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Alumni Tracking System

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Abstract : *Aluni Tracking System is an online-based application that helps to enhance the tracking of college graduates. The project primarily aims to replace current tracking procedure of college graduates and providing alumni data to college faculties. It aims at developing a mobile application and web portal which will be useful for the college to monitor the alumni's and for the alumni to update their current status and get notified about the college activities. ASP.NET Core Web API will be used to provide back-end service.*
Keywords - *alumni-tracking, web-portal, mobile application, chat-bot.*

I. Introduction

1.1 Need

In current scenario, the database of Alumni is maintained by college which is static. Due to this reason, the real time information of alumni is not present on any central platform. So there is a need of an application which can keep all the college graduates in real time. The desired application will be mobile application through which college graduates can update their current job status. Alumni information will be stored in the database of server which will be accessible through web portal to the faculty in charge of the college. Faculties can search the alumni through their names, batch, job posts.

1.2 Problem Statement

Because of maintaining a static database of alumni the updated information of them is not present at college and this data of college graduates is very important for any college. A platform must exist where all the alumni can easily update their profile, have persistent storage of student data and can be easily accessed by college. The desired application will be mobile application through which college graduates can update their current job status. Alumni information will be stored in the database of server which will be accessible through web portal to the faculty in charge of the college. Faculties can search the alumni through their names, batch, job posts.

1.3Aims and Objectives
AIM:

- Developing a mobile application and web portal for monitoring and updating the current status of alumni and get notified about the college activities.
- Mobile application is for college graduates for updating their current job status and to get notifications about current activities of college.
- Alumni information will be stored in the database of server which will be accessible through web portal to the faculty in charge of the college.

OBJECTIVES:

- One of the major objective of this system is to keep persistent records of all the college graduates.
- To develop, encourage and fellowship among the students, teachers, senior staff of the college.
- Providing a platform to arrange the seminars, professional programs for students.

1.4 Application &Scope

This system helps in analysis of all graduates using MongoDB and MySql. Human-Machine Interaction using Chabot makes communication easier. On demand profile updating feature will help students to update their profile at any time. Alumni mentorship program can help alumni's to suggest mentorship programs for students.

II. Review of Literatures

1. Alumni Tracking Using Google Map API and Social Media based on GPS and LBS.

This work was carried out in 2016 by NikitaMithapelli, SnehalChavan, JyotiKumari.

Development of mobile internet technology and wide usage of Smart Phones is increasing rapidly, so more focus has been given to network access techniques and interactive applications through mobile phones. Android, an open source platform has become popular in smart phone and used more by people. Aim of our project is to develop an android application which will be useful to track all the alumni by their social media account information using web API's. All this information will be stored in the database or

server and it will be visible to the admin or professor in charge. We will be tracking the location of alumni by GPS (Global Positioning System), if internet is not available the LBS Location Based Services will be used and the location will be plotted on Google Maps. Alumni to alumni messaging facility (chatting module) is provided through GCM(Google Cloud Messaging) technology.[1][2][3][8]

2. Gathering Alumni Information from a Web Social Network

It was carried in 2016 Gabriel ResendeGonc¸alves; Anderson A. Ferreira; Guilherme Tavares. In this paper we study An undergraduate program must prepare its students for the major needs of the labor market. One of the main ways to identify what are the demands to be met is creating a manner to manage information of its alumni. This consists of gathering data from program's alumni and finding out what are their main areas of employment on the labor market or which are their main fields of research in the academy. Usually, this data is obtained through available forms on the Web or forwarded by mail or email; however, these methods, in addition to being laborious, do not present good feedback from the alumni. Thus, this work proposes a novel method to help teaching staffs of undergraduate programs to gather information on the desired population of alumni, semi automatically, on the Web. Overall, by using a few alumni pages as an initial set of sample pages, the proposed method was capable of gathering information concerning a number of alumni twice as bigger than adopted conventional methods.[4][5]

