**College social hub**

A Second Year Project Report

Submitted to the Faculty

of the

Bennett University

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Department of Computer Science Engineering

2021

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# DECLARATION

I/We hereby declare that the work which is being presented in the report entitled “COLLAGE SOCIAL HUB”, is an authentic record of my/our own work carried out during the period from JANAYRY, 2021 to APRIL, 2021 at Department of Computer Science and Engineering, Bennett University Greater Noida.

The matters and the results presented in this report has not been submitted by me/us for the award of any other degree elsewhere.

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1. INTRODUCTION

In the time of online classes, we have noticed the lack of college atmosphere. It has become difficult to keep track events organized by different clubs and other student bodies. So, we have decided to create a social hub for students by students. This is a hub where clubs can post their events, students can manage their personal schedules and interact with other students. Another thing we noticed is the lack of junior-senior interaction. This is a problem especially faced by 1st year students. Our platform aims to reduce this communication gap. So we have decided to create a website which is going to be created using HTML, CSS and JavaScript. We are also going to provide cloud storage for students to store and share their files. This website is going to provide a social hub to recreate the college atmosphere in virtual form.

1.1 Problem Statement

* Many colleges/universities are using LMS (learning management system) as the platform for uploading study materials, taking exams, lab assignments and using it for many other purposes. But the problem is, will the bandwidth allow a large number of students to take part in LMS based activities?? Will the LMS gives remainder for upcoming exams?? Will it provide which clubs are present in the university??
* Moreover, in order to run these kinds of cloud computing software requires constant maintenance of servers and huge capital investments for setting up to upgrade storage devices, databases, virtual machines etc.

1. Background Research

For background research we took most of our inspiration from the concepts related to Microsoft azure. We went through all the different features provided by Azure services and resources for implementation of our project.

https://docs.microsoft.com/en-us/learn/paths/az-900-describe-cloud-concepts/

2.1 Proposed System

1. With the help of cloud computing services like Azure, we can pretty much solve all the problems stated before.
2. With the help of custom UI creator tools, we can make a user-friendly software solution.
3. By using cloud computing we don’t have to worry about the costs because we would be only paying for resources, we require which makes this solution more flexible.
4. We don’t have to deal with managing storage servers, compute resources and networking as cloud computing services can deal with the hardware in the local datacentre.

2.2 Goals and Objectives

Table 1: Goal and Objectives

|  |  |
| --- | --- |
| **#** | **Goal or Objective** |
| 1 | Make the system extensible – future updates like AI and IOT services. Security services like vault keys and Azure sentinel can also be added later |
| 2 | Make the system easy to support –management tools like Azure PowerShell, CLI will be used and Azure monitor,Azure Service Health for visual guidance and technical support. |
| 3 | Make the system very easy to use – Software should be user-friendly and It should be easy to use |

1. Project Planning

This section covers the details of the project planning. Selecting the lifecycle of the development, project stakeholders, resources required, assumptions made (if any) are detailed in the sections below.

Initial phase:

We have planned to make a software to create a social hub for students. This is a hub where clubs can post their events, students can manage their personal schedules and interact with other students. We are going to use cloud computing services to design a unique software.

Planning stage:

We need to learn the tech of cloud computing to design this software . It will take around 1 month to learn and become familiar with Azure cloud. To complete this project we assume that it will take around 3 months..

Execution Stage:

We will host the website by using Azure cloud services and see how it will help students. We will collect the analytics and feedback of the website and try to improve it.

Closure Stage:

We will see if our product attracts the students, we will start working more and provide more useful functionality to the customer with their reviews.

3.1. Project Setup

Table 2: Project Setup

|  |  |
| --- | --- |
| **#** | **Decision Description** |
| 1 | Azure Cloud Services will be used. |
| 2 | Coding guidelines will be followed by all the developers. |
| 3 | HTML, CSS and JavaScript will be used to create the website. |
| 4 | Project can be used by other organizations on subscription basis. |

3.2. Stakeholders

Table 3: Stakeholders

|  |  |
| --- | --- |
| **Stakeholder** | **Role** |
| Anurag Goswami | Mentor |
| Rahul Kumar Verma | Mentor |
| Rishi | Team Member |
| Ravi Singh | Team member |
| Kundan Kumar | Team member |
| Mohammad Omar Farooq | Team member |
| Anshuman Phukan | Team member |

