

GRAD NETWORK: STRENGTHENING BONDS BETWEEN ALUMNI AND INSTITUTION

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ABSTRACT

Maintaining the data history of the students is a typical functionality in any institution. It is always an added advantage to have an automated, Organization-specific data management system. Unlike other online solutions for alumni data management which either focuses on data management or communication, this system focuses on both data management and communication. The proposed system provides an optimized solution for collecting and managing the alumni data. The system targets a wide range of audience since it is a web application. The system will be an all-in-one place to handle alumni data, to enable communication between alumni and the institution and provides great flexible features to keep track of the data. It will enable quick and easy communication through the built in forum where the user can share or post information and privacy can be achieved through private chat facility. The user can update their information by simply filling out forms and uploading their file. Admin gets the privilege of viewing the weekly, batch wise, location based and role based reports. One more advantage of the proposed system is that, generally alumni forum will be managed by group of alumni which would be an overhead to them, this system is automated hence does not require maintenance effort from the alumni side.

1 INTRODUCTION

1.1 OBJECTIVES

Communication between graduates and the institution can be very beneficial in many situations. For instance, the institution may be interested in extending an invitation for a guest lecture to one of its alumni who is a very successful entrepreneur now. But without having proper contact, the institution will have to spend time tracing the contact. Thus maintaining consistent data goes hand-in-hand with establishing proper Communication. Building a

good professional network is the base for anyone desiring to be successful in career. The proposed system helps in accomplishing this, where alumni can communicate among themselves, with their juniors and with the organization. This way they can build a strong network of professionals. This system proves to be beneficial to the current students of the institution since they get the contacts of their seniors from whom they can seek for opportunities and guidance. The worth of any institution is measured by evaluating the success of the students passing out from that institution. Hence, the system provides an easy way of documenting their

student's achievements through profiling. Users can view their profile and can make changes to their profile as and when required. The project file information includes basic personal information, contact information, information about the organization they work in and information about their achievements. Each achievement of the user can be supported by uploading a certificate. The uploaded certificates are maintained in a centralized server so that they can be accessed by the admin as and when required. On the other side, the admin can communicate with the alumni as well and be notified of any update made by the users to their profile through weekly reports. This is a greatest advantage for admin since they don't have to scan through thousands of records in the database or spend their valuable time in writing query to retrieve the records of those who have updated their information, the system does it all for the admin. The admin also has the privilege of selecting the type of report to be viewed. The system is capable of generating weekly, batch wise, role based, gender based and location based report. Apart from communication and admin report, the system also allows users to create events. The upcoming events would be displayed in the home page, thus the user would be reminded of the events to be happening so that they would not miss out any important event.

2 LITERATURE SURVEY

Web Application

This concept is implemented as a web application so that it targets a wide range of users where the user can access the system from anywhere and at any time through internet.

The implementation is done in such a way that it reduces load on the administrator's side in maintaining the updates made by the users.

Notifications and Databases

The notifications are sent to the user and the admin via email. Email notification is sent to the user whenever a new chat message is received. The database tool used for the application is MySQL which is connected to the web application using Java Server Page (JSP) scripts.

WORKFLOW

Workflow is the start-to-finish process from the service request registering to the service request closing. The flow of this project begins with the user successfully logging into the system can view the news feeds page and from there the user can navigate to profile page, chat page and create events page. Admin views the weekly report which states the information of the user who has made update to their profile in the past week.

DATA SECURITY: is the process of safeguarding digital information throughout its entire lifecycle to protect it from corruption, theft, or unauthorized access. It covers everything—hardware, software, storage devices, and user devices; access and administrative controls; and organizations' policies and procedures.

Data security uses tools and technologies that enhance visibility of a company's data and how it is being used. These tools can protect data through processes like data masking, [encryption](#), and redaction of

sensitive information. The process also helps organizations streamline their auditing procedures and comply with increasingly stringent data protection regulations. A robust data security management and strategy process enables an organization to protect its information against cyber-attacks. It also helps to minimize the risk of human error and insider threats, which continue to be the cause of many [data breaches](#).

Secure your information: This means managing who has access and encrypting your data. Only people who need it to perform essential functions should have access, and information should be encrypted as it goes back and forth between the database and their computer or device.

Prepare ahead of time for threats: You can get ready for a potential data security incident by testing your system, educating employees, devising an incident management plan, and creating a data recovery plan.

