Extensible Web Platform for Students, Representatives and Organisers from different universities to connect

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Abstract

The idea behind building forums for connecting students with college representatives and organisers so that they may get their desired information is to promote collaboration between authorities and students. A reduced communication gap can make everyday growth for students seamless and easy. The reasons why such forums are not popular in universities include content moderation, lack of specificity and discovery and lack of technical resources to deploy and customize the forums. The applications that exist do not connect students in particular to university or college authorities to give them crisp and credible information regarding resources. I propose a dynamic and multi-functional web platform to address this problem. The platform aids students to ask questions directly to concerned authorities, receive answers which they can either upvote or downvote, see events listings, register for them and participate in feedback polls. The platform built has been tested with VIT students and received positive feedback from more than 75% of students.

Keywords: *Web application for students, Q&A Portal, College connecting platform.*

1. INTRODUCTION

University life is one of the most important periods of a person's life. It is at this time that individuals make decisions that impact the course of their careers and lives. Therefore, it is essential that all students make informed decisions about their student life.

There is an acute need for credible information from credible sources and feedback or public trends from individuals in other universities. Students and faculty alike flock to external websites that promise to provide results but are often led astray. The situation is similar in VIT. This motivated me to build a platform for users to ask for, and receive credible information from the right sources along with public trends via feedback polls.

The solution was my student-authority-student based web-platform called CollegeConnect. It is a web application that will allow all students to interact with college representatives as well as each other. The application shall be helpful for a variety of purposes. It consists of mainly three functionalities: Question and Answer module, Eventslisting module and Feedback Poll module.

At this portal, students can ask various questions which they seek answers to. It will act as a common platform for staying updated regarding the activities going on in all colleges. VIT exchange portal is a one-stop-solution for exchange where students can ask questions, participate in polls and stay updated.

2. LITERATURE SURVEY

[1] Applying authorship analysis to extremist-group Web forum messages – A Abbasi, H Chen

The speed, ubiquity, and potential anonymity of Internet media - email, Web sites, and Internet forums - make them ideal communication channels for militant groups and terrorist organizations. Analyzing Web content has therefore become increasingly important to the intelligence and security agencies that monitor these groups. Authorship analysis can assist this activity by automatically extracting linguistic features from online messages and evaluating stylistic details for patterns of terrorist communication. However, authorship analysis techniques are rooted in work with literary texts, which differ significantly from online communication. To explore these problems, we modified an

existing framework for analyzing online authorship and applied it to Arabic and English Web forum messages associated with known extremist groups. We developed a special multilingual model - the set of algorithms and related features - to identify Arabic messages, gearing this model toward the language's unique characteristics. Furthermore, we incorporated a complex message extraction component to allow the use of a more comprehensive set of features tailored specifically toward online messages. Evaluating the linguistic features of Web messages and comparing them to known writing styles offers the intelligence community a tool for identifying patterns of terrorist communication.

[2] Effects of Social Network on Students' Performance: A Web-Based Forum Study in Taiwan – HL Yang, JH Tang

This research investigates the effects of social networks on students' performance in online education which uses networking as an adjunct mode for enhancing traditional face-to-face education or distance education. Using data from a 40-student course on Advanced Management Information Systems (AMIS), we empirically tested how social networks (friendly,advising, and adversarial) related to students' performance. First, advising network variables are positively related to student performance both in the class and on the forum. Adversarial variables are negatively correlated with almost all students' performance. Second, advising and adversarial network variables are good determinants for overall academic performance; however, adversarial network variables are not influential on students' performance on the forum.

[3] Technology and Education Online Discussion Forums: It's in the Response – S Markel

This article is a qualitative analysis concerning the use of discussion forums in web-based course delivery. The author has taught graduate level teacher education courses with this technology for three years, is now involved in the administration of several programs re-conceptualized for the web and shares herein lessons learned.

[4] Student Interactions in Online Discussion Forum: Empirical Research from 'Media Richness Theory' Perspective – M S Balaji

The present study contributes to the understanding of the effectiveness of online discussion forum in student learning. A conceptual model based on 'theory of online learning' and 'media richness theory' was proposed and empirically tested. We extend the current understanding of media richness theory to suggest that use of multiple media can enrich the communication context and perceived learning. Hierarchical regression was applied to investigate the relationships between antecedent factors, interaction and perceived learning. The results show that the perceived richness of online discussion forum has significant positive effect on student participation and interaction, and learning, when used along with traditional classroom lecture. Implications of these findings are discussed as they provide guidelines for management educators.