3. A Chatbot-based Interactive Question Answering System

This work is carried in 2015 by Silvia Quarteroni and Suresh Manandhar.Interactive question answering (QA) systems, where a dialogue interface enables followup and clarification questions, are a recent field of research. We report our experience on the design, implementation and evaluation of a chatbot-based dialogue interface for our open-domain QA system, showing that chatbots can be effective in supporting interactive QA.[6][7]

III. System Design

3.1 System Block Diagram

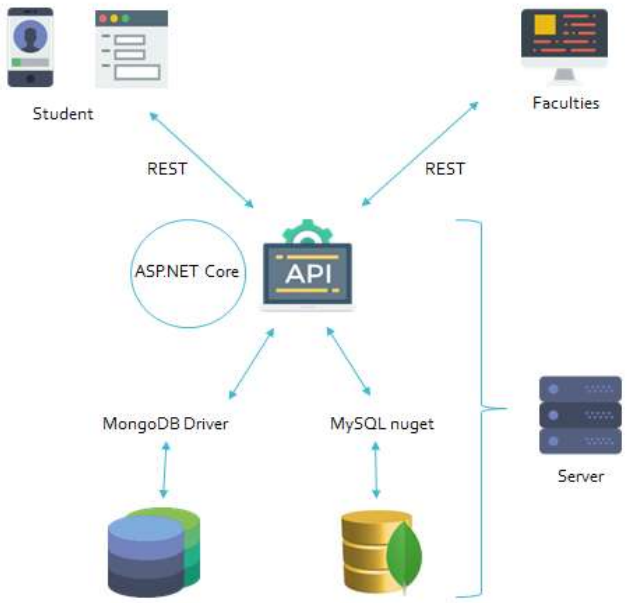


Figure 3.1 System Block Diagram

The proposed tool contains the following modules:

1. Authentication Module

The Authentication Authority is responsible to system access control, top level domain authority grant; create domain authority and key update. The system set up process to create the public key and master key with considering the attribute sets range i.e. depth, the hierarchy of domain services. The authentication authority create the domain with the unique id, before assign the unique to a domain it will check is valid domain or not if valid domain it will call the create domain authority function. The create domain authority function will give the unique id to create domain. Then the domain authority will able to create the sub domain and the users.

2. Mobile App

The Mobile App Authority will able the create the new application authority and new users, the mobile app authority created domains will be considering the sub domain authority, these domains authority will give the depth of the access tree structures, The each mobile app authority also able to create users, the user should a data owner or data consumer. To create the users it will having the functions create user. In the mobile app authority users can also update profile and see college notices on the other hand admin can also remove the user's.

1. Web App Module

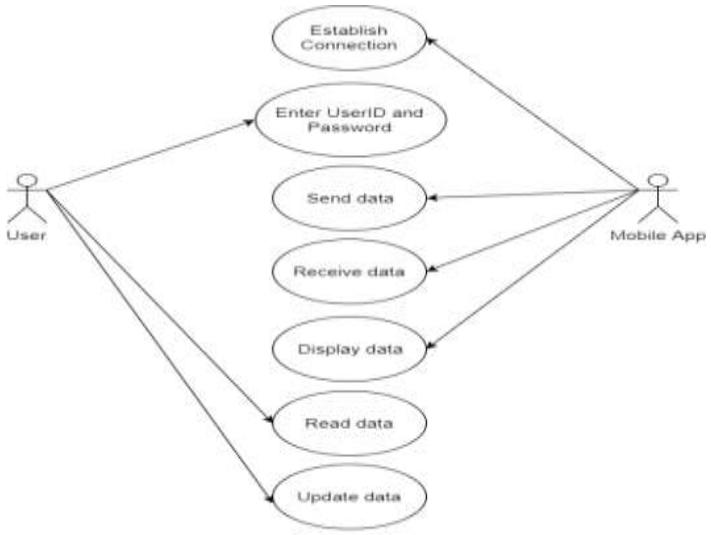
The Web App Authority will able the create the new application authority and new users, the web app authority users will only be the college faculties will be able to create users, access the alumni information and notify about certain seminar.