3.3. Project Resources

Table 4: Project Resources

|  |  |  |
| --- | --- | --- |
| **Resource** | **Resource Description** | **Quantity** |
| Cloud Computing (Azure) | Will provide database server and host our website. | 1 |
| Capstone Team | Our team of students who will be the primary developers of the project. | 5 |
| Rahul Kumar Verma, Anurag Goswami | The mentor who will be able to provide us with technical assistance. | 2 |
| HTML, CSS, Javascript | To develop website. | 1 |

3.4. Assumptions

Table 5: Assumptions

|  |  |
| --- | --- |
| **#** | **Assumption** |
| A1 | The capstone team and mentors will be able to meet face to face once a week. |
| A2 | Azure will be available for the team to work. |
| A3 | Team members will be able to familiarize themselves with the Azure cloud environment. |
| A4 | Team will have sufficient time to complete a working model to present by end-semester. |
| A5 | Website will have fully integrated Azure services. |
| A6 | Website will be completed enough to deploy online. |

1. SYSTEM ANALYSIS AND DESIGN

---------------------------------------------------------------------------------------------------------------------

College Social Hub (CSH) is very much similar to Learning Management System (LMS) with extra features (advanced and user friendly). CSH is a web-based technology used to access and execute a specific education process. It is an eLearning platform that consists of two parts: a server that is maintained by developers and a user interface, which can be accessed by students, lecturers, and admins.

It is a user-friendly platform where an instructor can manage and keep track of all student data. Students can manage their schedule, set a reminder for their upcoming exams, and can interact with any senior students and or any faculty. Moreover, CSH can be used by any business, local government, and any traditional educational institution. It will be very easy to use and also saves organizations time and money.

CHS is a combination of different Azure Services related to virtual machines and storage. To overcome the server-related issues, we are using different Azure services for storing and manipulating the data.

---------------------------------------------------------------------------------------------------------------------

* + 1. Product Backlog Items

|  |  |  |
| --- | --- | --- |
| **ID** | **Feature name** | **Story points** |
| 5 | Register on the site | 1 |
| 4 | Upload the files | 2 |
| 10 | Download the document | 3 |
| 17 | Send notification | 4 |
| 13 | Take Exam | 5 |
| 16 | Share posts and achievements | 6 |

**SPRINT 1**

**Estimated User Story Points:** 2

**Actual Completed User Story Points:** 2

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **ID** | **Added** | **Description** | **Status** | **Story Points** | **Actual Equivalent Story Points** | | **% Completed** |
| 100 | Onset | **As a** student  **I want** to be able to register online,  **So that** I can register quickly and make use of the app. | **C** | **2** | **3** | | **100%** |
| **Acceptance Criteria** | | | **Verification** | | | | |
| **110** | A student cannot submit a form without completing all the mandatory fields | | **Create a test case to verify non-empty fields.** | | | | |
| **111** | Information from the form shall be stored in the registration database after making registration | | **Create test case to verify information is stored in the database.** | | | | |
| **ID** | **Tasks** | | | | | **Resource** | |
| 1 | Develop a front end with all the required tabs and buttons | | | | | **Rishi and Ravi** | |
| 2 | Develop a backend functionality that can connect services with azure cloud | | | | | **Anshumaan , Omar and Kundan** | |

**SPRINT 2**

**Estimated User Story Points:** 8

**Actual Completed User Story Points:** 8

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **ID** | **Added** | **Description** | **Status** | **Story Points** | | **Actual Equivalent Story Points** | **% Completed** |
| 200 | Onset | **As a** student ,  **I want** to upload all my digital files to the cloud  **So that** I can access it anywhere | **C** | **8** | | **8** | **100%** |
| **Acceptance Criteria** | | | **Verification** | | | | |
| **210** | **Should be a university student** | | **Create test cases to verify student details with the university database** | | | | |
| **ID** | **Tasks** | | | | **Resource** | | |
| 1 | Develop a method which reads student details from the database | | | | **Omar** | | |
| 2 | With the help of azure AD we can develop a method for authentication of the entered student details | | | | **Ravi** | | |
| 3 | Create a virtual private network for end to end encrypted communication | | | | **Rishi** | | |
| 4 | Managing the database using azure sql server and power BI | | | | **Kundan and Anshumaan** | | |

4.2. Design diagrams/ Use case diagram

* + 1. Use Case Diagrams