[5] Asynchronous discussion forums: success factors, outcomes, assessments, and limitations

Online learning has been burgeoning over the past decade with one of the more popular modes of conducting online learning being the asynchronous online courses. Within the asynchronous online course, the asynchronous discussion forum replaces the face-to-face interaction of the traditional classroom, but is this form of discussion able to enhance the learning process? This paper reviews the literature regarding asynchronous discussion forums finding that that the asynchronous discussion forum is able to generate the critical dimensions of learning found in the traditional classroom, but it has its limitations.

3. STRUCTURE AND IMPLEMENTATION

The implementation was done in modules. There are three modules – Student module, Representative module and Organiser module.

The Student module handles the student data and the functionality of posting questions to college representatives, handling the upvote/downvote system, poll voting and displaying answers. The Representative module handles the displaying of questions respective to the college with the help of tags, and the answers. The organiser module gives the organiser the ability to post event information and start feedback polls.

The modules and their interrelation can be clearly seen in the UML class diagram shown in Fig 1.

Fig 2 and 3 show the architecture design and how exactly the system functions with the users.
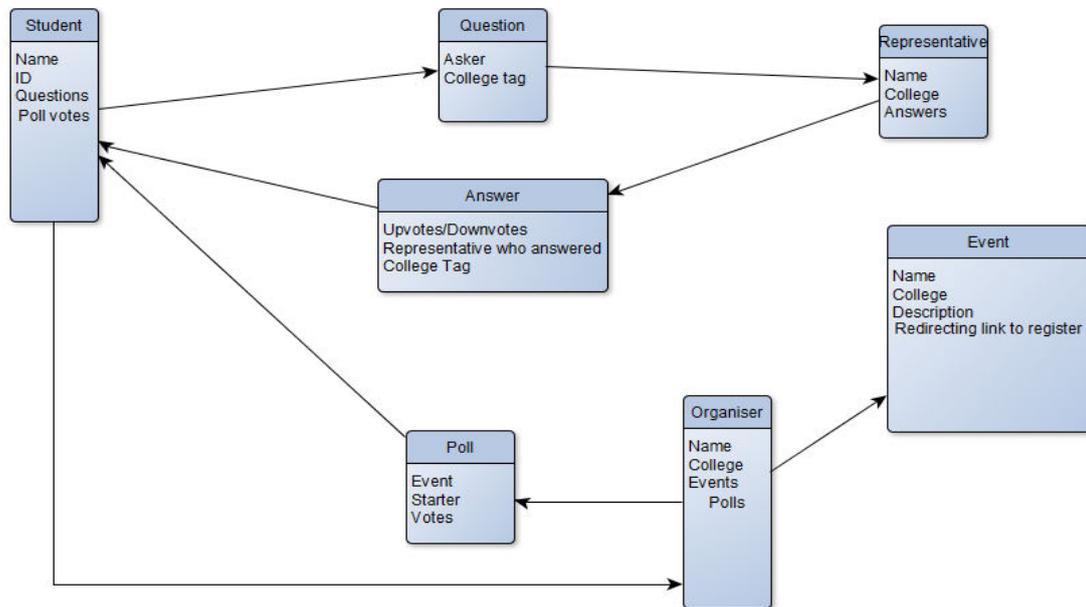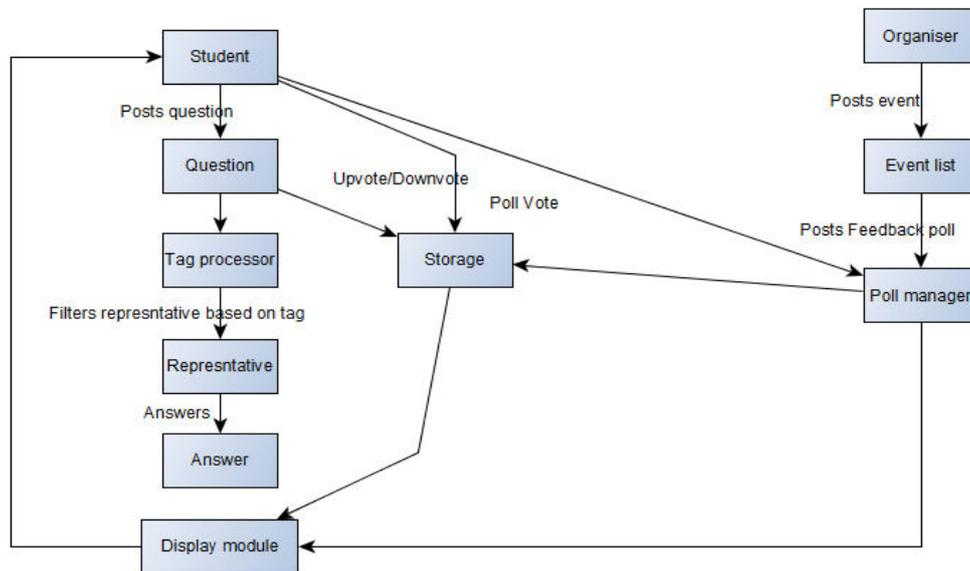