Delete data you are not using: You should get rid of both digital and physical copies of data you no longer need. In this way, you reduce the chances of a hacker discovering it and using it for profit.

2.1 TYPES OF DATA SECURITY

Organizations can use a wide range of data security types to safeguard their data, devices, networks, systems, and users. Some of the most common types of data security, which organizations should look to combine to ensure they have the best possible strategy, include:

Organizations can mitigate the risk of accidental destruction or loss of data by

Encryption

Data encryption is the use of algorithms to scramble data and hide its true meaning.

Encrypting data ensures messages can only be read by recipients with the appropriate decryption key. This is crucial, especially in the event of a data breach, because even if an attacker manages to gain access to the data, they will not be able to read it without the decryption key.

Data encryption also involves the use of solutions like tokenization, which protects data as it moves through an organization's entire IT infrastructure.

Data Erasure

There will be occasions in which organizations no longer require data and need it permanently removed from their systems. Data erasure is an effective data security management technique that removes liability and the chance of a data breach occurring.

Data Masking

Data masking enables an organization to hide data by obscuring and replacing specific letters or numbers. This process is a form of encryption that renders the data useless should a hacker intercept it. The original message can only be uncovered by someone who has the code to decrypt or replace the masked characters.

Data Resiliency

creating backups or copies of their data. Data backups are vital to protecting information and

ensuring it is always available. This is particularly important during a data breach or ransomware attack, ensuring the organization can restore a previous backup. Data encryption is the use of algorithms to scramble data and hide its true meaning.

Types of Data Security
Organizations can use a wide range of [data security](#) types to safeguard their data, devices, networks, systems, and users. Some of the most common types of data security, which organizations should look to combine to ensure they have the best possible strategy,

3 SYSTEM ANALYSIS

3.1 EXISTING SYSTEM

The former methods of data preservation were tabular forms, excel sheets, documentations, etc. These systems limit multiple accessing, easy modification in the data, searching for records [2]. As we are moving towards digitization, techniques of data management have been improved. One of the methods include, database management system. The database management system works on the principle of data keeping using computerized technologies.

Disadvantages of existing system

These current methods though provide global access considering cloud-based word document such as Google Docs, Microsoft Word, etc. they have to be modified manually by an individual. This results in time consumption as well as a lack of consistency in maintaining the data. The limitations of the current methods are that they have to be updated regularly to avoid

loss of data and it becomes inconvenient for every user to the same.

3.2 PROPOSED MODEL

Alumni Management System is a system which manages the records of the students who are a part of the respective institution or were a part of the institution. Alumni management is important as it keeps the records of the previous students for keeping them in touch with the institution. The alumnus can be a help to the college in their expertise files of study from the outside world giving students guidance and updating them about the current happenings. It particularly concentrates on the graduated students of the institution and not on the students who are recurrently a part of the institution.

Benefits of Proposed Model over Existing system

The data base management system is a collection of a particular data depending on the requirement. It is easier to alter and implement changes in the existing data. As the new software technology is rising, we can store this data in a conventional and effect.

4 PROJECT DESCRIPTION

4.1 MODULE DESCRIPTION

Features

Admin Side

Login Page

The page where system admin will submit their system credential to access and manage the system data.

HomePage

The page where the admin user will be redirected by default after logging into the alumni management system admin side. This page displays the page where the alumni list in the system are listed and this the page where can the admin verify the alumnus/alumna's account.

JobsPage

The page where all posted jobs are listed and can be managed by the admin.

EventsPage

The page where an admin manages or posts an upcoming event of the school where can a alumnus can participate.

UserPage

The page where an admin user manages the system users. SystemSettingsPage

The page where an admin set up or manages the school information to be shown on the website.

SignupPage

The page where the unregistered alumnus/alumna submit their credentials.

LoginModal

The popup modal where the users submit their system credential in order to access

Admin views the weekly report which states the information of the user who have made up date to their profile in the past week.

summary or total counts of alumni, posted jobs, forum topics, and upcoming events.

AlumniList

and manage the other feature or functionalities of the system.

AboutPage

The page where the page about content is being shown.

JobPage

The page where all posted job opportunities are listed.

AccountManagementPage

The page where can the user update his/hers system credentials and information.

