
PROJECT MANAGEMENT SYSTEM

Small Bucket

SUBMITTED BY:

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INTRODUCTION

Small Bucket is a web-based application that center on the planning and control of everything involved in delivering the end result. In simple language, it helps the administrator and managers to manage all the details of project. They once must enter all the details of users and project and then the system does automated tracking for progress of project and help in deliver the projects timely.

TECHNOLOGIES USED

Programming Language: Python, HTML

Framework: Django

Database: SQLite

Web Technology: CSS, JavaScript, Ajax, Bootstrap

SYSTEM FUNCTIONS

Small Bucket's functionality is divided among three different type of users which are administrator, manager and members of an organization.

The functions of each are:

ADMIN:

1. Create users and assign roles. Also assign each member to a manager
2. Create clients and their projects
3. Assign projects to the manager
4. Enter different company events to a calendar which is shared by everybody in the organization

MANAGER:

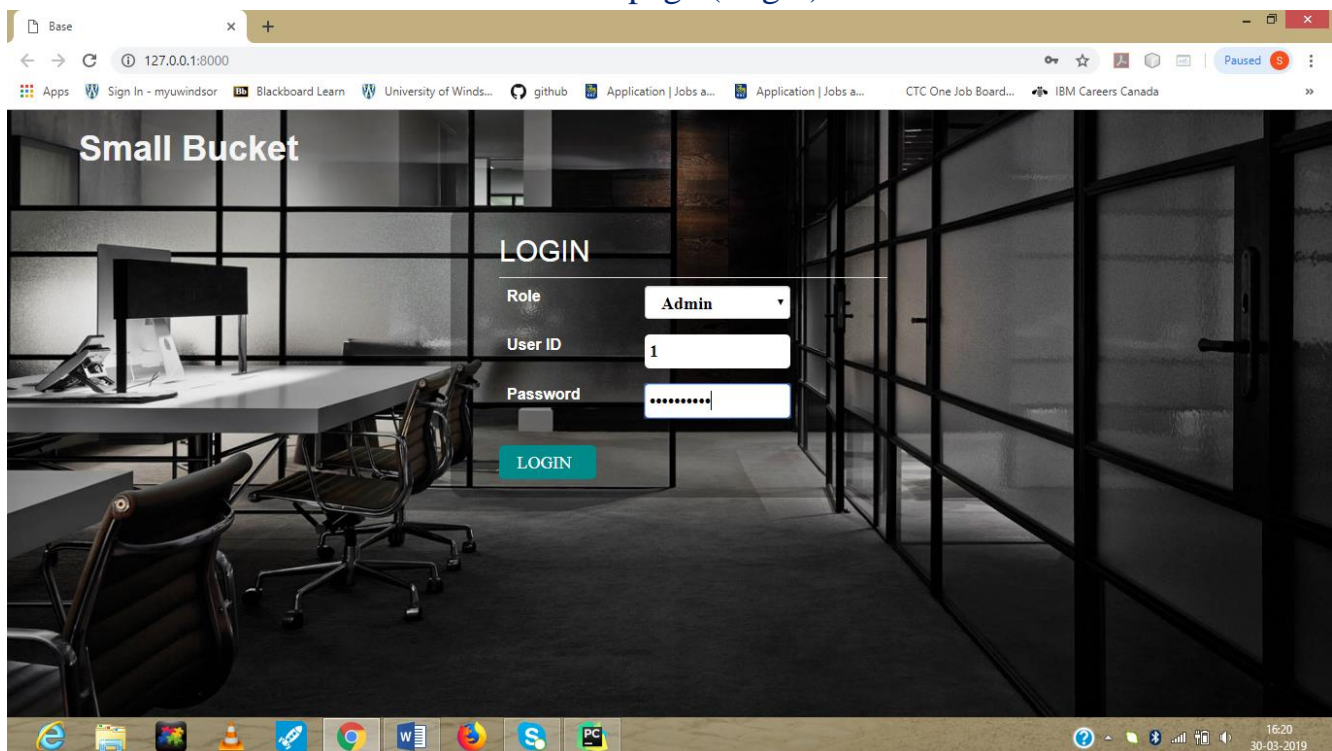
1. Report for each project is shown on managers dashboard which includes status of project, progress, status of milestones (in pie chart) and also status of each task for every milestone
2. Assign the members that are under him/her to different projects
3. Create milestone and tasks for the project and assign different tasks to members.
4. Tasks can also have subtasks
5. Live chat with team members
6. Manager can also add event into the calendar
7. Manager can also add notes

