Abstract

Skill Jar is one stop platform for enhancing and investing your time and skills. It helps a student to develop skills which are more industry oriented. This platform makes it easy for industries to define the type of interns they require and also sort the students for further training. Students can register for talks given by industry personnel or university alumni placed in various companies and gain insights on practices carried out in industries. Also, it provides facilities of on campus projects. On campus projects are projects which can be carried out by the students parallelly along with the normal working hours of the university. Faculties can also post for finding research assistants wherein students can work for 1-2 months for them and earn a certificate.

Contents

INTRODUCTION

In today's world it is very difficult to search for a job/internship. The most important thing for getting a job is skill set. Before offering a job, industry looks for a specific level of skills in a person's resume. This web application is developed to facilitate upgrading of skills as well as for applying for relevant internships accordingly.

In certain scenarios, the university needs its students to make the campus advanced and efficient in certain fields. Also, with day to day work load it becomes difficult for a faculty to carry on with the research and they require assistance for some jobs. This application also takes care of all these problems.

There was no common platform to take care of all these problems so we planned to build this application.

1.1 Problem Formulation

One of the most important things for a student is to acquire industry-oriented skill set. Also, it has become very difficult to find a job/internship. This platform will not only help the student to acquire job necessary skills but also facilitate the industries to provide opportunities to students in form of internships or projects.

1.2 Problem Identification

For a student who is pursuing graduation, he has very little knowledge of how things work out at corporate level. Therefore, for benefit of students this platform is developed. Using a single platform student now have guest talks by industry personnel, take up courses to upgrade their skills and apply for internships(s).

1.3 Problem Statement and Objectives

- To make to the process of guest talks and event registration more easy.
- To provide information on courses offered in detail and allow students to choose among them.
- To provide internship applications and the corresponding organisation's work policies and application criteria.

1.4 Limitations

- Front end of project is written in HTML, CSS, JavaScript this content can be converted into modern web frameworks such as Angular, React, Vue.
- Furthermore, site compatibility of site can also be taken into consideration, supporting various browsers and versions.

2.IMPLEMENTATION

Internet and web programming applications are booming these days, with advent of mobile devices and web applications almost everyone is trying to access the information through websites or web applications. Hence building web applications are the obvious choice for this problem statement. We have used various frontend and backend technologies to build a web application "Skill Jar".

The front end technologies used are:

HTML: HTML is the standard markup language for creating Web pages, It describes the structure of a Web page. It consists of a series of elements that tell the browser how to display the content.

CSS: CSS stands for Cascading Style Sheets. It describes how HTML elements are to be displayed on screen. It can control the layout of multiple web pages all at once.

Javascript: JavaScript (JS) is a lightweight, interpreted, or just-in-time compiled programming language. JavaScript is a prototype-based, multi-paradigm, single-threaded, dynamic language, supporting object-oriented, imperative, and declarative styles.

The Backend Technologies used are:

Node Js: Node.js is an open source, cross-platform runtime environment for developing server-side and networking applications. Node.js applications are written in JavaScript, and can be run within the Node.js runtime on OS X, Microsoft Windows, and Linux.

Firebase real time database: The Firebase Realtime Database is a cloud-hosted database. Data is stored as JSON and synchronized in realtime to every connected client.

HTTP Request Response Model:

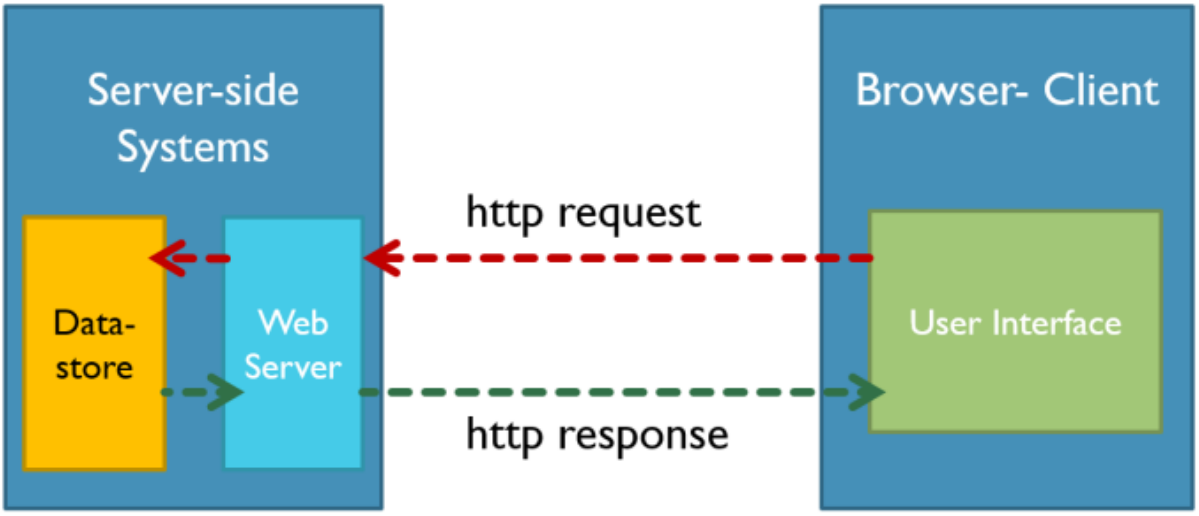
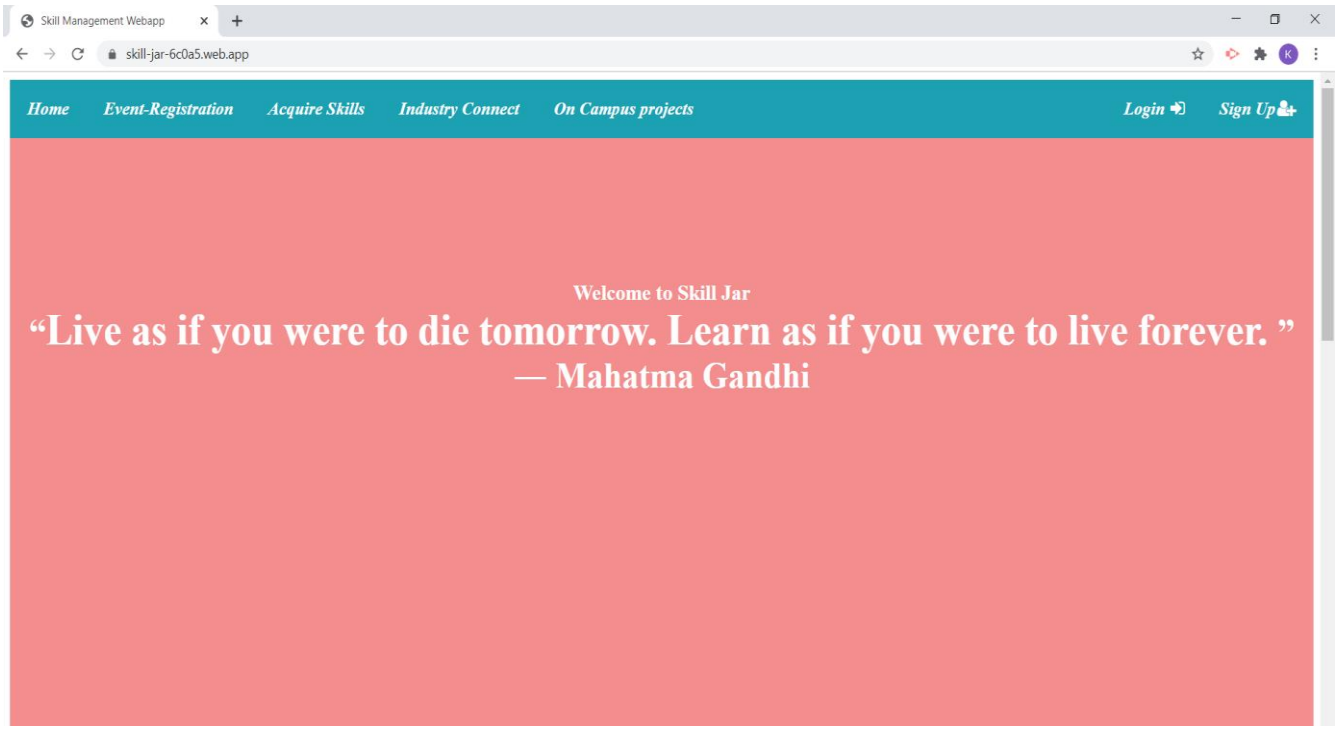