Fig 1: UML Class Diagram
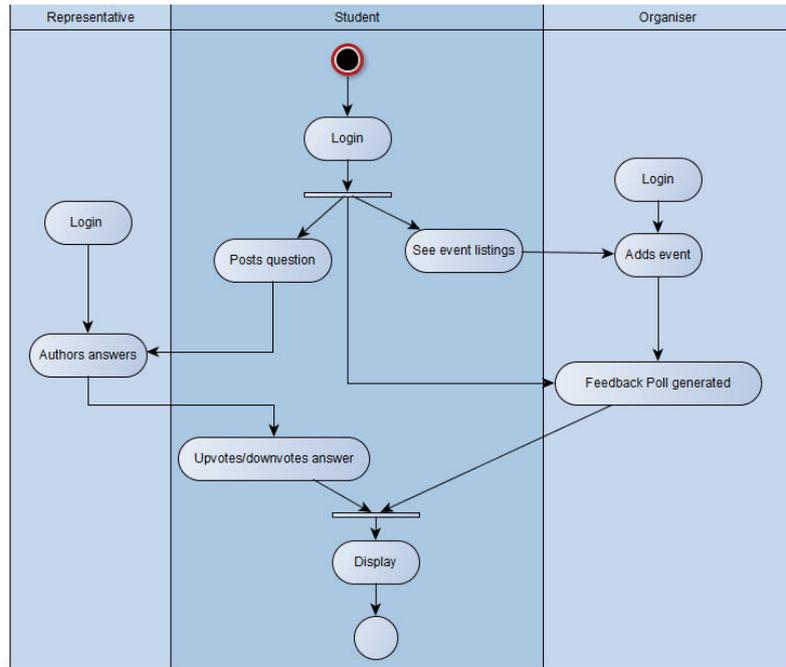

Fig 2: UML Data Flow Diagram

Fig 3: UML Activity Diagram

3.1. OPERATING ENVIRONMENT

Most university or college level students have access to the internet and a device to access the web. Therefore, College Connect was made to be a web application.

3.2. DATABASE

The data will not be stored in a traditional database, but will be separately created as Firebase environment.

Attributes will be connected to Firebase to fetch Data from it. Each attribute will be in connection to this cloud server based online database. The questions, answers and their tags will be automatically stored in a tree structure on Firebase.

3.3. USE CASES

The application addresses three categories of users – Students, Representatives and Organisers. Their use cases are shown in Fig 4.
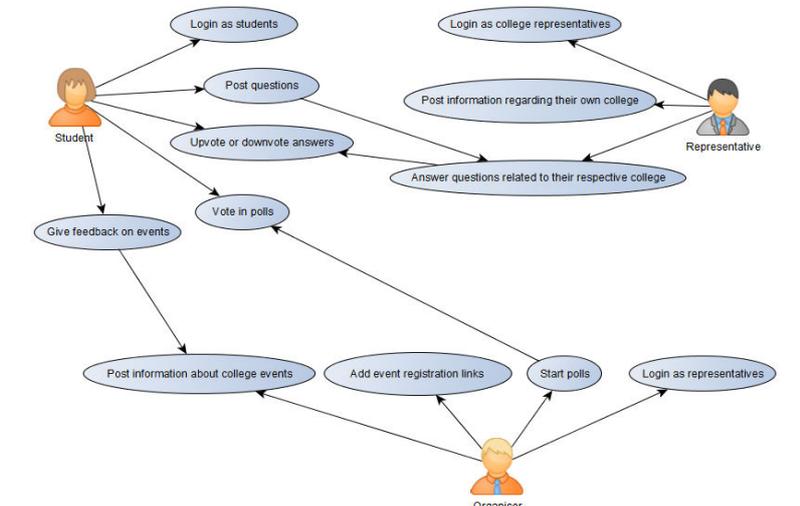

Fig 4

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4. PROPOSED METHODOLOGY

4.1. PROCESS MODEL SELECTED

Process model adopted by our project is "Prototype mode".The final product is a prototype, based upon the suggestion from the users, modifications were made to obtain a new updated version of the software application. Ichose this model because I did not possess all the requirement details.

In this model the developer and client interact to establish the requirements of the software. Since this project is based upon students and authorities in colleges, the requirements were asked from my fellow students. This was followed up by the quick design, in which the visible elements of the software, the input and the output were designed. The quick design stresses the client view of the software.

The users evaluate the prototype and provide recommendations and suggestions to improve the application. The process continues in an iterative manner until the all the user requirements are met.

4.2 COMPONENT DESIGN

Here we create the user interface for students, design a database and then a connection is made using Firebase platform. The database for students is then made (just the tables). A final connection to server to Application is made for use.

