfall Approach was the first SDLC Model to be widely utilized in Software Engineering to ensure project success and the entire software development process is separated into several phases in "The Waterfall" technique (Srivastava, 2021). Typically, the output of one phase serves as the input for the following phase in this Waterfall approach.

The several phases of the Waterfall Model are depicted in the following diagram.

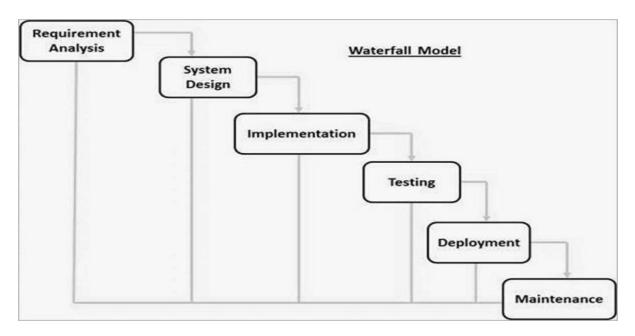


Figure 7: Waterfall Model (Srivastava, 2021)

4.1.2 Evolutionary Prototype Methodology

Evolutionary prototyping is a software development process in which a prototype is built initially by the developer or development team (Sherrell, 2013). Following the customer's initial feedback, more prototypes are created, each with new features or enhancements, until the final product emerges (Sherrell, 2013).

This prototyping method contrasts from quick or throwaway prototyping in that the developer starts with the most well-understood needs, whereas rapid prototyping starts with the least well-understood requirements and in addition, the first prototype does not have to be created immediately (Sherrell, 2013). In the same way that sections of the system may be reviewed or supplied to the customer throughout the software life cycle model, evolutionary prototyping is analogous to incremental development (Sherrell, 2013).

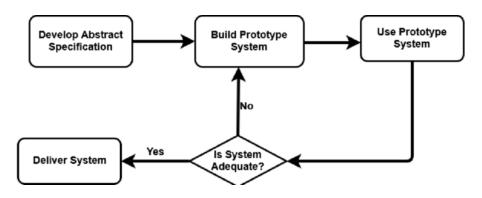


Figure 8: Evolutionary prototype model (Researchgate, 2021)

4.2 Used Methodology

The used methodology is Evolutionary Prototype Methodology.

5. Work Breakdown Structure

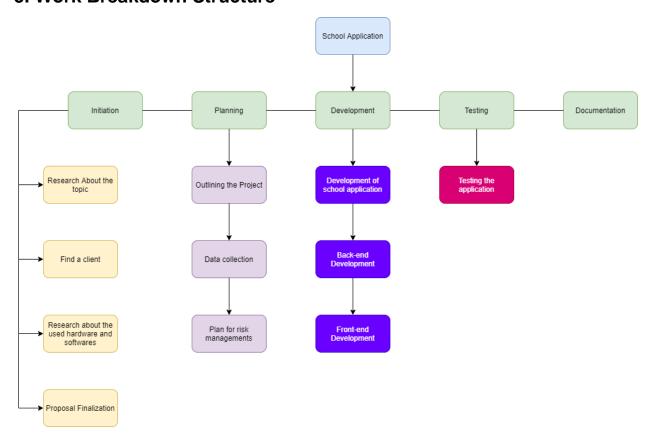


Figure 9: Work Breakdown Structure

6. Project Gantt Chart

S.	Title	Starting date	Ending Date	Duration
N				
1	Research about the topic	14/11/2021	21/11/2021	7 Days
2	Topic Finalization	21/11/2021	22/11/2021	2 Days
3	Find a client and gathering requirements	22/11/2021	23/11/2021	2 Days
4	Proposal Submission	24/11/2021	25/11/2021	2 Days
5	Implementation of Planning	26/11/2021	29/11/2021	4 Days
6	Gather Required Resources	30/11/2021	2/12/2021	3 Days
7	Completion of Application	3/12/2021	5/01/2022	32 Days
8	Complete Testing	6/01/2022	12/01/2022	6 Days
9	Feedback of the supervisor and necessary changes	13/01/2022	18/01/2022	6 Days
10	Optimizing the system	19/01/2022	22/01/2022	4 Days
11	Deployment	23/01/2022	27/01/2022	5 Days
12	Feedback Collection	28/01/2022	01/02/2022	5 Days
13	Finalize the Project	01/02/2022	29/03/2022	9 Days
14	Submit the Report	10/04/2022	13/04/2022	3 Days