3.2 Use Case Diagram

- *Authentication Authority*

The figure 3.2.1 represents use case diagram for Authentication module. The authentication module will be responsible for authentication and validating user with their username and password. Back-end will be hosted with server and will be responsible to access different types of http requests. Authentication module will be one part of complete back-end. It will receive username and password entered by user, query the database engine to fetch similar records from database engine and compare them. After verification authentication module will be able to grant access to user for other back-end services.

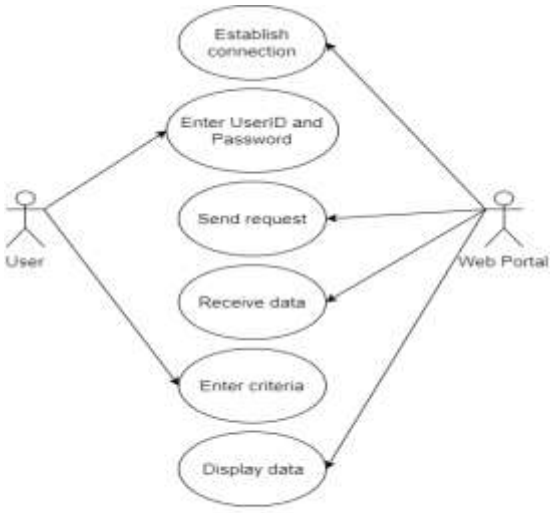
- *Mobile App Authority*



Use Case Diagram for Mobile App Module

The figure 3.2.2 represents use case diagram for Mobile app module. This module will be able to provide human-machine interaction feel to user. App will be integrated with chat-bot to enhance communication. On start-up app will establish connection with back-end. User will have to provide credentials to be authenticated by authentication module. App will be able to parse the upcoming data from back-end services. User can view or update data through mobile app.

- *Web App Module*

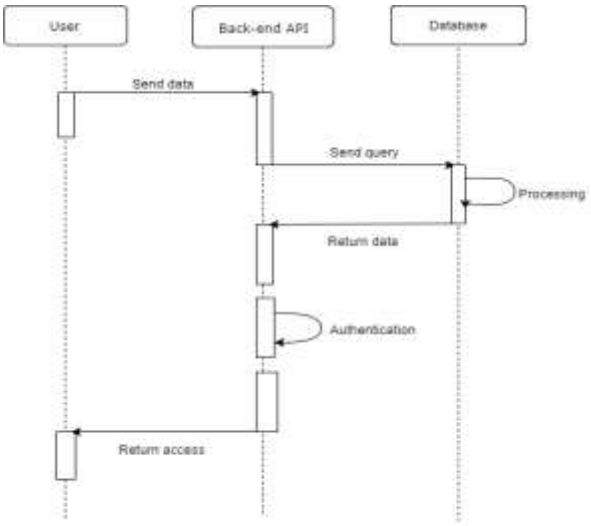


Use Case Diagram for Web Portal module

The figure 3.2.3 represents for use case diagram for Web portal module. With the help of this portal user will be able to see information regarding different users. This portal will send http requests to back-end and on receiving result, this portal will be able to display that result in proper format.

3.3 Sequence Diagram

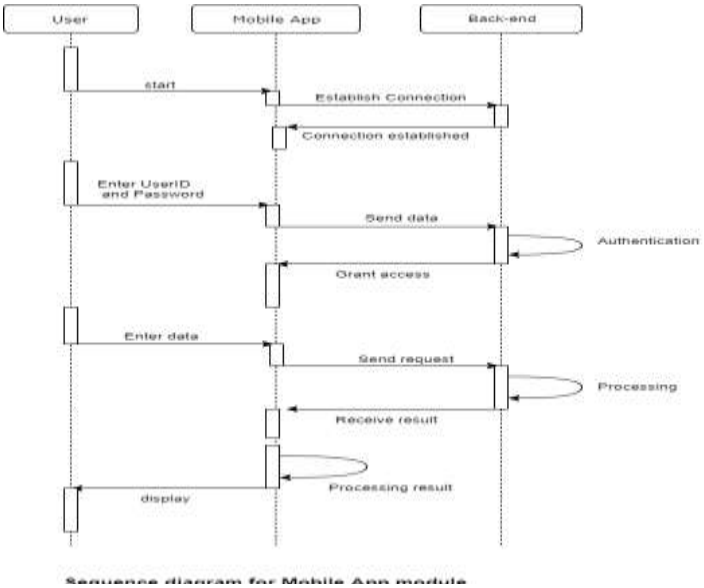
3.3.1 Sequences Diagram for Authentication Authority