MEMBER:

1. All tasks that are assigned to a member by their manager will be shown on their dashboard in different columns depending upon their status (not started, in progress, complete and overdue)
2. Member can start or report tasks (number of hours worked and change their status)
3. If a task is dependent on other incomplete task and member try to start it, then system will tell the member to complete that other task first
4. Members can also chat with their team members
5. Member can only see the events on the calendar and cannot add another
6. Member can also add notes

SCREENSHOTS OF PROJECT

Main page (Login)



ADMIN:

Admin Dashboard

The screenshot shows the Admin Dashboard for 'SMALL BUCKET'. The user is logged in as 'ADMIN: Shubhdeep Kaur'. The dashboard features three main sections: 'USERS' (11), 'PROJECTS' (3), and 'CLIENTS' (2). Below these, there is a table of projects with columns: Company, Client, Project, Manager Assigned, Start Date, End Date, and Project Status. The table lists three projects: Adidas (Project 1, Active), Reebok (Project 2, Proposed), and Reebok (Project 3, Proposed). A 'Log out' button is in the top right, and an 'Add Project' button is at the bottom of the projects table.

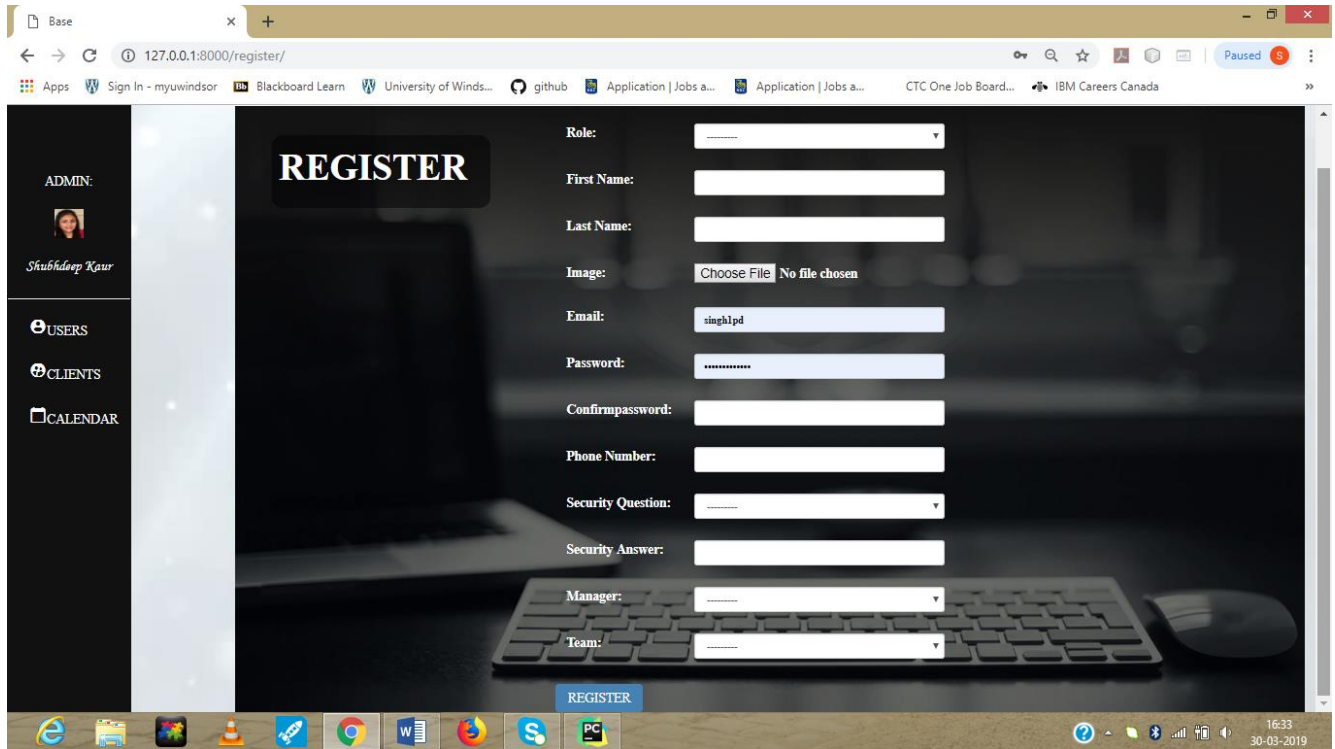
Company	Client	Project	Manager Assigned	Start Date	End Date	Project Status
Adidas	Mr. John Burrows	Project 1	Jagroop	March 20, 2019	May 1, 2019	ACTIVE
Reebok	Mr. Michael Scofield	Project 2	Jagroop	March 24, 2019	May 1, 2019	PROPOSED
Reebok	Mr. Michael Scofield	project 3	Jagroop	April 1, 2019	June 1, 2019	PROPOSED