5 SYSTEM DESIGN

5.1 WORKFLOW

Workflow is the start-to-finish process from the service request registering to the service request closing. The flow of this project begins with the user successfully logging into the system can view the news feeds page and from there the user can navigate to profile page, chats page and create events page.

WorkflowDiagram

The general workflow for a user is as follows:

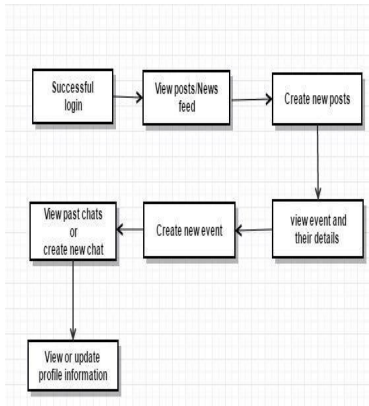


Fig WorkflowDiagramusers

The general workflow for an admin is as follows:

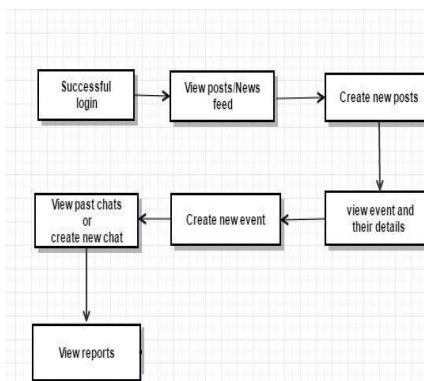


Fig WorkflowDiagramadmin

5.2 USECASEDIAGRAM:

A use case diagram in the Unified Modeling Language (UML) is a type of behavioral diagram defined by and created from a Use-case analysis. Its purpose is to present a graphical overview of the functionality provided by a system in terms of actors, their goals and any dependencies between those use cases. The main purpose of a use case diagram is to show

what system functions are performed for which actor.

Roles of the actors in the system can be depicted.

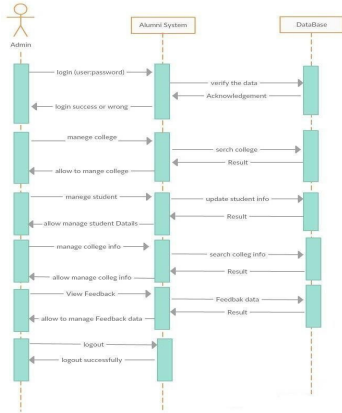
5.3 ACTIVITYDIAGRAM:

Activity diagrams are graphical representations of workflows of stepwise activities and actions with support for choice, iteration and concurrency. activity diagrams can be used to describe the business and operational step-by-step workflow of components in a system.

- **Login**
- **ViewFeedback**
- **Changpassword**
- **Addcollege**
- **AddcollegeInfo**
- **Then logout**

5.4 SEQUENCEDIAGRAM

A sequence diagram in UML is a kind of interaction diagram that show process operates with one another and in what order. A sequence diagram in unified modeling language (UML) is a kind of interaction diagram that shows how processes operate with one another and in what order



- Canedit and viewstudent information
- Canedit andviewcollegeinformation
- ViewstudentFeedback