The major components in this application are:

- User interface,

- Firebase database for backend

5. IMPLEMENTATION

The entire code for the project was written using WebStorm IDE with HTML, javascript and CSS. The backend, as specified earlier, was made on Firebase. A modular approach was taken while designing the components.
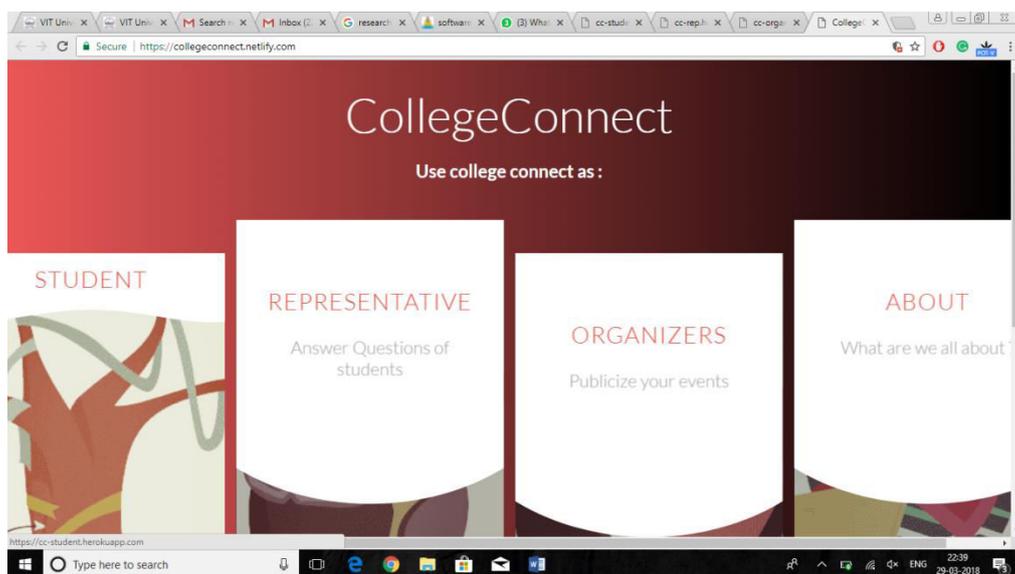
6. NOVELTY

There exist other portals and applications for Q&A like Quora, however, CollegeConnect has a lot more to offer and it has novel features like:
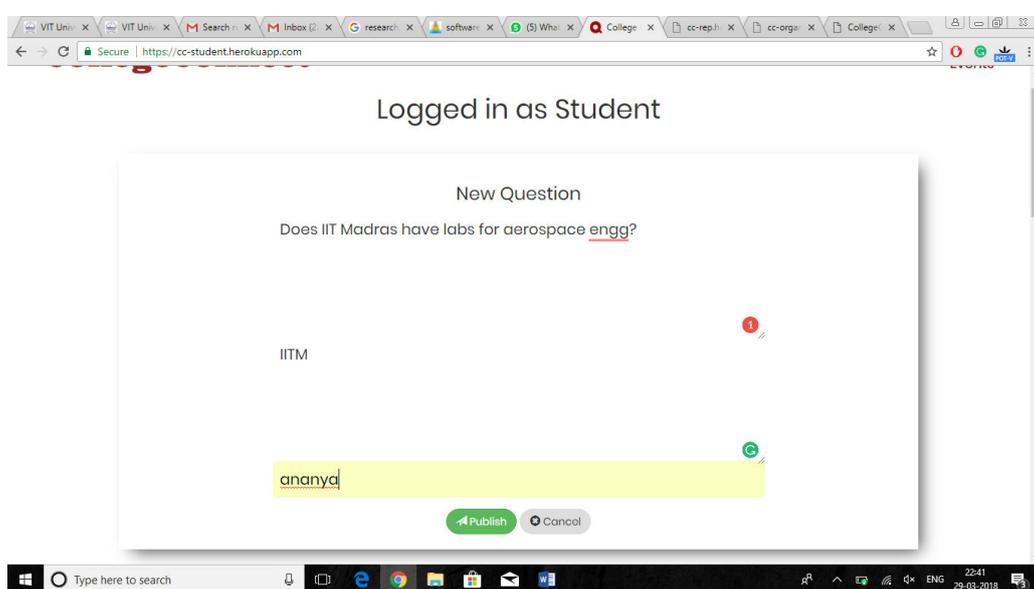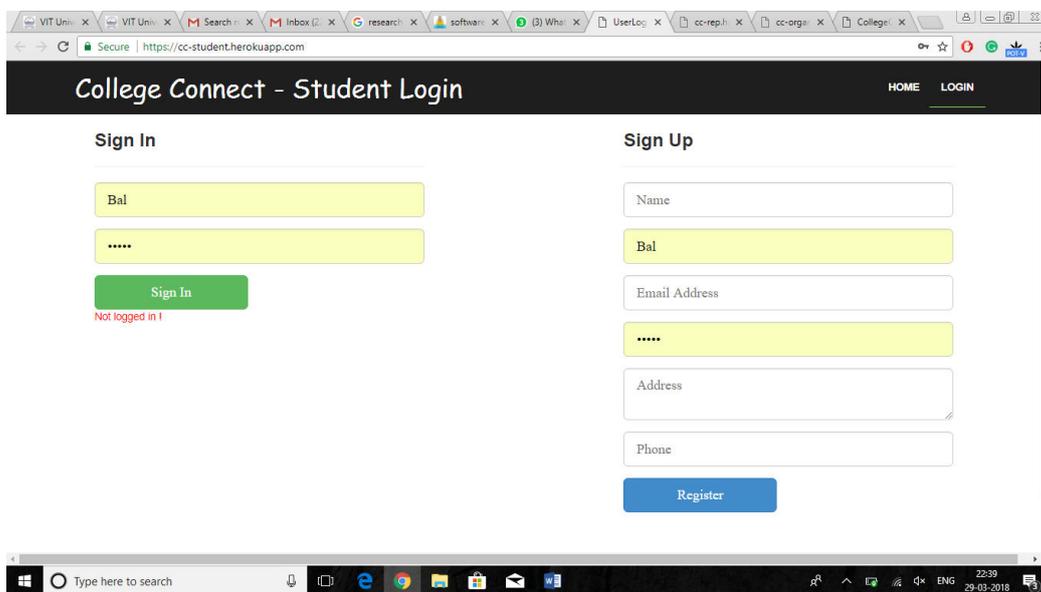
- Polls for gauging public trends and feedback