User table having options for add, edit and delete users

The screenshot shows the 'Usersinfo' page. The user is logged in as 'ADMIN: Shubhdeep Kaur'. The page features a table of users with columns: Image, Role, First Name, Last Name, Email, Phone Number, Manager, and Department. The table lists six users: Admin (Shubhdeep Kaur), Manager (Jagroop Singh), Member (Wadda Bhunga), Member (Nikka bhunga), Member (Aviteshwar Sandhu), and Member (Jaskaran Kalra). Each user row has edit and delete icons. An 'ADD USER' button is in the top right.

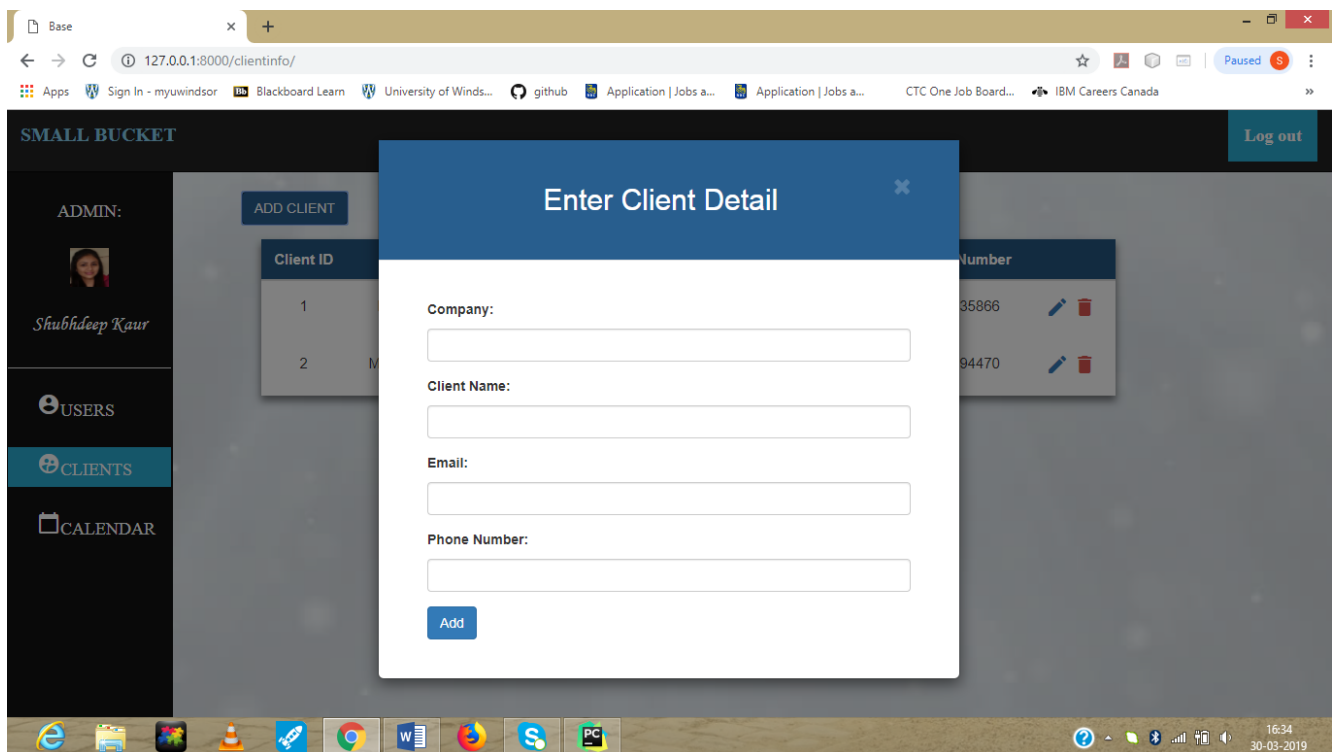
Image	Role	First Name	Last Name	Email	Phone Number	Manager	Department
	Admin	Shubhdeep	Kaur	kaurshubhdeep83@gmail.com	3657735876	None	Admin
	Manager	Jagroop	Singh	jagroopsingh11@gmail.com	3657735867	None	Managers
	Member	Wadda	Bhunga	waddabhunga@gmail.com	3657735876	Jagroop	Web Designers
	Member	Nikka	bhunga	nikkabhunga@gmail.com	3657735867	Jagroop	Web Designers
	Member	Aviteshwar	Sandhu	jagroop.singh444@gmail.com	3657735867	Jagroop	Web Designers
	Member	Jaskaran	Kalra	jaskarankalra@gmail.com	3657735867	Jagroop	Web Designers