Figure 1

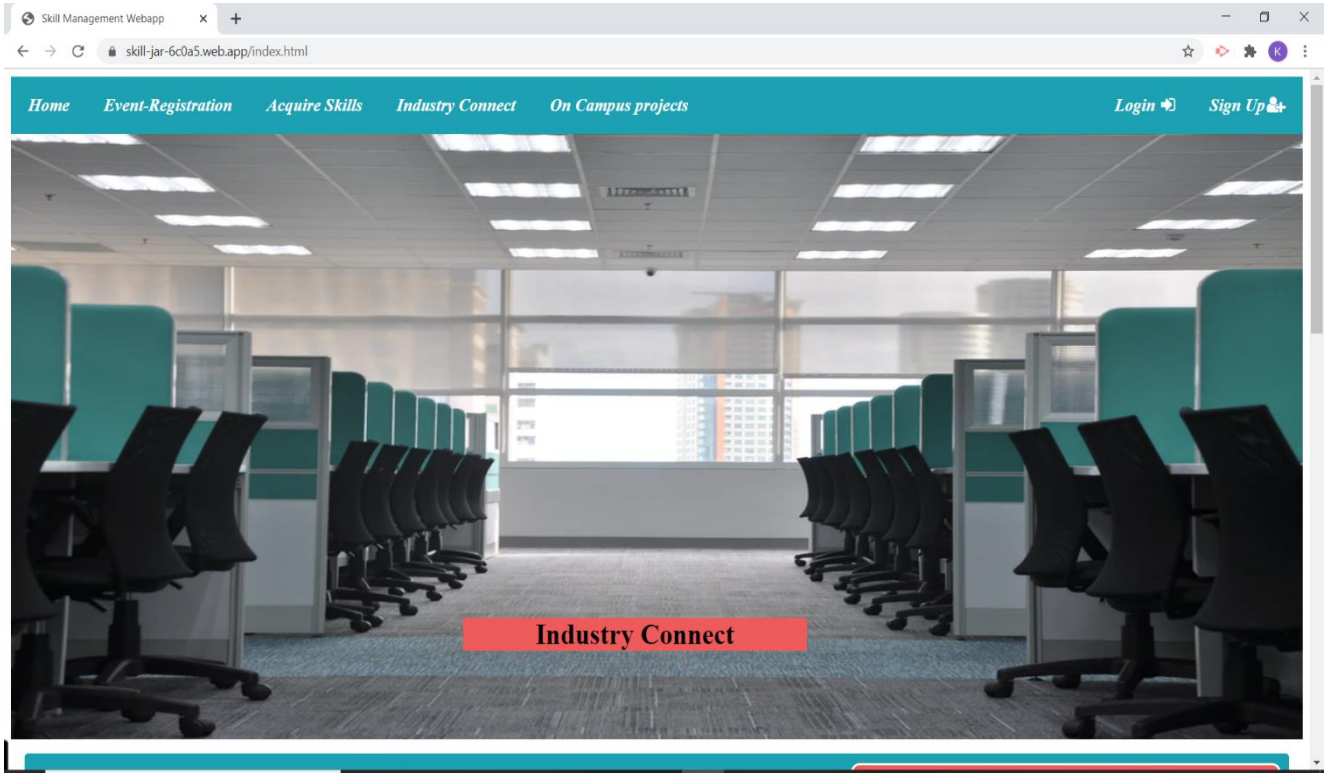
HTTP Request Response is a communication model in which client sends requests to the server and server responds to the requests (as shown in Figure 1). When the server receives the request it fetches the required data and prepares the response and sends it to the client.

3. SNAPSHOTS

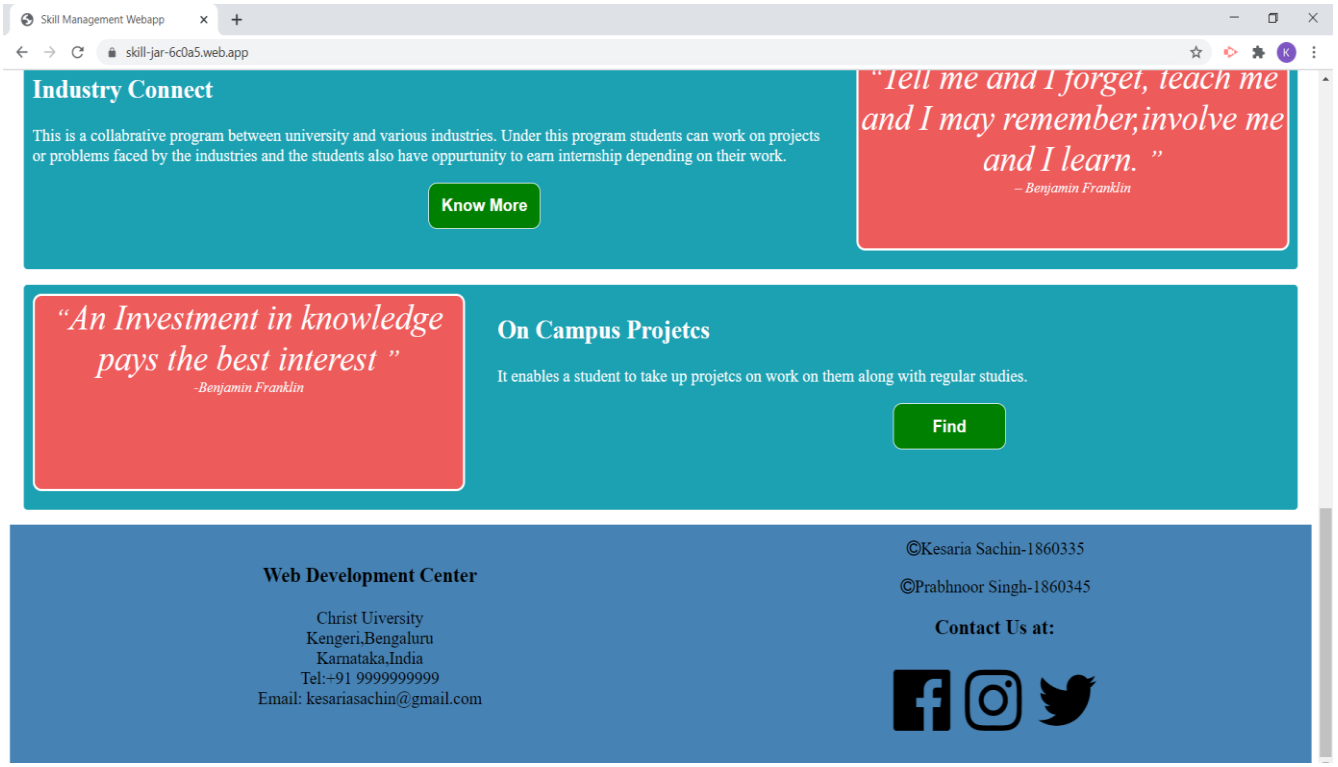
Home page:



Screenshot 1



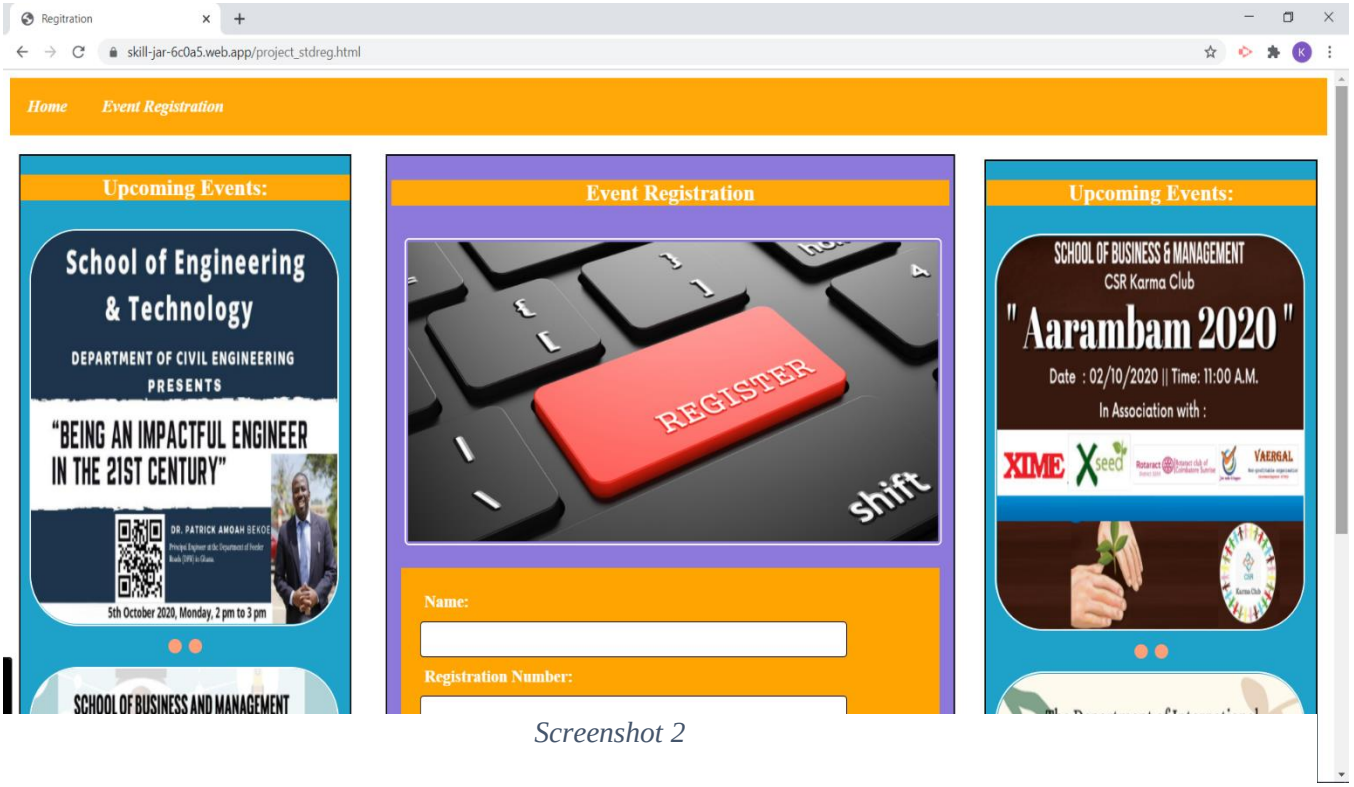
Screenshot 1.1



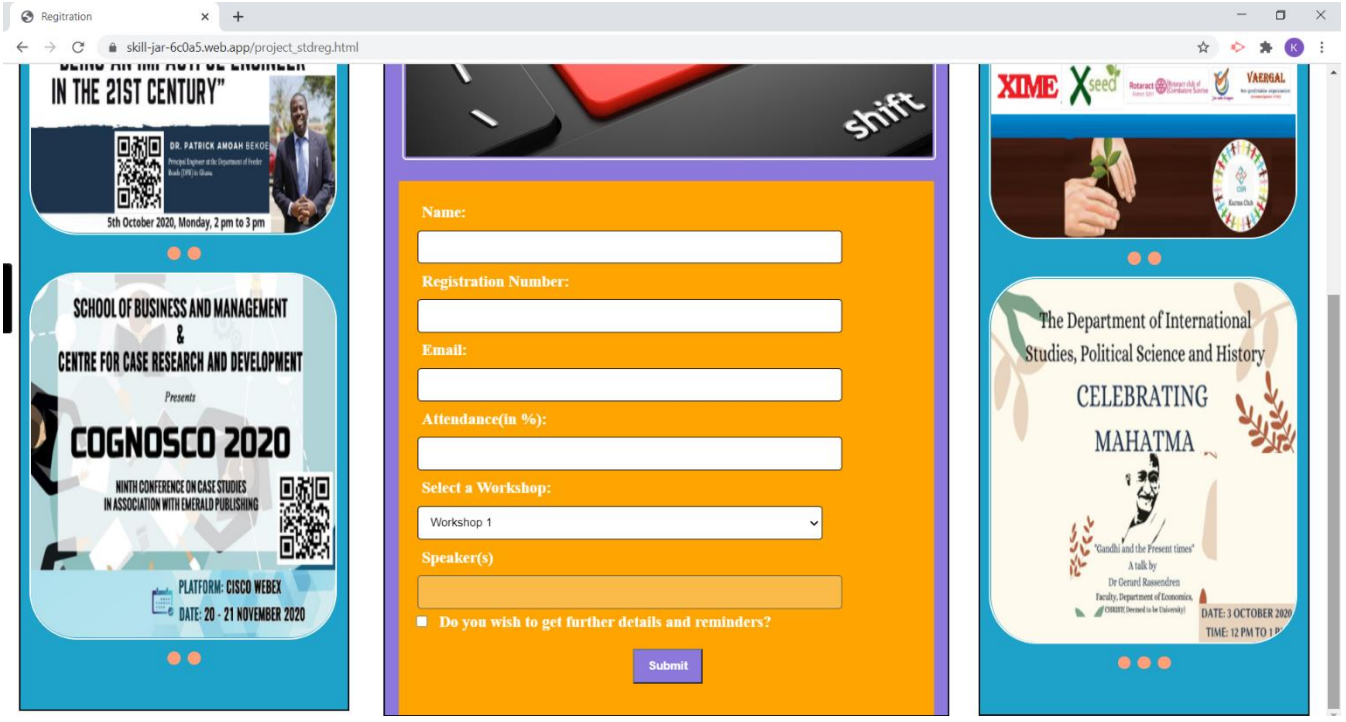
Screenshot 1.2

The Above screenshots(1,1.1,1.2) show the home page of the web application. This page contains navbar, slideshow, information about services provided by the application and a footer.