Table 1: Table of gantt chart

7. Analysis of progress

7.1 Progress Table

S.N	Task	Status	Progress (%)
1	Topic Selection	Completed	100%
2	Feasibility Study	Completed	100%
3	Research on similar project	Completed	100%
4	Technical Research	Completed	100%
5	Finalize Proposal	Completed	100%
6	Selection of Client	Completed	100%
7	Gather software requirements	Completed	100%
8	Finalize Interim Report	Completed	100%
9	Development of Application	Incomplete	0%
10	Frontend Development	Incomplete	0%
11	Back end Development	Incomplete	0%
12	Client meeting	Incomplete	0%
13	Compilation and Testing	Incomplete	0%
14	Final Client Meetup	Incomplete	0%
15	Final FYP report	Incomplete	0%

Table 2: Progress table of report

7.2 Progress Review

The topic selection and feasibility study was carried out in first stage of the progress to make sure that the topic selected can be tackled or not. The initial client meet up was done for the joint collaboration with necessary helpings and assists are made sure. The software that are required for the completion of the project is collected or can be said as installed and the interim report will be carried out with all the requirement meeting.

7.3 ER diagram

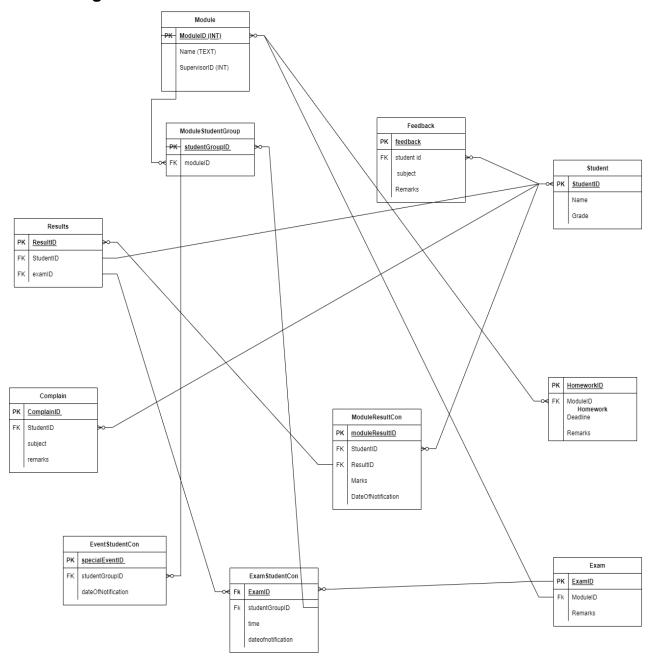


Figure 10: ER diagram

8. Future Work

The future work will be carried out with the development work to complete the prototype. I would start the work on the project as the initial phase of requirement installing or we can say as requirement gathering process is already done with necessary testing of the software. Flutter will be used in the front end development of the application where MySQL will be used for the back end development. In flutter, dart programming language will be used. The MySQL is used for oauth django back end development.

9. Bibliography

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10. Appendix

10.1. Appendix 1: Resource Requirements

Various Hardware and software are required for the completion of this project so they are given as follows:

Computer	A desktop or laptop is required as all the software and database like flutter, MySQL progress and development are done in the computer.
Flutter	Flutter is a mobile app SDK for building high-performance, high-fidelity, apps for iOS and Android, from a single codebase (Sachindana, 2021).
MySQL	MySQL is an open-source relational database management system that works on many platforms. It provides multi-user access to support many storage engines and is backed by Oracle (Kappagantula, 2019).
Dart Programming Language	Dart is an open-source, general-purpose, object-oriented programming language with C-style syntax developed by Google in 2011 with purpose of creating a frontend user interfaces for the web and mobile apps (JavaTpoint, 2021).
Django	Django is a high-level Python web framework that enables rapid development of secure and maintainable websites (MDN Web Docs, 2021).

Table 3: Table of resource requirements

10.2. Appendix 2: Milestone review

♣ Milestone 1: Finalization of topic

Status: Completed.

Milestone 2: Finalization of Client

o Status: Completed.

♣ Milestone 3: Submission of Proposal

o Status: Completed.

♣ Milestone 4: Submission of Interim Report

Status: Completed.

Milestone 5: Collection of Required hardware and software

Status: Completed.

Milestone 6: Development

o Status: Ongoing.

Milestone 7: Finalize Development

Status: Not Completed.

Milestone 8: Testing of Application

Status: Not Completed.

Milestone 9: Complete the report writing

Status: Not Completed.

Milestone 10: Project Submission

Status: Not Completed.