SEQUANSDIAGRAM

FOR STUDENT

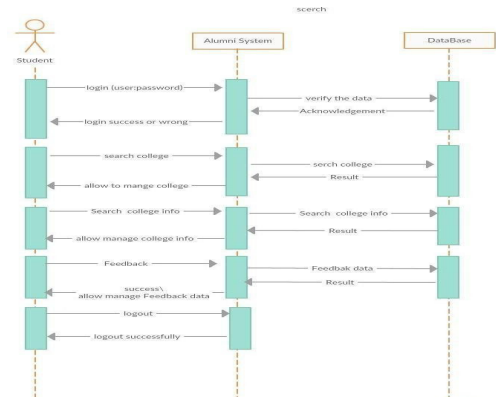


Fig SEQUANSDIAGRAM

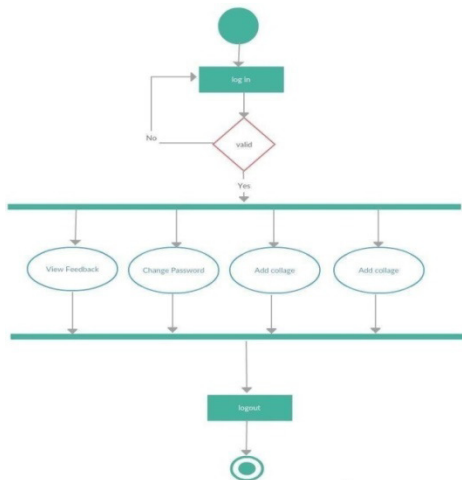
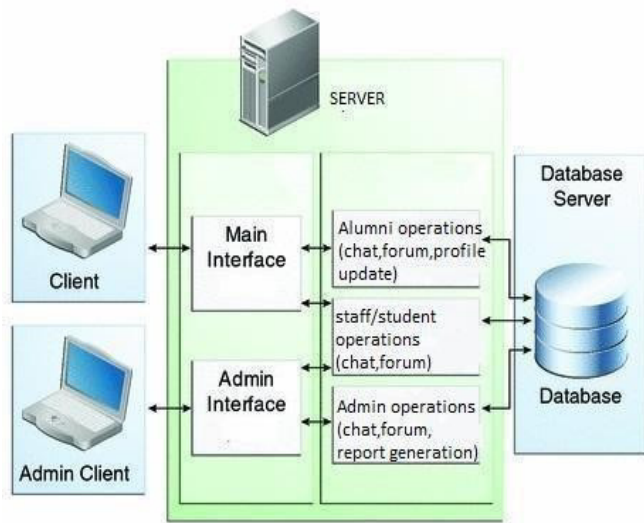


Fig Sequencediagram

The supervisor enters the name and password. The information is validated. It enables them to manage the college and search within it for student information. And then show him the results.

After registration of the student to enter and verify his information. He can search for his own kidney or college information and will show his results. Have a college assessment and send an assessment of the site.

ARCHITECTURE



6. System testing

INTRODUCTION

The development process involves various type of testing. Each test type addresses a specific testing requirement. The most common type soft testing involved in the development process are:

- ❖ Unit test
- ❖ System test
- ❖ Integration test
- ❖ Validation test

TESTING METHODOLOGIES:

Testing:

The first in the development process is the unit test. The source code is normally divided into the modules, which in turn are divided into smaller units called units. These units have specific behavior. The test

done on these units code is called unit test. Unit test depends upon the language on which the project is developed. Unit tests ensure that each unique path of the project performs accurately to the documented specifications and contains clearly defined inputs and expected results.

System Testing:

Several modules constitute a project. If the project is long-term project, several developers write the modules. Once all the modules are integrated, several errors may arise. The testing done at this stage is called system test. System testing ensures that the entire integrated software system meets requirements. It tests a configuration to ensure known and predictable results. System testing is based on process descriptions and flows, emphasizing pre-driven process links and integration points. This is typically performed on a COTS (Commercial off the shelf) system or any other system comprised of disparate parts where custom configurations and/or unique installations are enormous.

Integration Testing:

In this testing modules are combined and tested as a group. Modules are typically code modules, individual applications, source and destination applications on a network, etc. Integration testing follows unit testing and precedes

system testing. Testing after the product is code complete. Betas are often widely distributed or even distributed to the public at large in hopes that they will buy the final product when it is released.

Validation Testing:

It's the process of using the new software for the developed system in a live environment i.e., new software inside the organization, in order to find out the errors. The validation phase reveals the failures and the bugs in the developed system. It will be come to know about the practical difficulties the system faces when operated in the true environment. The validation testing was mainly tested in each and every project. For example, in login form, the valid user only allowed to view the website.

User Acceptance Testing

An acceptance test has the objective of selling the user on validity and reliability of the system it verifies that the procedures of the system specification and match the integrity of vital is maintained.

Performance Testing

This project is a service based project, and the modules are interdependent with the other modules, so the testing cannot be done by module by module. So the unit testing is not possible in the case of this driver. So the system is checked only with

the performance to check the quality.

CONCLUSION

The "**Grad Network : Strengthening bonds between Alumni and Institution**" website is a fully functional website which time saving, easy to use, efficient way of managing relational data, making it for the institutions to connect with them easily and updating them about the on goings of the institution. Automating techniques to some extent can increase feasibility in order to increase functionality in the further development of the website. This can also include updating the user interface to latest standards and keeping it agile to bring in faster changes with less modification in the original website and still getting valuable outcomes.

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