Event Registration page:



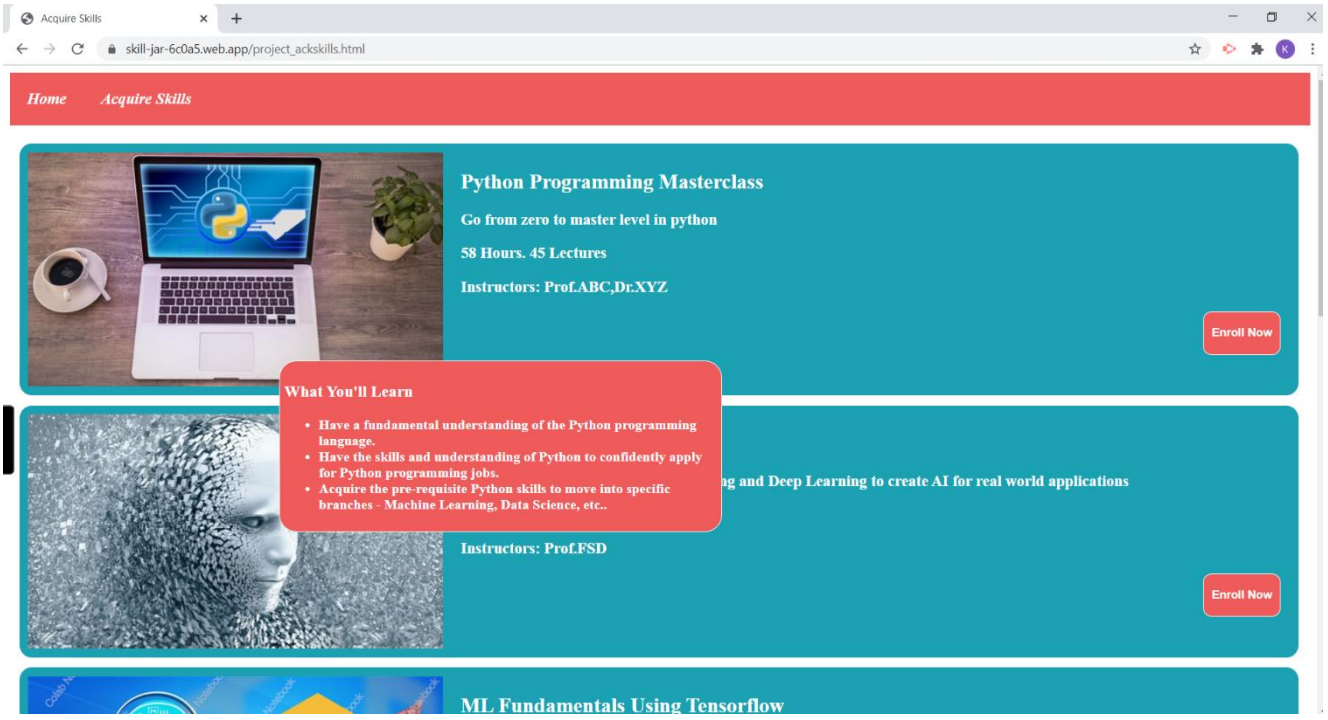
Screenshot 2



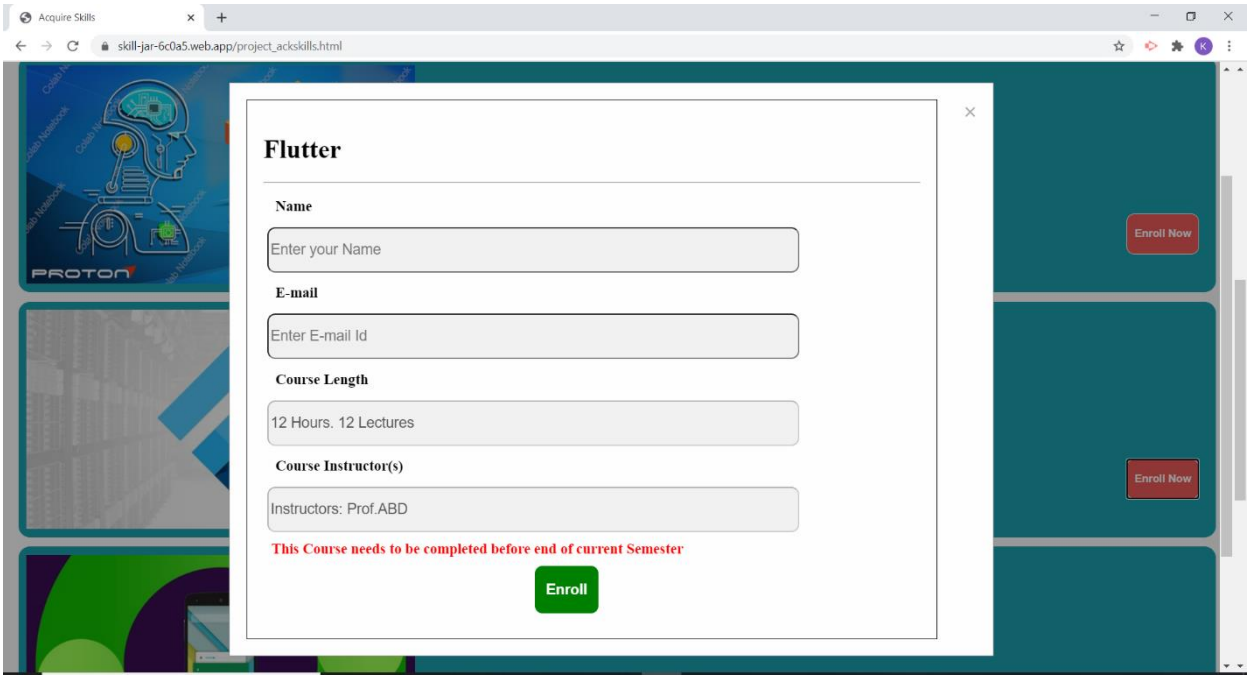
Screenshot 2.1

The above screenshots (2,2.1) show the event registration page which includes registration form and many posters which can be scrolled through using buttons below them.