- Tags to direct questions to representatives of a particular college

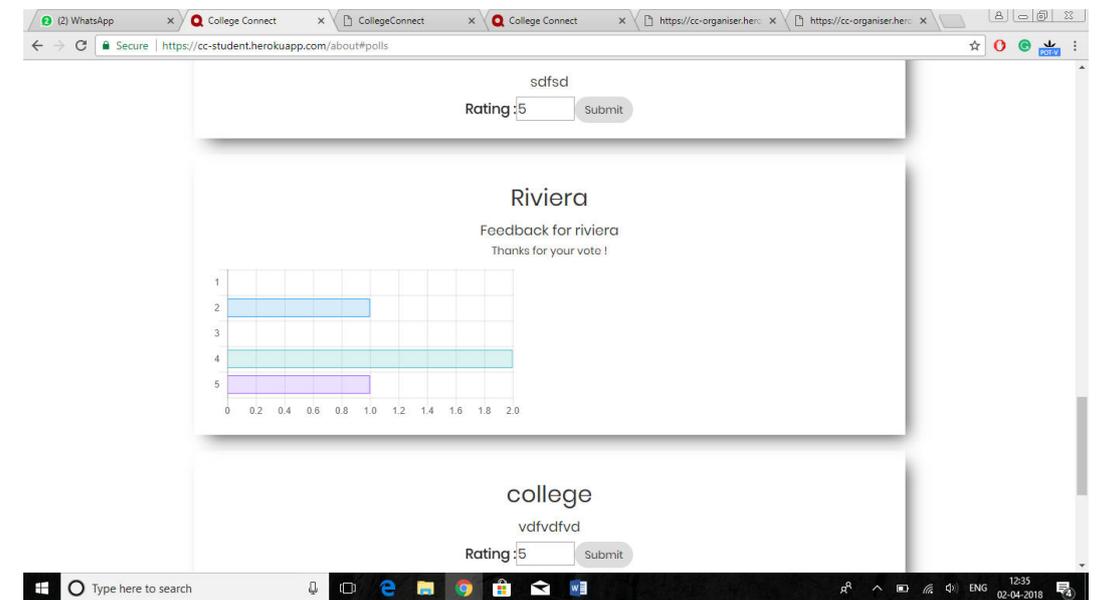