



NEPAL COLLEGE OF INFORMATION TECHNOLOGY

(AFFILIATED TO POKHARA UNIVERSITY)

Certificate of Approval

This is to certify that Project entitled "Edukate" submitted by Mr. Gaurav Panta (BE.SE – 13703), Mr. Kiran Ojha (BE.SE- 13705), Mr. Subarna Bikram Rajbanshi (BE.SE- 13709) and Mr. Saroj Poudel (BE.SE- 13708) as a partial fulfillment of the requirement of the Degree of Bachelor of Engineering in Software Engineering under Pokhara University, Nepal has been successful completed.

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Date: 19th November, 2017



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During supervision I found students very hardworking, skilled, bonafide and ready to undertake any professional work assigned to them.

Er. Majul Bhattarai
Supervisor

ABSTRACT

Building an engaging and connected environment and healthy student-teacher relation requires continuous and effective communication. Teachers need to learn the art of interacting and communicating with the student effectively especially in this digital world. With an effective and efficient communication, it will, in a good way impact student's learning. With the access of internet, the student can collect multiple sources for information, communication. But there are very few sources which provide communication between teachers and students except social media. As we all know social media is not a good source for communication between teacher and students. So, we developed an app which we named, Edukate.

Edukate is an android application which enables student and teachers to communicate with each other, share notes, receive the latest notice and check class routine. We think building a separate platform away from the chaos of social media is a healthy response to remove the gap between student and teachers. With simple User Interface and secure sign in, we think the app will inspire users, both students and teachers to share and communicate.

Keywords:

Picasso API, Android Studio, Volley API, Firebase API.

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1. INTRODUCTION

1.1 Problem Statement

There are many applications in today's market. Mostly every student today is connected via a social network. Teachers are there to share information and students to get information. Thus, a new platform is better than a social site for teachers and student to interact.

NCIT College currently lacks as app for students and teacher to interact with. This project is made, in mind with the context of our college.

1.2 Objectives

Providing easy way to access simple and every day information like routine, latest notice. To provide a reliable platform for both students and teachers that cover simple everyday tasks like getting notice at real-time, view routine and notes. Group chat to share students' question on a specific topic which teachers and other students should reply upon.

Easy way for teachers to share notes, new and latest notice about everyday assignment or status about the subject related matters. By reducing time, it takes to sharing these information both teachers and students will feel more comfortable for following the given tasks.

1.3 Significance of the study

Our study suggests that we need to come up with new platform that does provide simple information like notice, routine and notes in an acceptable manner. In order to do so, the application will offer setting up notice, and sharing required informative things from teacher to students.

1.4 Scope and Limitation

The scope of the project is a broad one. With future development this application may provide real time between teacher and student. Some scopes of the application are as follows:

- This application will be helpful when a student is in doubt or if s/he was misinformed about college activities.
- Our college is slow to respond on different political incidents like banda, hartal, etc. With help of this application our college can share the news with all the students easily.

Currently, the limitations are as follow:

- Internet connection is necessary for change and retrieval of data.

2. METHODOLOGY

2.1 Spiral Model

The spiral model is a risk-driven process model generator for software projects. The spiral model is similar to the incremental model, with more emphasis placed on risk analysis. The spiral model has four phases: Planning, Risk Analysis, Engineering and Evaluation. Our software project repeatedly went through all four phases. We first analyzed what we have to do or what are the requirement for us to integrate a part of the software. After identifying and analyzing the risks we started the development of the part of the project. Then after the development is finished we tested and started designing other parts of the project.

