ONLINE Q&A FORUM

Submitted in partial fulfilment of the requirements of the Mini Project in

Semester VIII of Fourth Year Computer Engineering

by

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2019-2020

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CERTIFICATE

This is to certify that the project entitled **"ONLINE Q&A FORUM"** is a bonafide work of **Adithya Bijur (Roll no. 24) , Nilesh Chavan (Roll no. 25) and Moksh Jain (Roll no. 36),** submitted to the University of Mumbai in partial fulfilment of the requirement for the Mini project in semester VIII of Fourth Year Computer Engineering

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Dr. Megha Trivedi   Dr. Harish Vankurde
Head of Department   Principal

DECLARATION

       I declare that this written submission represents my ideas in my own words and where others' ideas or words have been included, I have adequately cited and referenced the original sources. I also declare that I have adhered to all principles of academic honesty and integrity and have not misrepresented or fabricated or falsified any idea/data/fact/source in my submission. I understand that any violation of the above will be the cause for disciplinary action by the Institution and can also evoke penal action from the sources which have thus not been properly cited or from whom proper permission has not been taken when needed.

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                                      Nilesh Chavan (25)

                                      Moksh Jain (36)

Date:

ACKNOWLEDGEMENT

We have taken efforts in this project. However, it would not have been possible without the support and help of many individuals and organizations. We would like to extend my sincere thanks to all of them.

We also also like to express our gratitude to our Head of Department, Dr. Megha Trivedi for providing assistance for the project. We are highly indebted to Prof.. Vikrant Agaskarfor their guidance and constant supervision as well as for providing necessary information regarding the project & also for their support in completing the project.

We would like to express my gratitude towards my parents & member of Vidyavardhini's College of Engineering and Technology for their kind co-operation and encouragement which help me in completion of this project.

Our thanks and appreciations also go to my colleague in developing the project and people who have willingly helped me out with their abilities.

ABSTRACT

We all have questions in our mind but don't know where and to whom ask our question. Our project aims in providing online platform where people around the world share information and knowledge via Questions and Answers.

Our project's mission is to share and grow the people's knowledge. A vast amount of the knowledge that would be valuable to many people is currently only available to a few — either locked in people's heads, or only accessible to select groups. We want to connect the people who have knowledge to the people who need it, to bring together people with different perspectives so they can understand each other better, and to empower everyone to share their knowledge for the benefit of the rest of the world.

Quest connects you to everything you want to know about. It aims to be the easiest place to write new content and share content from the web. We organize people and their interests so you can find, collect and share the information most valuable to you.

In Quest, a registered user can ask questions which will be answered by other users which are expert in the category to which the question belongs. Not only this, users can also view others questions and answers according to their interests. Users can also gather information regarding any category by viewing the Questions and Answers present in the dedicated page of the respective category.

We all have some questions to ask to our seniors and college mates regarding any matter in the college in which we study. Quest automatically adds the registered user to user the dedicated group created to the college to which user belongs.

All the answers are seen and verified by the admin .Admin has the authority to delete a Question or Answer if they are irrelevant.

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Introduction

To design a Question and Answer Forum, where a registered user can ask questions which will be answered by other users which are expert in the category or programming language to which the question belongs. This task of categorizing question must be done by the system itself by generating tags for the question asked. Not only this, users must be able to view other's questions and answers according to their interests. Users must be able to gather information regarding any category by viewing the Questions and Answers present in the dedicated page of the respective category.

User must be given a dedicated profile page, where the users can add their description, profile image, etc. Users must be able to choose their interests and the categories in which they are expert.

The functionalities must be provided to the users to up vote the answers, so that quality answers can be given a higher rank and displayed first. Questions displayed in the user feed must be sorted according to their views so that popular questions must be displayed first. A dedicated community for college/workspaces must be provided where users from same college/workspace can ask questions and share answers.

All of this must be done under the supervision of the Admin who must have the authority to delete inappropriate answers. The website must be user friendly whose functioning must be understood by the novice users and the design is made keeping motor impaired, blurred vision, and colour blind people in mind. The Button size, Button spacing and Font colour combination are chosen appropriately taking them into consideration.