Acquire skills page:



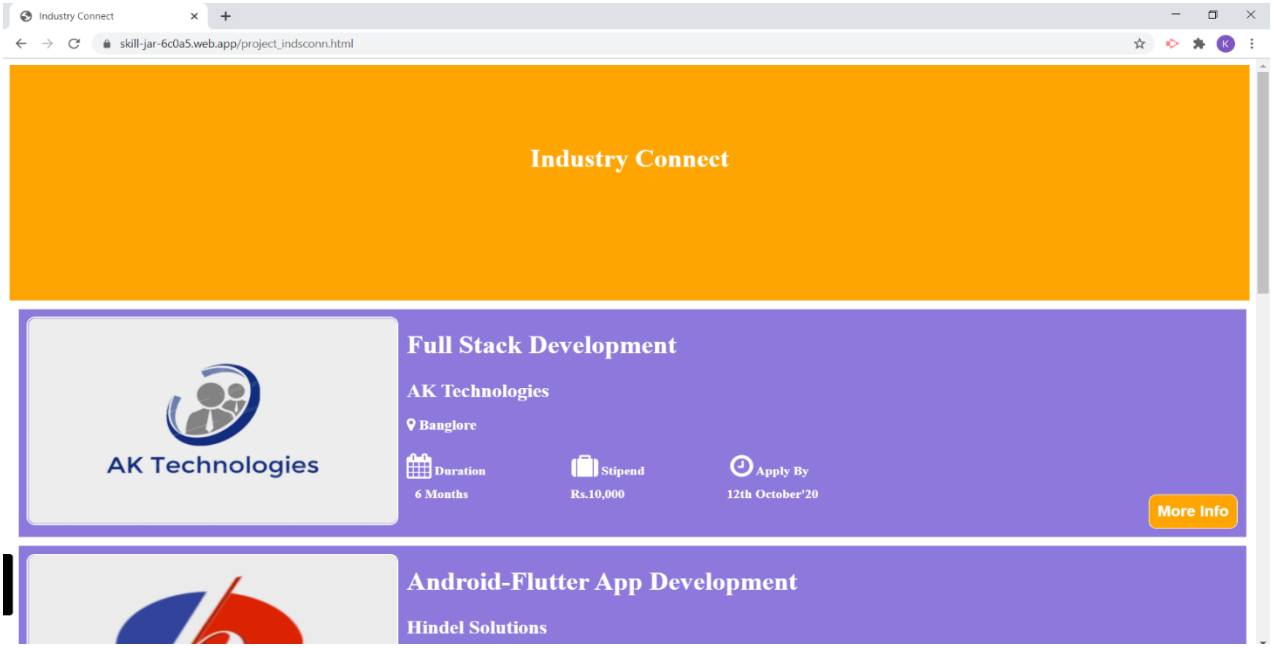
Screenshot 3



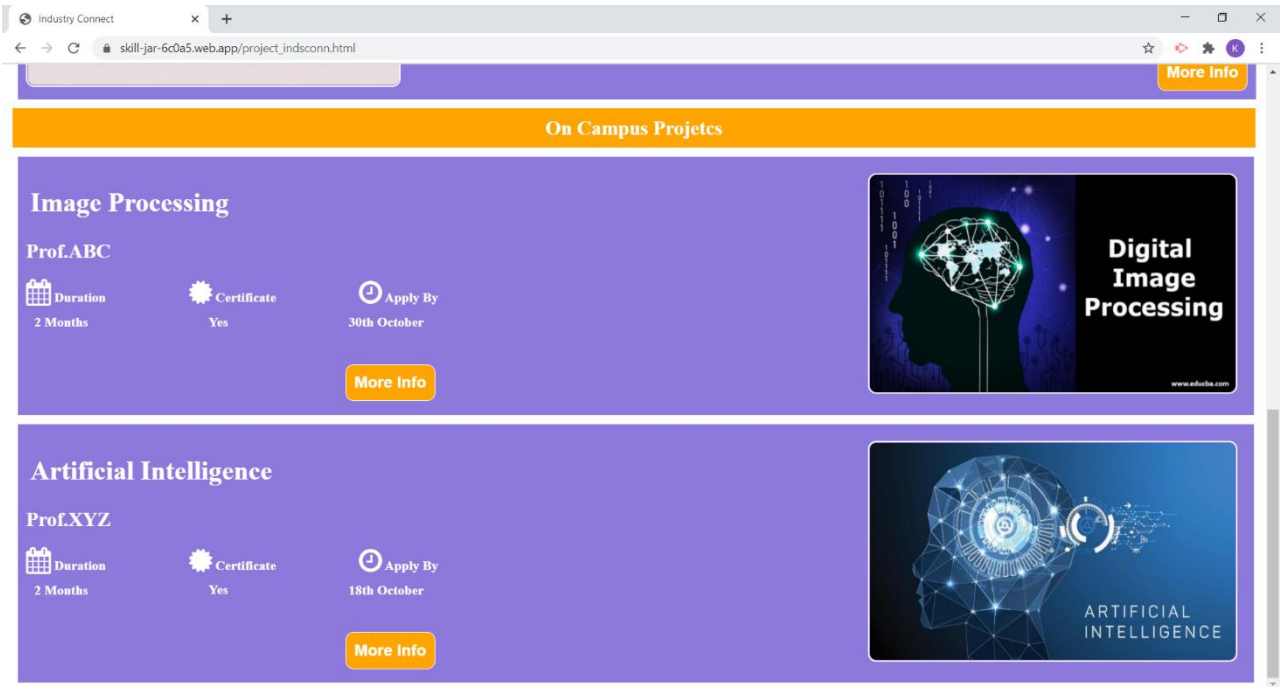
Screenshot 3.1

The above screenshots (3,3.1) show the acquire skills page which includes different courses for the students to choose from and by clicking on enroll now button the corresponding course's form will be dynamically loaded using javascript as shown in Screenshot 3.1.