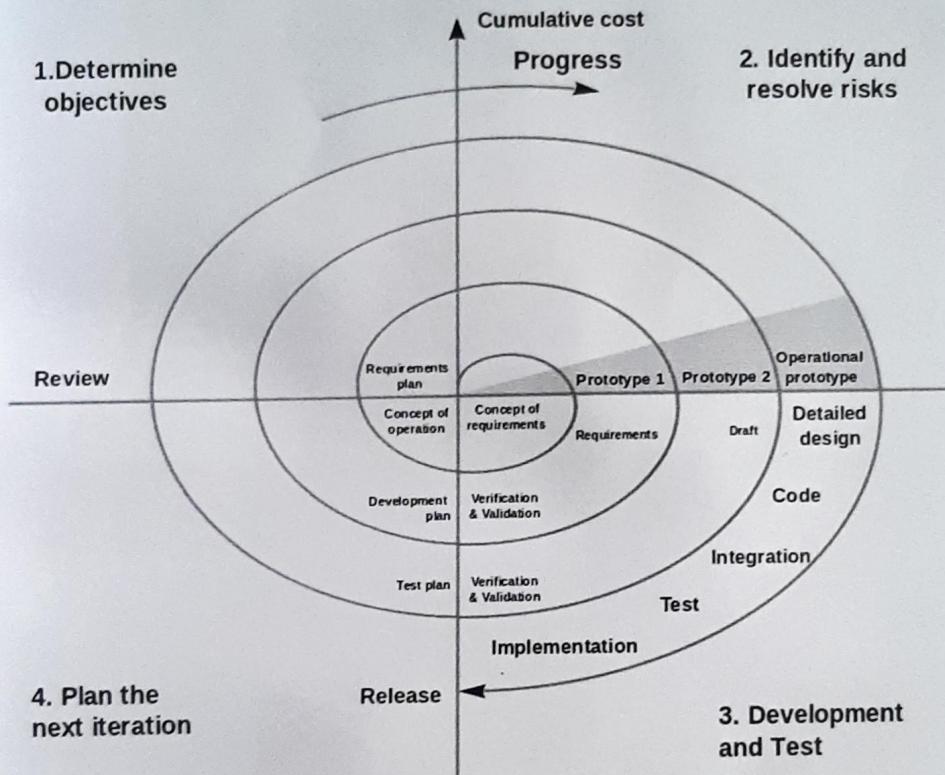


Figure 1: Spiral Model

2.2 Tools and Technology:

The tools and technology that are used in EduKate are:

- **Android Studio**
- **Firebase API**

- **PHP and MySQL**
- **Volley API**
- **Picasso API**
- **Elastic Search API**
- **Brackets Text Editor**
- **XAMPP**
- **Bootstrap Framework**

2.2.1 Android Studio



Figure 2: Android Studio

Android studio is used as an IDE to develop this application.^[1] It provides code editing, debugging, performance tooling, a flexible build system and an instant build/deploy system which allows to help building high quality apps.

2.2.2 Firebase API



Figure 3: Firebase

This API enables us to push notification through cloud.^[2] We used this API for sending push notification for notice.

2.2.3 PHP and MySQL



Figure 4: PHP and MySQL

The database for our application is huge. Server-side scripts use PHP to handle all requests from our application and storage uses MySQL database while local Android SQLite is also used.^[3]

2.2.4 Volley API

Volley is an HTTP library that makes networking for Android apps easier and most importantly, faster.^[4] It offers benefits like automatic scheduling of network requests, multiple concurrent network connections, transparent disk and memory response caching with standard HTTP cache coherence, etc. We used this API for transferring data from server to the client.

2.2.5 Picasso API

Picasso API is a powerful image downloading and caching library for Android.^[5] It is very good at handling Image View recycling and download cancellation in an adapter, complex image transformations with minimal memory use and automatic memory and disk caching. We used this API for rendering and caching images uploaded by teachers in notice view.

2.2.6 Elastic Search API

Elasticsearch is a search engine based on Lucene.^[6] It provides a distributed, multitenant-capable full-text search engine with an HTTP web interface and schema-free JSON documents.^[3] We used this API to search for specific words inside a document.

2.2.7 Ingest Plugin for Elastic Search

Ingest Plugin for Elastic search is used to preprocess documents before the

actual indexing takes place.^[7] We used this plugin to index our notes in order to be searchable.

2.2.8 Brackets Text Editor



Figure 5: Brackets

Brackets was founded by Adobe™ as a community guided, open source project to push web development editors to the next level.^[8] Brackets was used for web part of the project. It is used to for the development of web front-end part of the project.

2.2.9 XAMPP



Figure 6: XAMPP

It is a simple, lightweight Apache based application which enables developers to create a local web server for web testing and deployment purpose.^[9] Everything needed to set up a web server ranging from – server application (Apache), database(MariaDB), and scripting language (PHP) – is available in this single application.

2.2.10 Twitter Bootstrap Framework

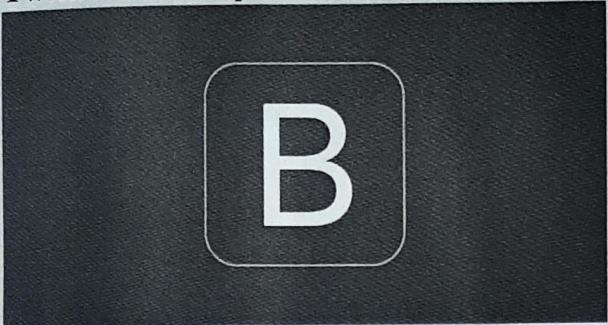


Figure 7: Bootstrap

Bootstrap is a free and open-source front-end web framework for designing websites and web applications.^[10] It is an easy solution for developing a front-end design for web.