Scope of Project

There are many well established programming related questions and answer sites, but Quest differs from its predecessors in four main ways: it puts a heavy emphasis on the quality of questions and, in particular, answers; it allows users to vote on answers and encourages accountability amongst users, and it allows users to follow topics that interests them and most importantly , use of machine learning to determine the category to which the question belongs to make sure that question reaches the right audience.

The project has a very vast scope in future. The project can be implemented on internet in future and can be updated in near future as and when requirement for the same arises. With the help of Internet Quest will be a continually growing user generated collection of questions and answers. All the questions and answers are created, edited, and organized by the people who use it. While people can use Quest as a resource for research, information, and general interest, and also to add and build their social network .It can further be used for SEO, Jobs and marketing purposes.

Flow Diagram
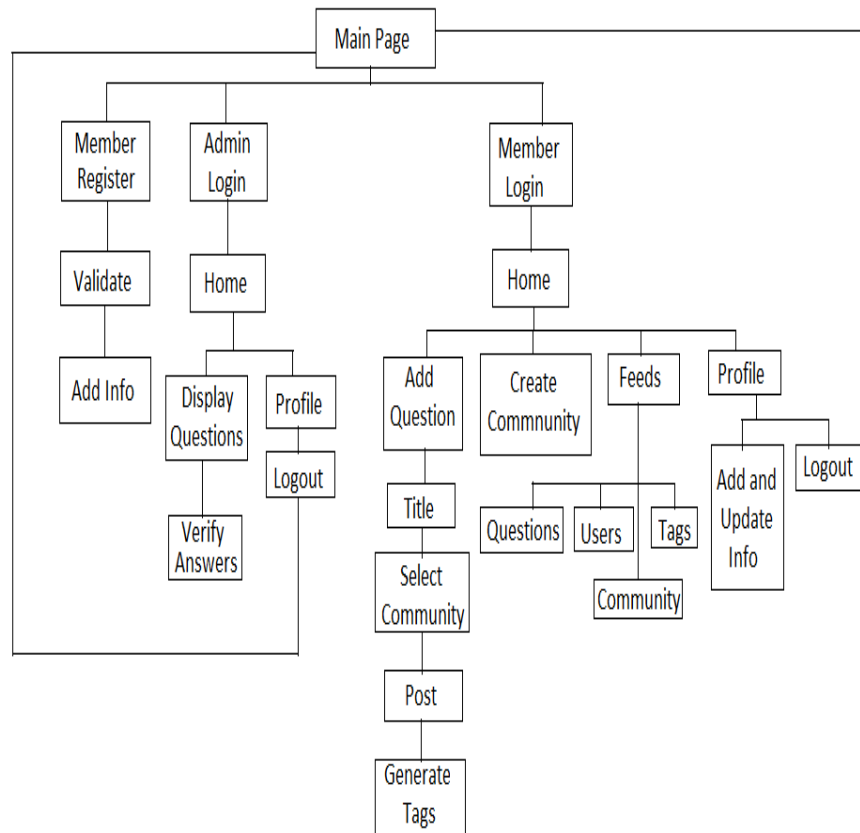
Module description:

Registration:

This module will take the details of user like his full name,unique username and email address , interests ,expertise,location etc.

Login:

User has to give his/her unique username and its correct password if it matches with the one in database then user is logged in and if does not matches with the password in database then he/she cannot go further.

Profile:

This page shows the user's profile like is profile picture,description about himself ,all the answers given by a user , all question asked by the user, badge. User can edits its own profile details except its username and email address.

Feed:

This is the first page after the user has logged in. In this page there are three fields latest,most viewed,unanswered.in the latest only those questions are displayed which are related to the user's interest .In most viewed the questions with most views in the entire website are displayed.In unanswered, question which are related to user's expertise are displayed and he/she can answer it if he/she knows the answer to the question. User can also share a question to different users if wants to by giving their usernames.

Asking question:

User can ask a question related to programming ,he/she can also add code along with their questions .user has to select the area he/she wish to ask the question whether it is an open question for all or to a particular community. After submitting the questions tags are generated automatically which are related to the questions.

Writing answers:

Question which are related to user's expertise are one that he/she can answer it if he/she knows the answer to that question. User can also write a code with the answer if he/she want to.

Notification:

There are 2 category of notifications.

1.Notification related to the requests sent to the admins of communities.

2.All the notifications which are related to the questions and answers like if someone has answered your question or someone has shared a question with you.