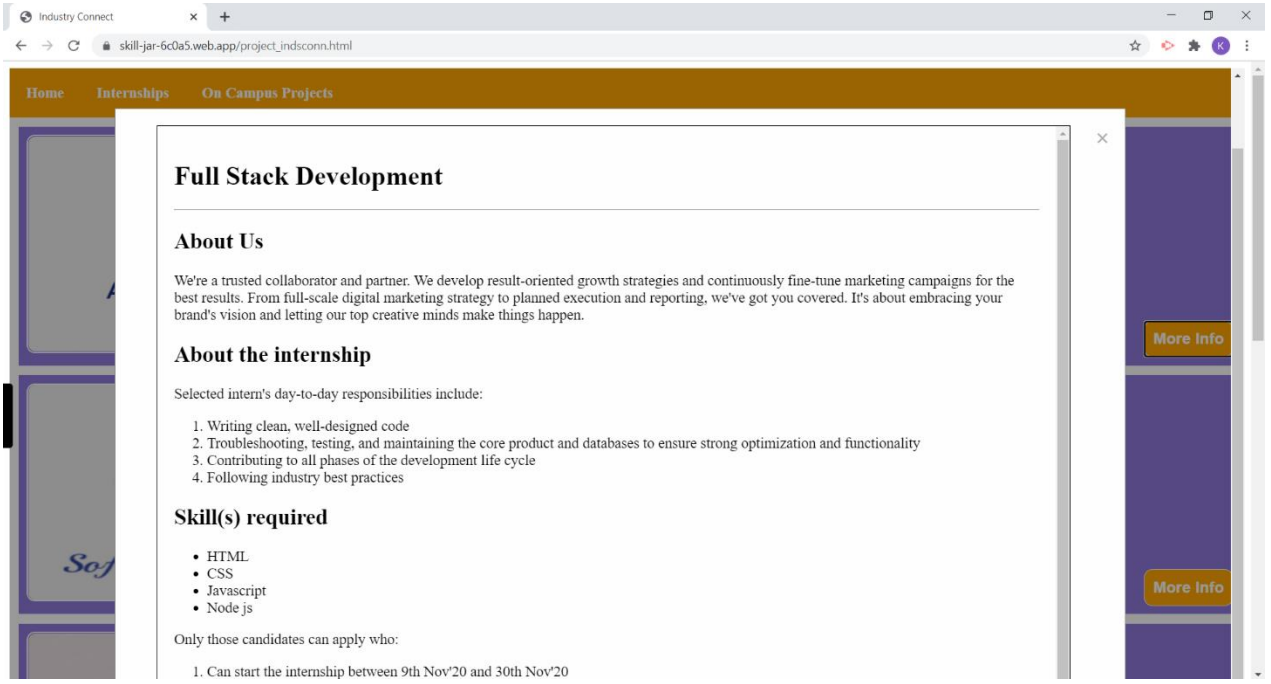
Industry connect page:



Screenshot 4



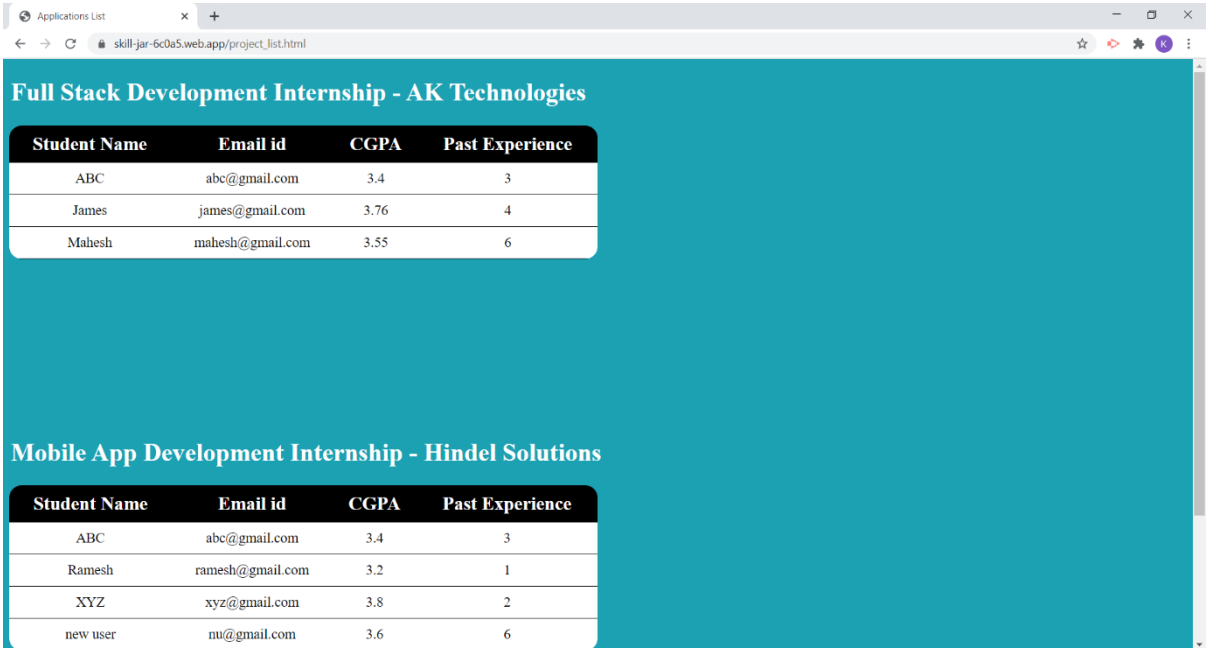
Screenshot 4.1



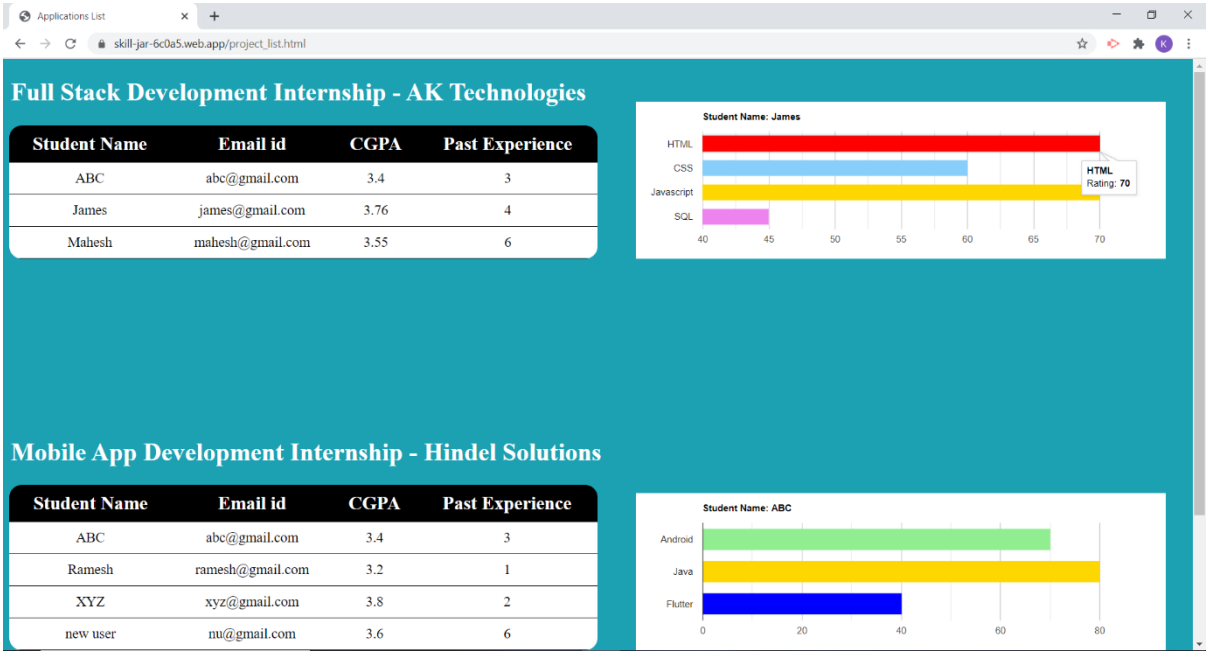
Screenshot 4.2

The above screenshots (4,4.1,4.2) show the Industry connect page which includes different internships provided under university collabrations. On clicking on more info button the corresponding requirements for applying that particular internships and its form are loaded dynamically and displayed using modal pop up as shown in Screenshot 4.2.