User registration page



The screenshot shows a web browser window with the URL `127.0.0.1:8000/register/`. The page has a dark theme with a sidebar on the left containing the text "ADMIN:" followed by a profile picture and the name "Shubhdeep Kaur". Below this are links for "USERS", "CLIENTS", and "CALENDAR". The main content area is titled "REGISTER" in a large, bold, white font. It contains a registration form with the following fields: "Role:" (a dropdown menu), "First Name:" (a text input), "Last Name:" (a text input), "Image:" (a "Choose File" button and "No file chosen" text), "Email:" (a text input with the value "singh1pd"), "Password:" (a text input with masked characters), "Confirmpassword:" (a text input), "Phone Number:" (a text input), "Security Question:" (a dropdown menu), "Security Answer:" (a text input), "Manager:" (a dropdown menu), and "Team:" (a dropdown menu). A blue "REGISTER" button is at the bottom of the form. The browser's taskbar at the bottom shows various application icons and the system clock indicating 16:33 on 30-03-2019.

Add Client



The screenshot shows a web browser window with the URL `127.0.0.1:8000/clientinfo/`. The page has a dark theme with a sidebar on the left containing the text "ADMIN:" followed by a profile picture and the name "Shubhdeep Kaur". Below this are links for "USERS", "CLIENTS", and "CALENDAR". The main content area is titled "SMALL BUCKET" in a large, bold, white font. It contains a table with columns "Client ID" and "Number". The table has two rows: the first row has "1" under "Client ID" and "35866" under "Number"; the second row has "2" under "Client ID" and "94470" under "Number". There are edit and delete icons next to the numbers. A blue "ADD CLIENT" button is at the top left of the table. A modal window titled "Enter Client Detail" is open in the center, containing a form with the following fields: "Company:" (a text input), "Client Name:" (a text input), "Email:" (a text input), and "Phone Number:" (a text input). A blue "Add" button is at the bottom of the modal. The browser's taskbar at the bottom shows various application icons and the system clock indicating 16:34 on 30-03-2019.

Assign Project to Manager

The screenshot shows a web application interface with a sidebar on the left containing 'ADMIN: Shubhdeep Kaur', 'USERS', 'CLIENTS', and 'CALENDAR'. The main content area displays a modal titled 'Enter Project Detail'. The form includes the following fields:

- Company: A dropdown menu.
- Client: A dropdown menu.
- Project Name: A text input field.
- Manager: A dropdown menu.
- Start Date: A date picker set to January 1, 2019.
- End Date: A date picker set to January 1, 2019.
- Project Status: A dropdown menu.
- An 'Add' button at the bottom.

