

**Department of Computer Applications.**  
**4<sup>th</sup> Sem MCA - MINI PROJECT**  
**Jan - May 2019**

**Synopsis**

**Project Title:** *Vibhaag Web App* – A college analytics, session monitoring and management tool

**Abstract:** An all in one college management Software as A Service (SaaS). The application consists of two components, one being the mobile application for end users that acts as a companion and authentication tool for the web application, and another being the web application which helps monitor and manage the activities of the college. It provides customizable options for creating users with role management and secure authentication. Also, has the option to schedule classes for the whole session. Actual class taken can be registered using mobile apps. The application also provides facilities such as daily, weekly, monthly abstracts for every individual along with the ability to customize time tables and sessions. If there are any deviations in the activity, that can also be reported.

Key features of *Vibhaag* include:

- Creating and managing colleges, departments within colleges, sections within departments and its faculties for different courses
- Custom time table for every batch and for every session
- Faculties can confirm the class conduction using mobile apps with timings
- Admins have the ability to change the time table and re-allocate faculties as per requirement
- Meaningful insights such as daily and weekly abstracts can be generated

**Software Requirements:**

- Front End:
  - React.js v16.x, Bootstrap v4.x
- Back End:
  - Node.js v10.x, Express.js, Mongoose.js, Passport.js
- Database:
  - MongoDB v4.x

- Deployment and DevOps:
  - Ubuntu Sever 18.04, Git, GitHub, Docker, Kubernetes and Travis CI

**Hardware Requirements:**

- AWS Elastic Cloud Compute instances x3, each of 2 GB RAM, 30 GB SDD
- Kubernetes Engine on the Cloud for container management
- Load Balancer for distributing traffic among containers

**Team Details:**

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