Application data visualization page:



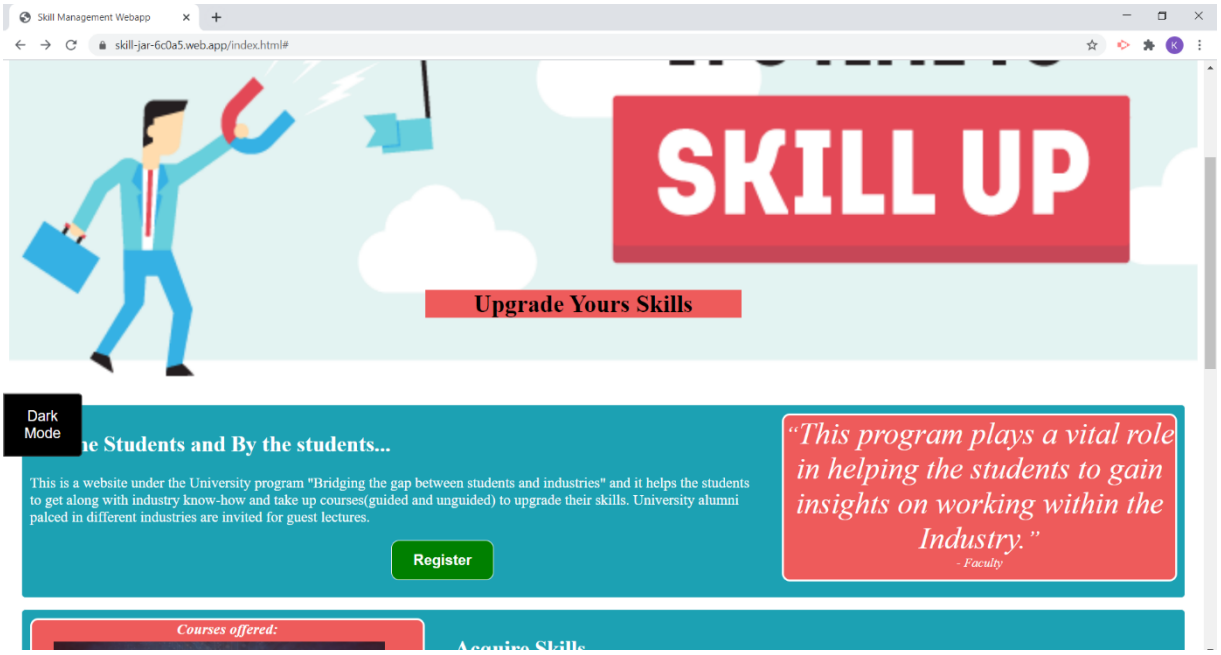
Screenshot 5



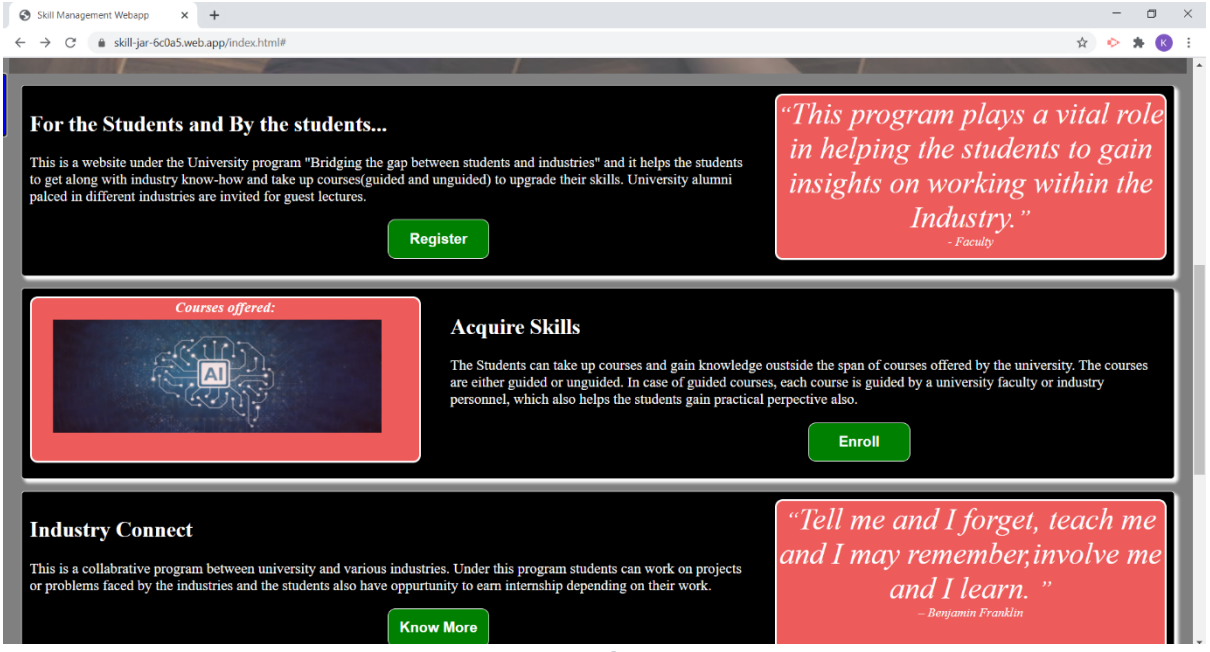
Screenshot 5.1

The above screenshots (5,5.1) show the Internship application data visualization. Only accessible to privileged user. The data can be sorted on basis of particular column values by clicking on corresponding column headers. Example: to sort the students based on CGPA click on CGPA heading on first click we get ascending order and on second click we get decreasing order of students based on CGPA only. And on scrolling on a particular entry in the table the skill set of student is shown using google charts.