Tag page:

This page shows all the tags along with their descriptions .If the user clicks on any tag it will show all the questions with that tag.

Community :

User can create a community(group) if he/she has some minimum points.The community can be open or a private.

Logout:

It logouts the user from the website.

REQUIREMENTS ANALYSIS:

☐ HARDWARE REQUIREMENTS:

1.Personal Computer

2.Server

☐ SOFTWARE REQUIREMENTS:

1.Front End :- React js

2.Back End :- Node js, Tensor Flow, Flask

3.Database :- Mongo DB

Description of software used

Tensorflow:

Tensorflow is a computational framework for building machine learning model.We have used Tensorflow for building Neural network and SVM model for our tag generating system.

Flask:

Flask is a micro web framework wriiten in Python.We have used flask to make an API for our achine learning model.

Our project will be a MERN stack application.

React js: front-end web app framework; runs javascript code in the user's browser, allowing application ui to be dynamic
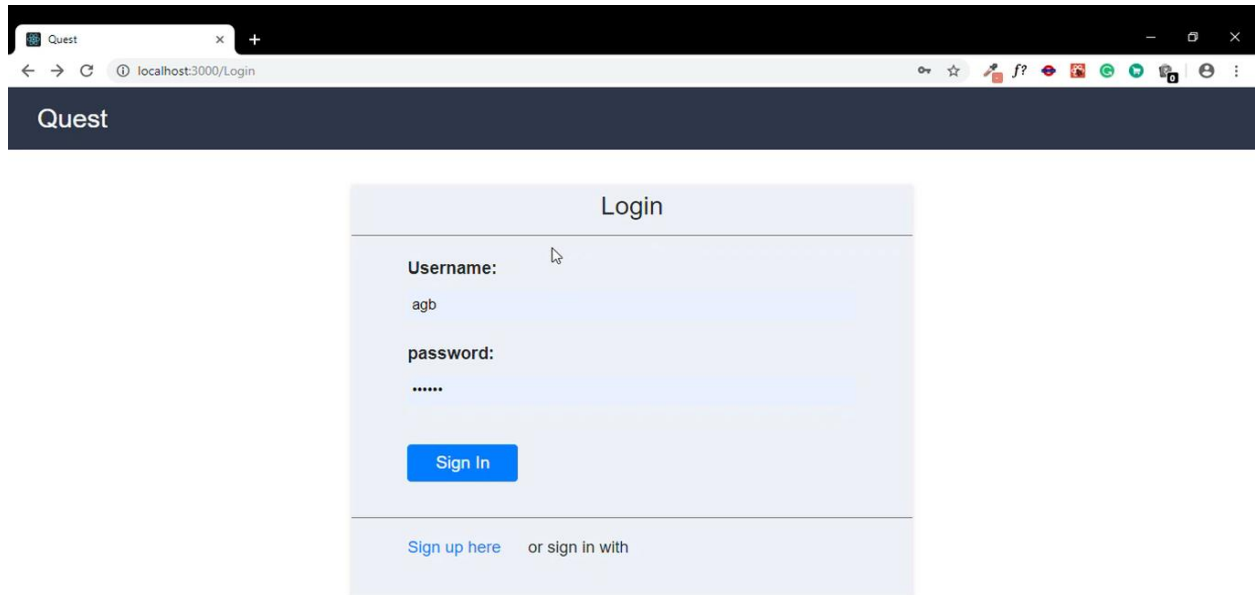
Express (sometimes referred to as express.Js): back-end web application framework running on top of node.Js for creating API