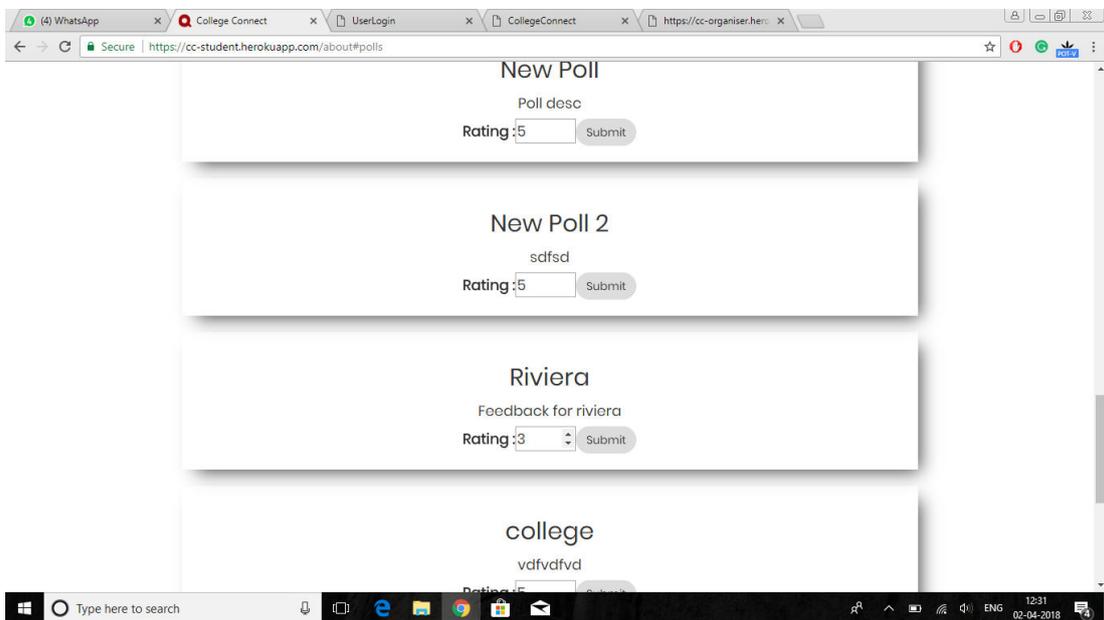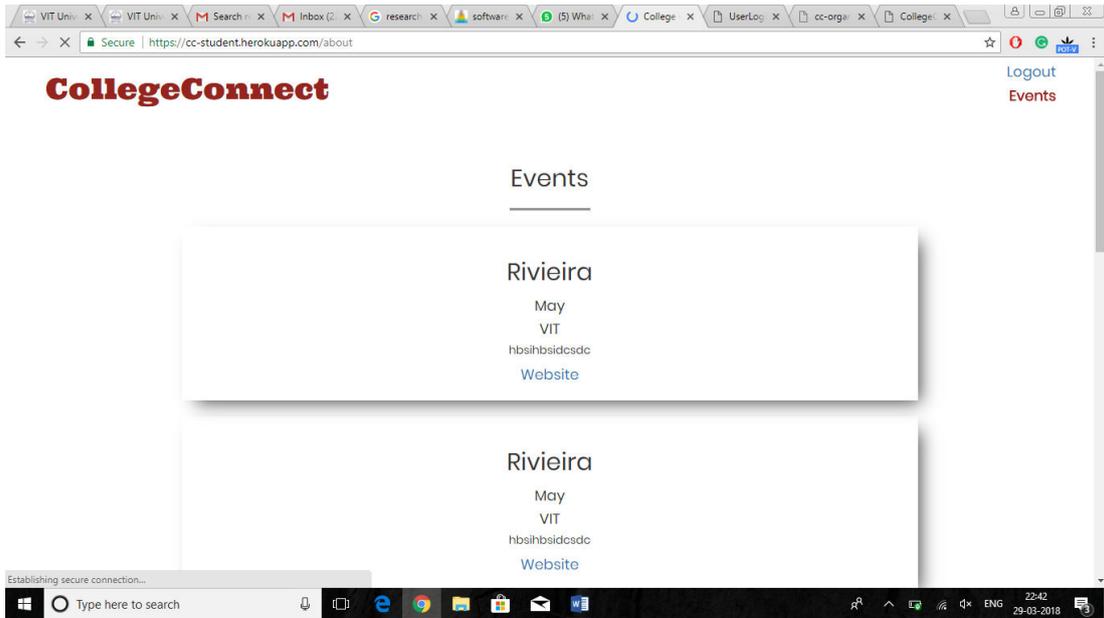- Event listings from various colleges.