The background shows a 'USERS' table with columns 'Company' and 'Client'.

Company	Client
Adidas	Mr. John
Reebok	Mr. Michael
Reebok	Mr. Michael

Calendar with add an event

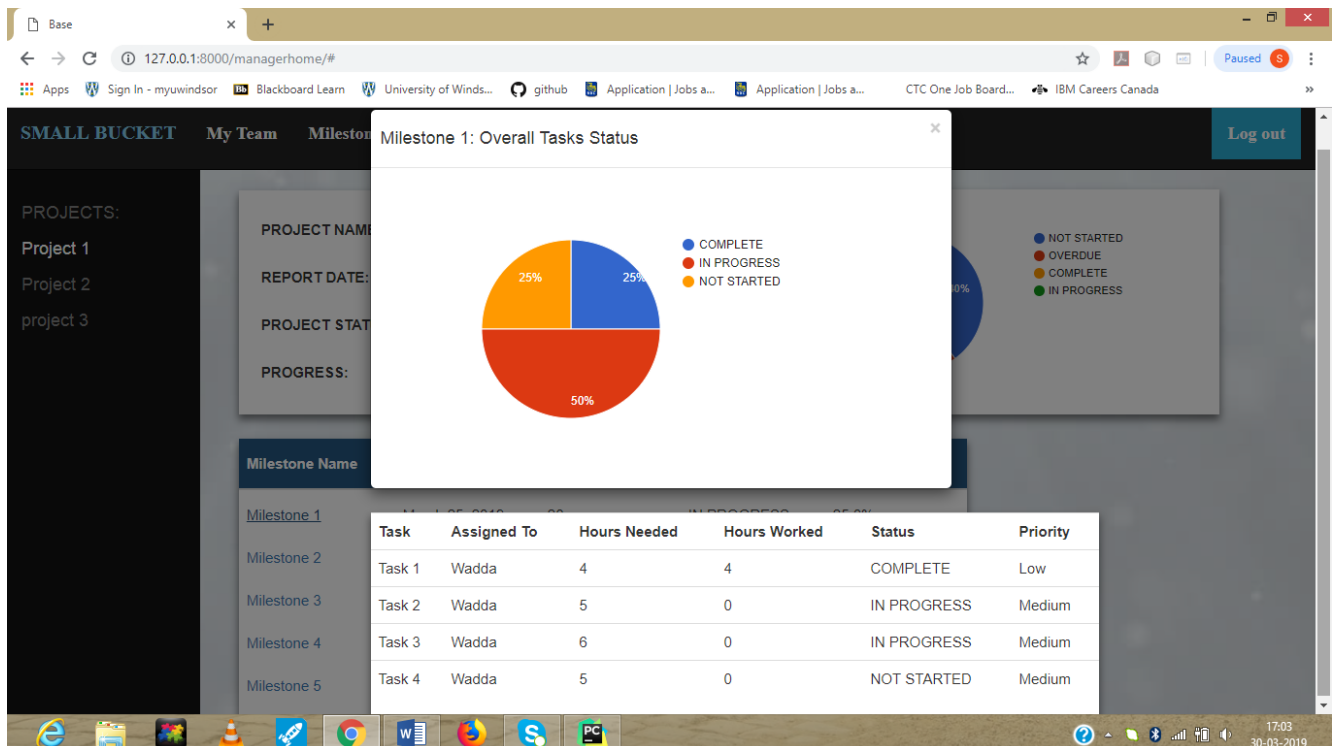
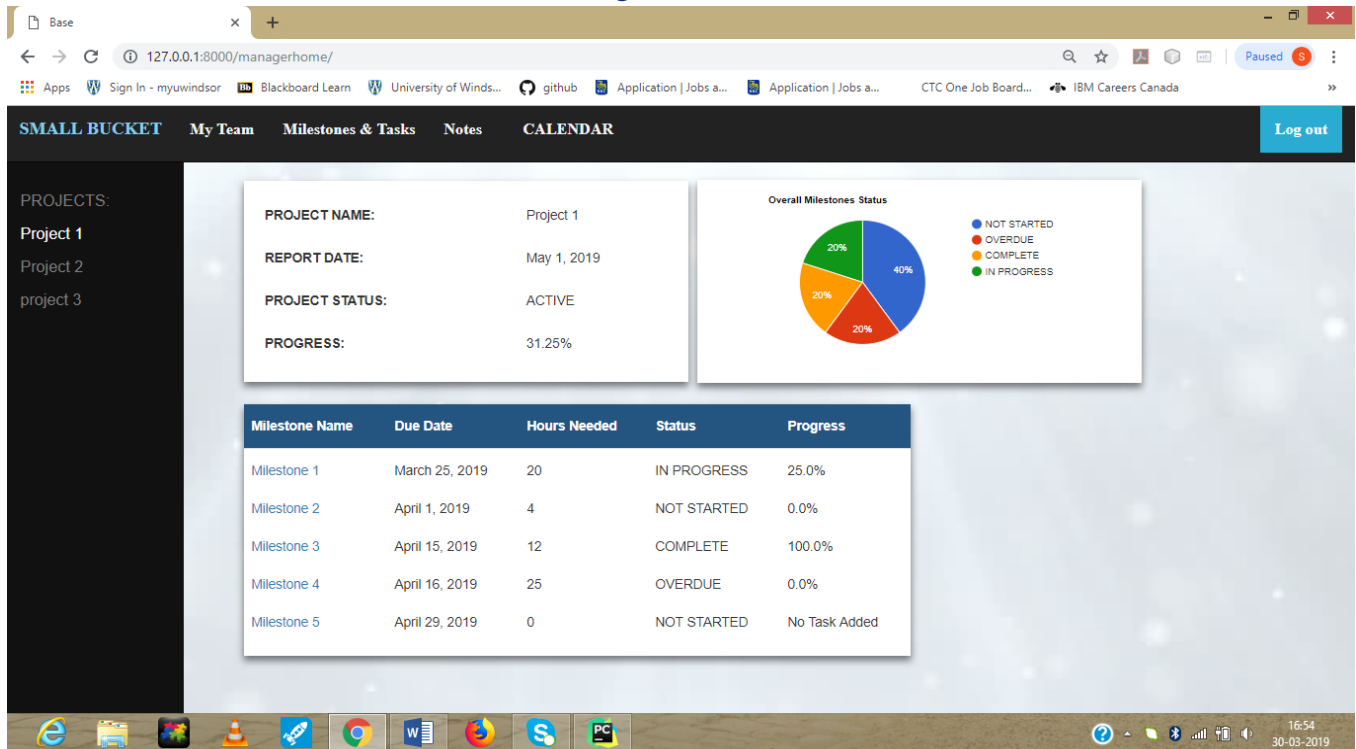
The screenshot shows the 'Add an event' page of the web application. The sidebar is identical to the previous screenshot. The main content area features a calendar for March 2019. The calendar has a grid with days of the week as columns and dates as rows. The following events are visible:

- 4am bdgd (on March 29th)
- 4pm party (on April 1st)

The calendar includes navigation controls for 'Today', 'Previous', 'Next', and 'Month'. A 'Google Calendar' link is visible at the bottom right of the calendar grid.

MANAGER:

Manager Dashboard



Milestone Page

The screenshot shows a web application interface for managing milestones. The browser address bar displays the URL `127.0.0.1:8000/milestones&tasks/`. The application has a top navigation bar with tabs: **SMALL BUCKET**, **My Team**, **Milestones & Tasks** (active), **Notes**, and **CALENDAR**. A **Log out** button is in the top right. On the left, a sidebar lists **PROJECTS:** Project 1, Project 2, and project 3. The main content area shows a **New Milestone** button and a list of milestones (Milestone 1 to Milestone 5). A modal titled **Enter Milestone Detail** is open, containing the following fields:

- Project:** A dropdown menu with 'Project 1' selected.
- Name:** A text input field.
- Due Date:** A date selector showing 'January 1, 2019'.
- Status:** A dropdown menu.
- Add** button.

The bottom of the screen shows a Windows taskbar with various application icons and a system clock indicating 16:56 on 30-03-2019.

Task Page

The screenshot shows the same web application interface, but the **Enter Task Details** modal is open. The browser address bar shows the URL `127.0.0.1:8000/17/3/tasksdetails`. The application structure is identical to the Milestone Page. The modal contains the following fields:

- Milestone:** A dropdown menu with 'Milestone 1' selected.
- Task Name:** A text input field.
- Description:** A text input field.
- Dependent Task:** A dropdown menu.
- Assign To:** A dropdown menu.
- Total Hours:** A text input field.
- TaskHourWorked:** A text input field with the value '0'.
- Priority:** A dropdown menu.
- Status:** A dropdown menu.

On the right side of the modal, there is a **Priority** panel with three options: Low, Medium, and Medium, each with edit and delete icons. The bottom of the screen shows the same Windows taskbar with a system clock indicating 16:56 on 30-03-2019.

Team page with chatting

The screenshot shows a web browser window with the address bar displaying `127.0.0.1:8000/myteampage/`. The page is titled "Project Members" and features a sidebar on the left with the heading "PROJECTS:" and a list containing "Project 1", "Project 2", and "project 3". The main content area is divided into two sections: "Web Designers" and "Software Developer". Under "Web Designers", there are three member cards, each with a profile picture, name, and email address: Wadda Bhunga (waddabhunga@gmail.com), Nikka bhunga (nikkabhunga@gmail.com), and Aviteshwar Sandhu (jagroop.singh444@gmail.com). Under "Software Developer", there is one member card for Amit Fauji (fauji@gmail.com) with a placeholder for a profile picture. A chat window is open on the right side of the page, titled "You are chatting with Wadda Bhunga". The chat window shows a message history with "kiwen aaa", "hi", and "hello", and a "Send" button at the bottom. The browser's taskbar at the bottom shows various application icons and the system clock indicating 17:01 on 30-03-2019.

Manager Notes Page

The screenshot shows a web browser window with the address bar displaying `127.0.0.1:8000/notes/`. The page has a dark navigation bar at the top with the following items: "SMALL BUCKET", "My Team", "Milestones & Tasks", "Notes" (which is highlighted), and "CALENDAR". A "Log out" button is located on the right side of the navigation bar. The main content area is titled "Notes:" and contains a list of notes: "abc", "xyz", and "Phone number". Below the list is a button labeled "Add a note". The central part of the page features a large, light gray rectangular box containing the text "abc.....". At the bottom of this box are two buttons: "EDIT" and "DELETE". The browser's taskbar at the bottom shows various application icons and the system clock indicating 17:02 on 30-03-2019.

MEMBER:

Member Dashboard

Base

127.0.0.1:8000/memberhome/

AppsSign In - myuwindsorBlackboard LearnUniversity of Winds...githubApplication | Jobs a...Application | Jobs a...CTC One Job Board...IBM Careers Canada

SMALL BUCKETTeamNotesCALENDARLog out

MY TASKS

OVERDUE

Task 4

Description: okok

Priority: Medium

Deadline: March 25, 2019

Start

NOT STARTED

Task 4

Description: okok

Priority: Medium

Deadline: March 25, 2019

Start

IN PROGRESS

Task 2

Description: cnsnckscksc

Priority: Medium

Deadline: March 25, 2019

Report

Task 3

Description: ndfghjkl

Priority: Medium

Deadline: March 25, 2019

Report

COMPLETE

Task 1

Description: asncacn jgidfjshokfspojhypo

ghdfnthintfhnrdnhger jthnrdhoiersjy

kyhnrthytr hbtufsy urityrm

Priority: Low

Deadline: March 25, 2019

Task 3.1

Description: Requirement Gathering

Priority: High

Deadline: April 15, 2019

17:07

30-03-2019

Base

127.0.0.1:8000/4/starttask

AppsSign In - myuwindsorBlackboard LearnUniversity of Winds...githubApplication | Jobs a...Application | Jobs a...CTC One Job Board...IBM Careers Canada

SMALL BUCKETTeamNotesCLog out

Report Task

Task Name:

Task 2

Total Hour Alloted To work:

5

Total Hours You Worked Previously:

0

Hour You Worked Now:

Task Completed?