Node JS : javascript runtime environment – to implement application back-end in javascript
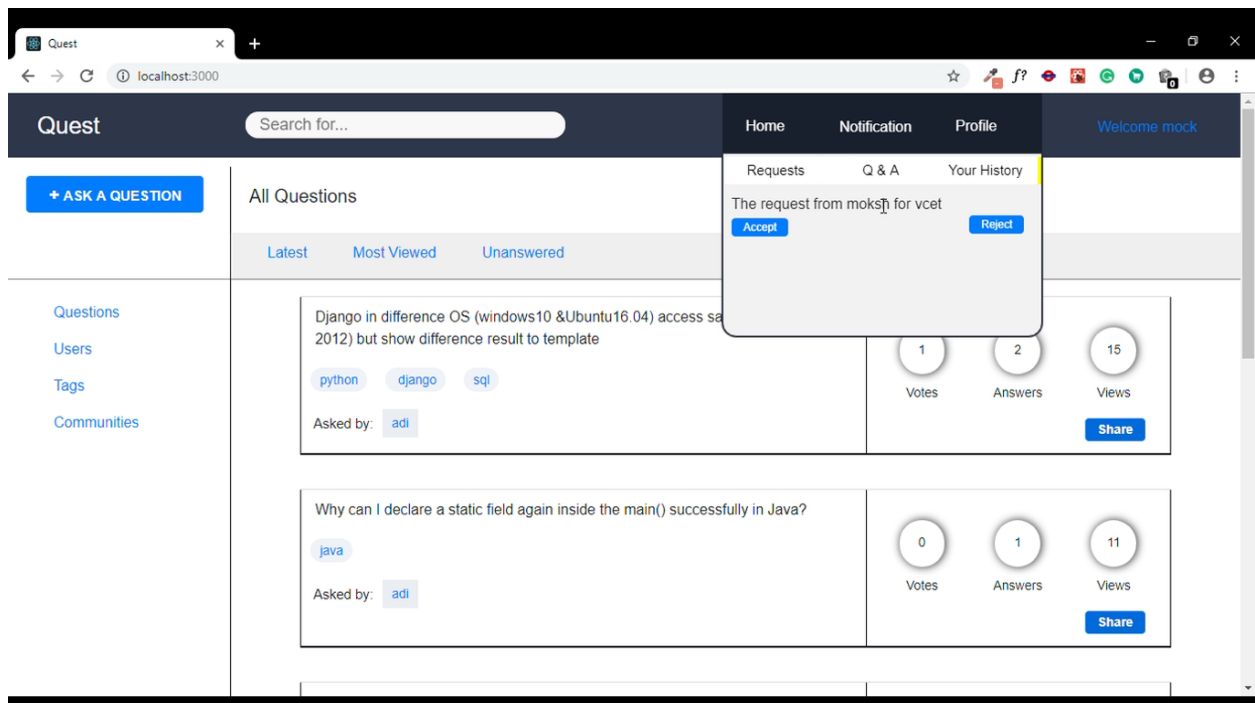
Mongodb: document database – used by back-end application to store