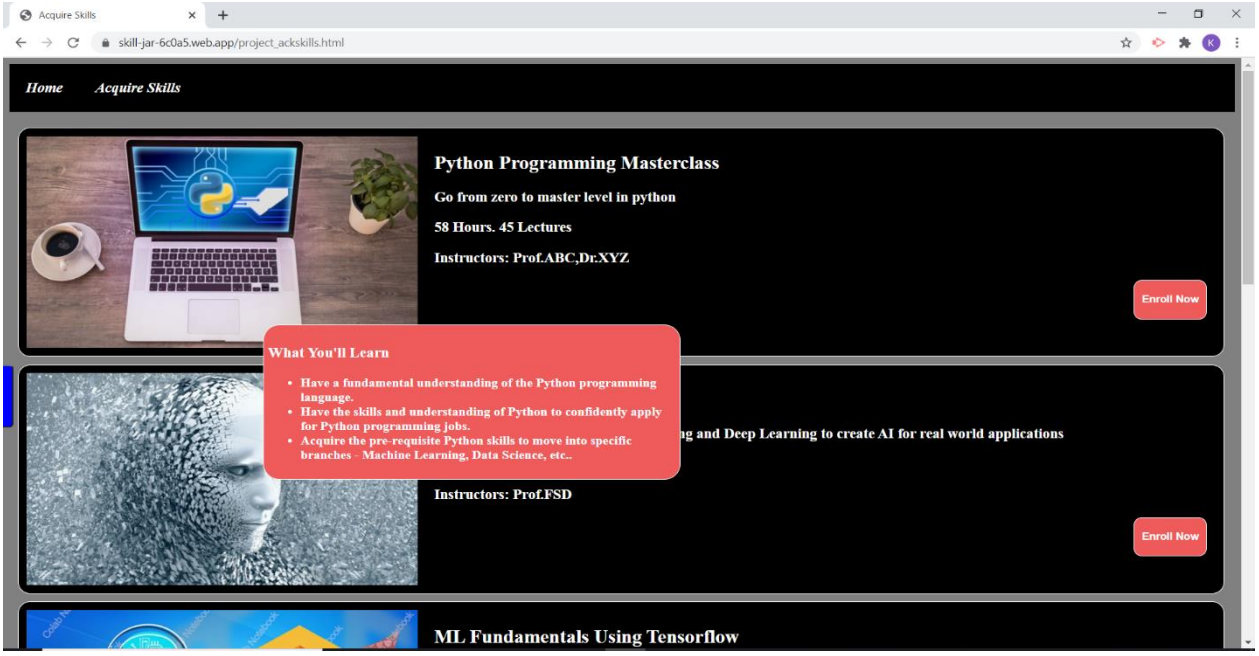
The Dark Mode:



Screenshot 6



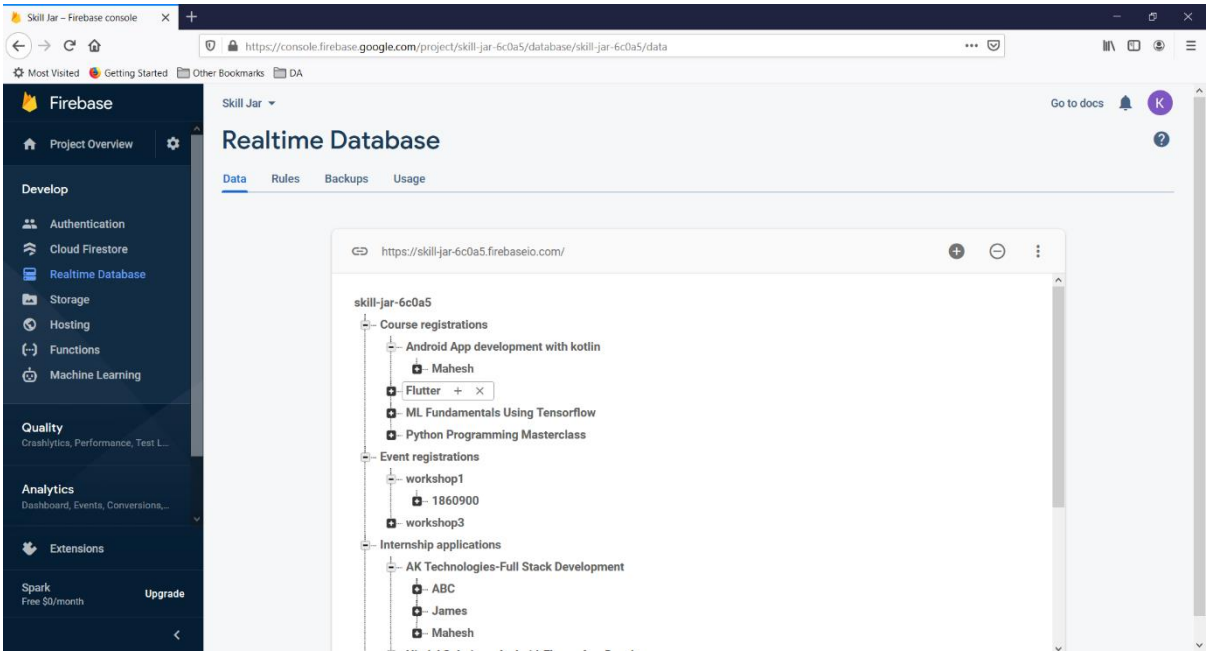
Screenshot 6.1



Screenshot 6.2

The above are few screenshots of the web application working in dark mode. As shown in Screenshot 6 there is a button on the left side of every webpage to change the mode of the website and once the user selects a mode on any of the webpages, it is stored using cookies and user is able to access rest of the pages in that mode only. By clicking the button again the user can change back to normal mode also.

Database:



4. DISCUSSIONS

Project is divided into following modules:

Home: This Module carries Information regarding the services provided by the application.
Includes:

- Login form: collects user information after validation and verifies it from the database.
- Sign Up form: Helps the user to create an account and stores the information in the database.

Noteworthy features:

- Links to other pages.
- Login/Sign Up using modal popup
- Mode Toggle. (Dark Mode / Light Mode Toggle) - using cookies
- Navbar.
- Slideshows using CSS animation.

Event Registration: It allows the user to register for events as well as gain information regarding upcoming events.
Noteworthy features:

- Page transition effect using CSS animation.
- Registration form along with validation and auto fill.
- Storing the Information on database.
- Scroll through event posters.
- Mode Toggle. (Dark Mode / Light Mode Toggle) - using cookies.

Acquire Skills: Enables the user to gain information provided for each course and enroll accordingly.
Noteworthy features:

- Page transition effect using CSS animation.
- Dynamic changes to the webpage using Javascript.
- Storing the information on database.
- Mode toggle. (Dark Mode / Light Mode Toggle) - using cookies.

Industry Connect: It provides opportunities for students to apply for internships under university collaborations.
Also, students can take up projects on campus or under supervision of a faculty.
Noteworthy features:

- Page transition effect using CSS animation.
- Dynamic display of information and forms.
- Dynamic loading of divs using arrays and array of objects.
- Mode toggle (Dark Mode / Light Mode Toggle) - using cookies.
- Displays information depending on the signed in user.

Internship applications Data Visualization: Only accessible to users with privileges.
Noteworthy features:

- Using Google Charts to display the skill level of students who have applied for internship(s).
- Sorting of lists dynamically using Javascript.

5. CONCLUSION

The application is built with the desired output using web technologies. The developed application will solve many existing problems by creating a WIN-WIN situation for students, industries and the faculties. The built application successfully provides the features of login, signup, event registration, industry connect functionalities driven by data flowing from backend in Node.js and database as firebase. The frontend uses HTML, CSS and Javascript.

6. SCOPE OF FUTURE WORK

The web application can be further enhanced using framework or bootstrap. As of now the web application is not supported for tablets. It can be made compatible more compatible using media queries or bootstrap.

7. BIBLIOGRAPHY

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