Sequence diagram of Authentication Process

The figures 3.3.1 represent sequences diagram for authentication process. The authentication module will be responsible for authentication and validating user with their username and password. Back-end will be hosted with server and will be responsible to access different types of http requests. Authentication module will be one part of complete back-end. It will receive username and password entered by user, query the database engine to fetch similar records from database engine and compare them. After verification authentication module will be able to grant access to user for other back-end services.

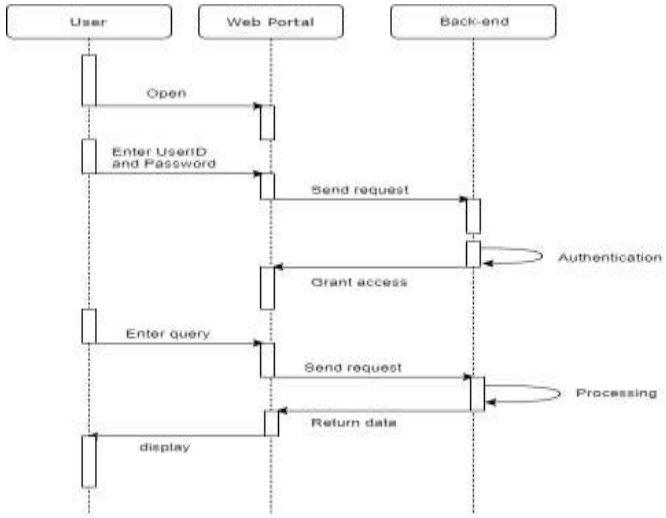
3.3.2 Sequences Diagram for Mobile Authority



Sequence diagram for Mobile App module

The figures 3.3.2 represent the sequences diagram for mobile app module. The mobile app module will connect with back-end web api using internet service. This module will pass data to back-end to process the data. After processing the data, back-end services will forward resultant data to app in json format. On receiving the data, mobile app will parse json data to fetch appropriate contents. Fetched data will be displayed to user.

3.3.3 Sequences Diagram for Web Portal Authority



Sequence diagram for Web Portal module

The figures 3.3.3 represent sequence diagram for Web portal module. This module will be able to access using browser and will be connected with back-end services. This portal will send http request to back-end services to request for data processing. To be able to access services, user will have to enter username and password. These credentials will be processed by authentication module and access will be granted. Upon receiving the data from services, web portal will be able to display data in proper format.

IV. Expected Output

This approach will give:

- Web portal for college to access alumni information.
- Persistent data storage to save information.
- Interactive user interface with integrated Chabot to enhance user experience.
- Easy search for fellow batch mates and alumni's.
- Platform to contact the member's for alumni mentoring program through newsletters' or notices.

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V. Conclusion

Thus, we propose to develop analumni monitoring system using ASP.NET Core Web API in C# language. It provides a platform for maintaining alumni data and also notify the alumni's to periodically update their profile's through e-mail service. With the web application using Angular 4 and mobile app using Xamarin and updating profile through simple Chabot , we ensure that the database updates are carried at regular interval of time (real-time).

VI. Future Scope

6.1 Contact with faculties and other students:

It would to really good if the members of the alumni website which are the former college graduates and other students can directly contact and chat with the faculty in charge and other students. The system that is to be implemented does not offer such functionality. The contact facility can be easily achieved using asp, which is also used to implement the broadcast e-mail functionality that the alumni website offers. The chat application can be implemented for one-to-one interaction.

6.2 Discussion Forum:

A very useful functionality from which alumni members can benefit would be if the website had a forum where any discussion could be opened that is related to a person's field of study. Many universities around the world have a forum on their alumni website. The forum can also be used to ask questions.

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