Save

OVERDUE

Task 4

Description: okok

Priority: Medium

Deadline: March 25, 2019

Start

COMPLETE

Task 1

Description: asncacn jgidfjshokfspojhypo

ghdfnthintfhnrdnhger jthnrdhoiersjy

kyhnrthytr hbtufsy urityrm

Priority: Low

Deadline: March 25, 2019

Task 3.1

Description: Requirement Gathering

Priority: High

Deadline: April 15, 2019

17:10

30-03-2019

Dependency between Tasks

The screenshot shows a web application interface for task management. The browser address bar displays `127.0.0.1:8000/memberhome/`. The navigation bar includes links for **SMALL BUCKET**, **Team**, **Notes**, and **CALENDAR**. A **Log out** button is located in the top right corner. A modal dialog box is open, displaying the message: "127.0.0.1:8000 says Task Task 2 assigned to Wadda need to be completed first before starting this task". The main content area is titled **MY TASKS** and is divided into four columns: **OVERDUE**, **NOT STARTED**, **IN PROGRESS**, and **COMPLETE**.

- NOT STARTED:** Contains **Task 4** with description "okok", priority "Medium", and deadline "March 25, 2019". A **Start** button is present.
- IN PROGRESS:** Contains **Task 2** and **Task 3**.
 - Task 2:** Description "cnsncksncskc", priority "Medium", deadline "March 25, 2019". A **Report** button is present.
 - Task 3:** Description "ndfghjkl", priority "Medium", deadline "March 25, 2019". A **Report** button is present.
- COMPLETE:** Contains **Task 4** and **Task-3.4**.
 - Task 4:** Description "asncacn jgldfjshokfspojhyo ghdfnthintfhnrdnhger jthnrdholersjy kyhnrrhytr hbtufsy urityrm", priority "Low", deadline "March 25, 2019".
 - Task-3.4:** Description "Requirement Gathering", priority "High", deadline "April 15, 2019".

The Windows taskbar at the bottom shows the time as 17:09 on 30-03-2019.

Member Team with chat

The screenshot shows a web application interface for team management. The browser address bar displays `127.0.0.1:8000/memberteam/`. The navigation bar includes links for **SMALL BUCKET**, **Team**, **Notes**, and **CALENDAR**. A **Log out** button is located in the top right corner. The main content area is titled **MY TEAM** and is divided into two sections: **MANAGER:** and **MEMBERS:**.

- MANAGER:** Features a profile for **Jagroop Singh** with email `jagroopsinghgill11@gmail.com`.
- MEMBERS:** Features profiles for **Nikka bhunga** (email `nikkabhunga@gmail.com`) and **Aviteshwar Sandhu** (email `jagroop.singh444@gmail.com`). Below them is a placeholder for a **Software Developer** with the text "No Photo".

A chat window is open on the right side, showing a conversation with **Jagroop Singh**. The chat history includes the messages "kiwen aaa", "hi", and "hello". A **Send** button is located at the bottom of the chat window. The Windows taskbar at the bottom shows the time as 17:11 on 30-03-2019.

CHALLENGES FACED

- Django uses MVC framework, which is a new technology for us. Getting used to this type of framework was time consuming. We faced a lot of errors in the system in the beginning while developing but with time after learning MVC it seemed quite helpful for adding complex functionality in the application as it separates the functionality from the database and the frontend.
- Using JavaScript, Bootstrap and Ajax to make our application dynamic was bit tricky in this new framework.
- We made chat application before using client-server framework but doing it with MVC was again very difficult.
- Sharing of google calendar was also difficult as google does not allow sharing and adding event into a single calendar by different users and calendar must be owned by single user.

All the above challenges were tackled by learning more and more through watching tutorials from YouTube and Lynda.com and we also took help from stack overflow. This project was quite helpful for us in expanding our skill set and getting used to the new technology.