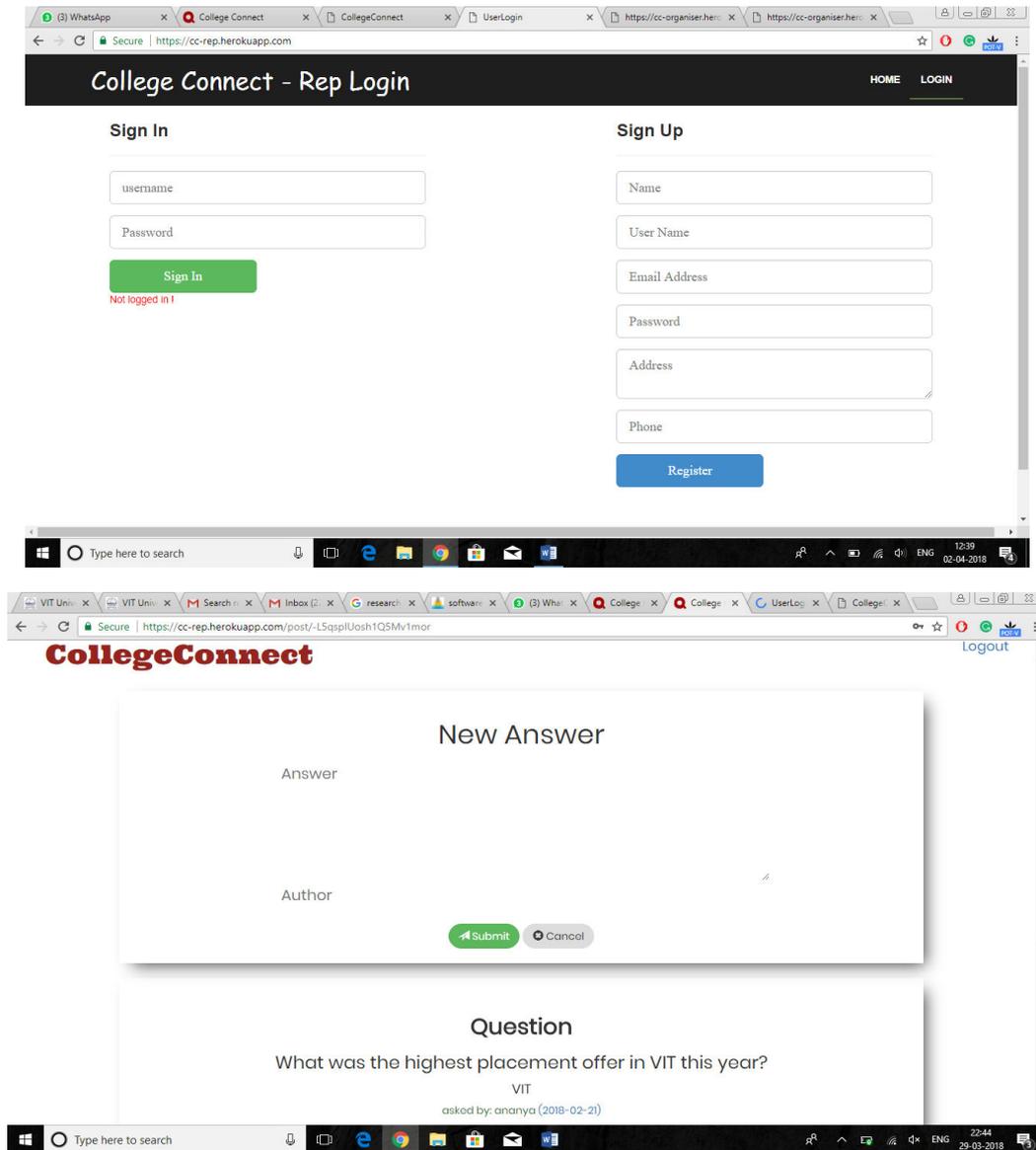## 7. SCREEN OBJECTS AND ACTIONS

Home page and login facilities:

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Student Login and activities:

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Representative Login and activities:

Organiser Login and actions:

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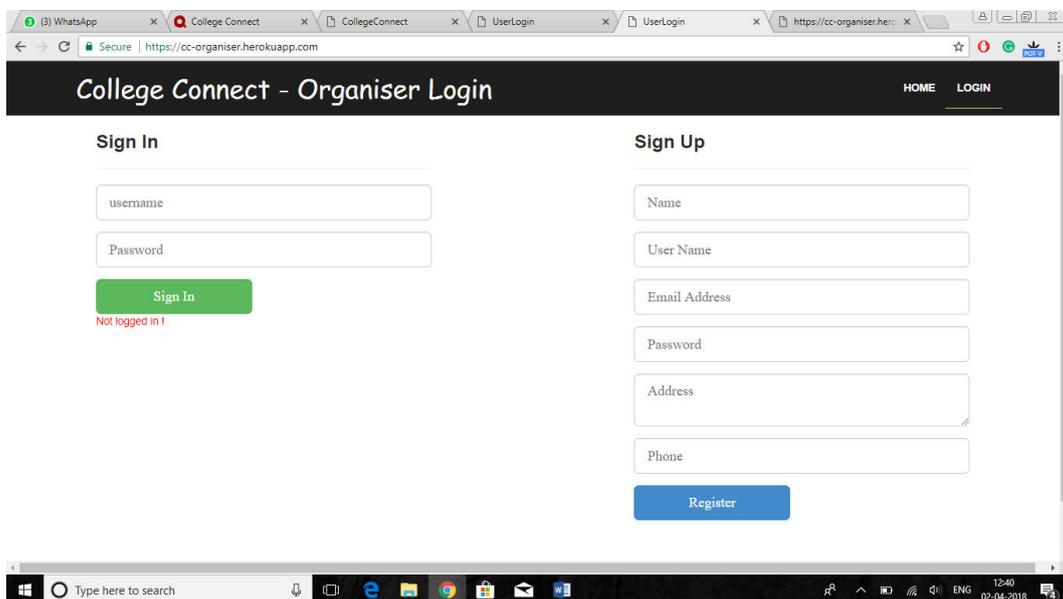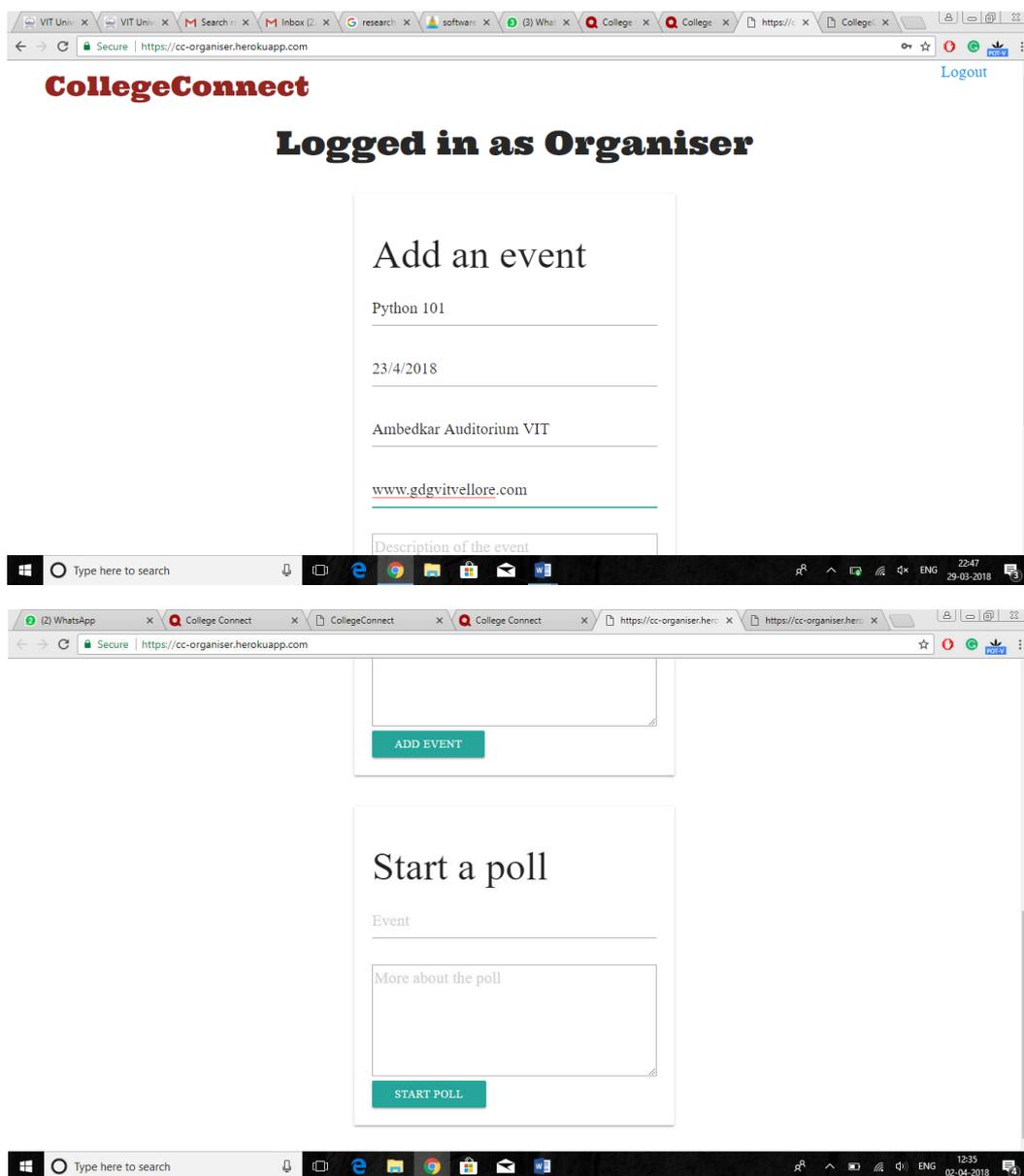
8. FEEDBACK

The application was made available for use to a group of 25 students with one faculty coordinator acting as a representative and organiser. The users found the application easy to use and liked the concept very much. They felt it could bridge the communication gaps existing between students and authorities.

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