its data as json(java script object notation) documents.
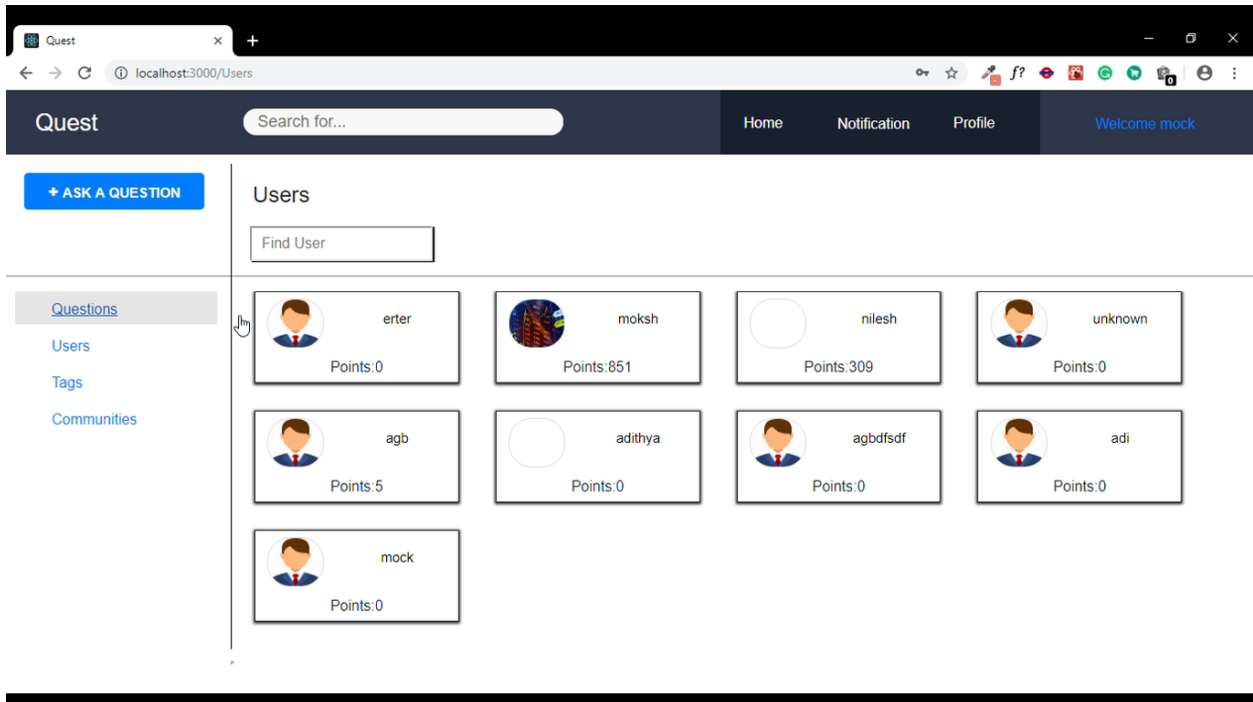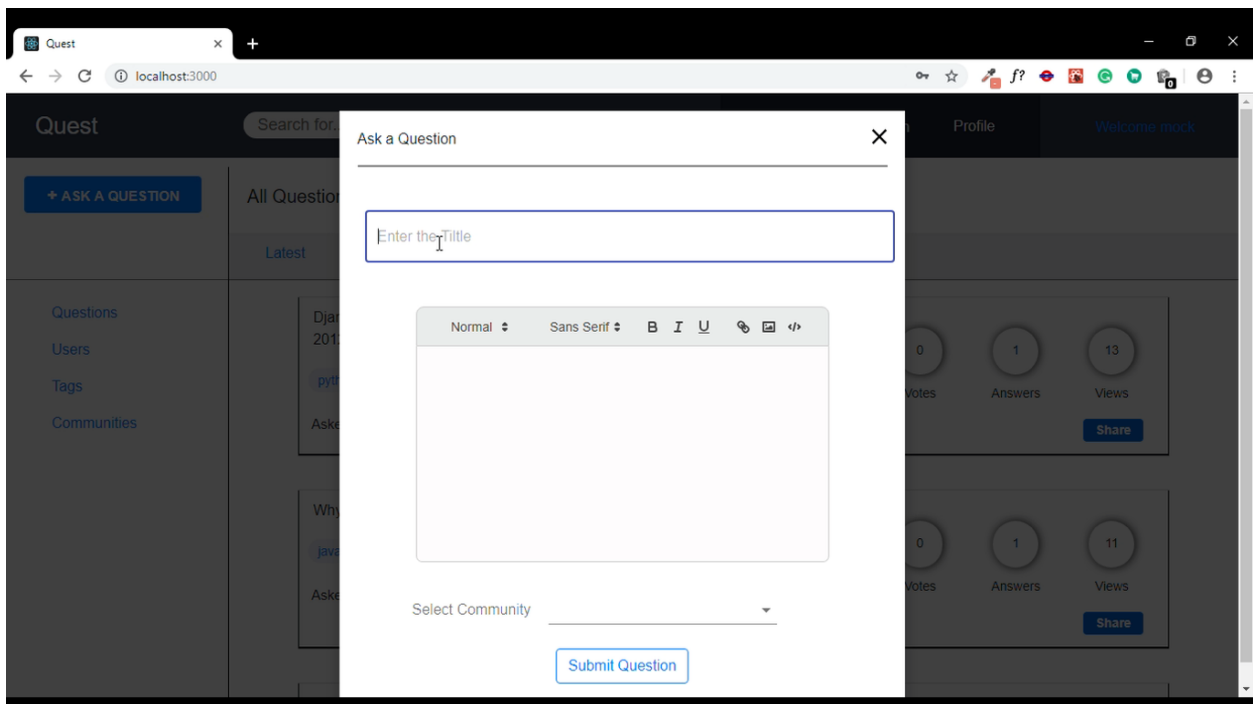
Screenshots
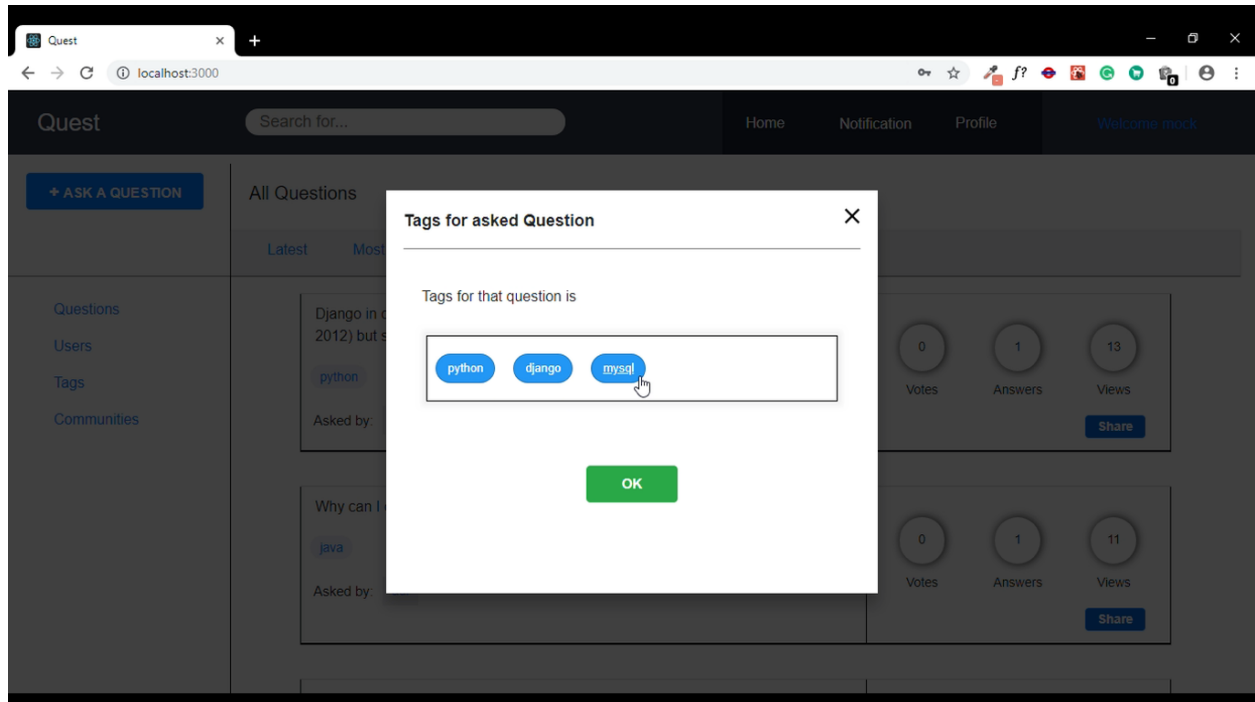
Login:

Homepage with Notifications:

User Search:

Add Question:

Tags Generated:

Admin Profile:

Code:

ML Code:

```python
from flask import Flask,render_template,request
import os
from execute import *
# ML starts

app = Flask(__name__)
@app.route('/')
def index():
        return 'hello'



@app.route('/predict',methods=['GET','POST'])
def predict():
        reqtext = request.get_json()['quest']
        text=predicttt(reqtext)
        return text



if __name__=='__main__':
        port=int(os.environ.get('PORT',5000))
        app.debug = True
        app.run(port=port)
```

Node Js Code:

```javascript
const express = require('express');
const jwt = require('jsonwebtoken');
const config = require('../config');
const bodyParser = require('body-parser')
const mongoose = require("mongoose");
const bcrypt = require("bcryptjs")
const User = require("../Models/User")
const router = express.Router();

router.use(bodyParser())
router.use(bodyParser.urlencoded({ extended: true }))

// parse routerlication/json
router.use(bodyParser.json())
router.post('/', (req, res) => {
    console.log(req.body)
    const username = req.body.userName
    const password = req.body.password
```

```
        console.log(username, password)
        if (username == undefined || username == null) {
            res.sendStatus(400)


        }
        if (password == undefined || password == null) {
            res.sendStatus(400)


        }

        const results = User.findOne({ userName: username }, { password: 1 })

        results.then((user) => {
            const result = user.password
            console.log(result)
            if (result == undefined || result == null)
                res.sendStatus(400)

            bcrypt.compare(password, result).then(function (ress) {
                if (ress == true) {
                    const payload = {
                        userName: username
                    };
                    var token = jwt.sign(payload, config.secret, {
                        expiresIn: '1440m'// expires in 24 hours
                    });
                    res.status(200).json({ 'msg': 'Login Success', token: token
})
                    return;
                }
                else if (ress == false) {
                    res.sendStatus(400)
                    return;
                }

            })
                .catch((err) => console.log(err));


        });
})

module.exports = router;
```

React Js Code:

```jsx
import React, { Component } from 'react';
import './Login.css';
import AuthService from '../../../AuthService/AuthService'

import Header from '../../Header/Header';
import { Button } from 'react-bootstrap';

import { NavLink } from 'react-router-dom';
class Login extends Component {

    constructor(props) {
        super(props)
        this.state = {
            userName: '',
            password: ''
        }
        this.Auth = new AuthService();
    }

    handleFormSubmit = (e) => {
        // e.preventDefault();

        // this.Auth.login(this.state.username, this.state.password)
        e.preventDefault();

        this.Auth.login(this.state.userName, this.state.password)
            .then(res => {
                this.props.history.replace('/');
            })
            .catch(err => {
                alert(err);
            })

    }

    handleChange = (e) => {
        let x = e.target.name
        this.setState(
            {
                [x]: e.target.value
            }
        )
    }
    componentWillMount() {
        if (this.Auth.loggedIn())
            this.props.history.replace('/');
    }

    render() {
        return (
            <div>
                <div className="LFirst">
                    <header className="toolbar">
                        <nav className="nevigation_menu">
```

```jsx
                            <div className="Llogo_style">
                                <a href="">Quest</a>
                            </div>
                        </nav>
                    </header>
                </div>
                <div className="LSecond">
                    <div className="Logindiv">
                        <div className="TopDesc">
                            <h3>Login</h3><hr />
                        </div>
                        <div className="Lformdiv">
                            <form>
                                <span>Username:</span>
                                <input type="text" name='userName' required
onChange={this.handleChange} /><br /><br />
                                <span>password:</span>
                                <input type="password" name='password'
required onChange={this.handleChange} /><br /><br />

                                <Button type="submit" variant="primary"
className="Lformbutton" onClick={this.handleFormSubmit}>Sign In</Button><br
/><br />
                            </form>
                        </div>

                        <hr />
                        <div className="Lredirectdiv">

                            <NavLink to="/Signup" className="NA">Sign up
here</NavLink> <p>or sign in with</p>
                            {/* <a href="#">Sign up here</a> <p>or sign in
with</p> */}
                        </div>
                    </div>
                </div>
            </div>
        );
    }
}

export default Login
```

Result

Our Project connects you to everything you want to know about. It aims to be the easiest place to write new content related to programming and share content from the web. We organize people and their interests so you can find, collect and share the information most valuable to you.

The project takes basic idea of efficient Question and Answer Forum turning it into software implementation. The front end of the project makes use of ReactJS. NodeJs handles the backend of Quest and uses MongoDb as the database.

Thus our project meets all the requirements of a Modern and Efficient Question and Answer Forum. In this project we have made a frontend for the Q&A website. This design is made keeping motor impaired, blurred vision, and colour blind people in mind. The Button size, Button spacing and Font colour combination are chosen appropriately taking them into consideration. Interface is an important part which connects the end user to the backend, hence it should be easily understandable and every clickable object on the screen should be clearly visible. And this is what describes its utility for the users.

After attempting our best into this semester we have the final end product as mini project that can be implemented to gain the desired integrated platform for the user to use in its convenience and serve the needful solution to the problem statement discussed above in the report . While developing and implementation we have seen many features that we can add on to bring this project to complete realization on industry level.

Conclusion

It has been a great pleasure for us to work on this project. This project provided us practical knowledge of creating our own website and integrate it with Machine Learning. It also provided us an experience of handling all the procedures related to 'Question and Answer Forum'. Here, we also handled the database which gave us plenty of knowledge how to work on data and manage data efficiently.

While working on the project, we gained knowledge about various software used for web development and Machine Learning .The project helped to nurture our mindset what thinking is required to develop a project in a real sense which has an application in real world. We also got an idea about what problems or hindrances can occur during project development and discovered ways to tackle them and resolve them. The project also gave an opportunity to us for working together as a team thus providing us with a useful experience in working in a project management team.

 This project will provide better opportunities and guidance in future in developing projects independently.

References

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3.https://nodejs.org/en/docs/