

SHPORTAL

Project Report Submitted in Fulfilment of the Requirements for the
Degree of

Master in Computer Application *in* Computer Science and Engineering

Submitted by

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Under the Supervision of
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CERTIFICATE

This is to certify that the report entitled **SHPORTAL Techniques in MERN STACK** is a bonafide record of the **Project** done by **AYUSH SOLANKI** (*Roll No.: 2021PGCACA075*) under my supervision, in partial fulfillment of the requirements for the award of the degree of **Masters in Computers Applications in Computer Science and Engineering** from **National Institute of Technology Jamshedpur**.

Dr. Sanjay Kumar (Supervisor)
Computer Science and Engineering

Date: 14,May 2024

Department seal

ABSTRACT

The NITJSR ShPortal is an innovative online platform designed to assist students at the National Institute of Technology, JAMSHEDPUR(NITJSR) in streamlining their placement process. This web-based system offers a wide range of features to help students navigate their journey towards securing internships and job placements. By leveraging the power of peer- to-peer interactions, the platform allows juniors to access interview experiences and placement procedures shared by their seniors. The portal also facilitates direct communication between juniors and seniors, enabling juniors to seek guidance and advice from experienced individuals.

In addition to its placement-related functionalities, the platform incorporates a dedicated book store where students can sell their used books and other students can purchase them. This feature promotes sustainability and provides an affordable option for acquiring course materials. Furthermore, the portal offers a curated collection of highly-rated senior notes for core subjects and programming languages, helping students enhance their understanding and academic performance.

To ensure security and restrict access to authorized users, the NITJSR Placement Portal utilizes webmail verification for the signup process, allowing only NITJSR students to create accounts and access its features. This verification method ensures that the platform remains exclusive to NITJSR's student community, fostering a sense of trust and reliability among users.

Overall, the NITJSR Placement Portal serves as a comprehensive and user-friendly platform that empowers students by providing them with invaluable resources, insights, and connections to excel in their placement endeavors. By bridging the gap between juniors and seniors, offering a convenient book exchange service, and offering curated academic notes, this platform aims to optimize the placement experience for NITJSR students and facilitate their academic growth.

ACKNOWLEDGEMENT

It gives us immense pleasure to express my deep sense of gratitude to my supervisor Dr. Sanjay Kumar for his valuable guidance, motivation, constant inspiration and above all for their ever- cooperating attitude that enable me in bringing up this thesis in the present form. Our heartfelt gratitude also goes to Dr. Danish Ali Khan, Head of Department of Computer Science Department for providing us the opportunity to avail the excellent facilities and infrastructure. We are equally thankful to all other faculty members and non-teaching staffs of Computer Applications Department for their guidance and support. We are also thankful to all my family members whose love, affection, blessings and patience encouraged us to carry out this thesis successfully. We also extend my gratitude to all my friends for their cooperation.

AYUSH SOLANKI (2021PGCACA075)

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1.

INTRODUCTION

The purpose of this project is to develop a web application that assists students of the National Institute of Technology, JAMSHEDPUR (NITJSR) in finding placement opportunities and accessing the interview experiences of their seniors. Additionally, the platform will provide a bookstore where students can sell their old books, and others can purchase them. Furthermore, the application will allow students to access highly-rated notes shared by seniors for core subjects and programming languages. The project will incorporate webmail verification to ensure that only NITJSR students can access the platform.

2.

PROBLEM STATEMENT

Develop a web-based platform exclusively for students of the National Institute of Technology (NITJSR) that aims to facilitate the placement process, enable access to interview procedures of senior students, and foster communication between juniors and seniors. The platform should also include a bookstore where students can sell their books and purchase both old and new books from other students. Additionally, the platform should provide access to highly rated senior notes for core subjects and programming languages. The system should implement a webmail verification system for signup to ensure that only NITJSR students can log in to the platform.

3.

OBJECTIVE

- The main objectives of the project are as follows:
- Provide a platform for NITJSR students to access placement procedures and interview experiences shared by their seniors.
- Create a book store where students can sell their used books and other students can purchase them.
- Allow students to access highly-rated notes for core subjects and programming languages.
- Implement webmail verification to restrict access to NITJSR students only.

4.

Features and Functionality

The project will include the following features:-

4.1 Student Registration and Login

- Students can register using their NITJSR webmail address and create an account.
- Webmail verification will be implemented during the signup process to authenticate NITJSR students.
- Once registered, students can log in to their accounts using their credentials.

4.2 Placement Procedures and Interview Experiences

- Seniors can upload information about the placement procedures of different companies.
- Seniors can also share their interview experiences, including questions asked and tips for success.
- Juniors can access this information to prepare for their own placements.
- Students can search for specific companies or filter information based on their interests.

4.3 Bookstore

- Students can sell their used books by listing them on the platform.
- Other students can search for books they need and purchase them directly from the sellers.
- The platform will facilitate communication between the buyer and the seller for book transactions.

4.4 Senior Notes

- Seniors can upload their notes for core subjects and programming languages.
- Students can access these notes, sorted by popularity or ratings.
- The most liked and highly-rated notes will be prominently featured.

5.

Technology Stack

The project will be developed using the following technologies:

- **Front-end:** HTML, CSS, JavaScript, React.js
- **Back-end:** Node.js, Express.js
- **Database:** MongoDB
- **Authentication:** Webmail verification and JWT (JSON Web Tokens)

Project Implementation Plan : The project will follow the following implementation plan:

5.1 Requirements Gathering and Analysis

- Understand the specific requirements of NITJSR students regarding placement information, interview experiences, book selling, and notesharing.
- Define the scope of the project and prioritize the features.

5.2 Design and Database Schema

- Create a user-friendly and intuitive design for the web application.
- Design the database schema to store user information, placement data, book details, and notes.

5.3 Front-end Development

- Implement the user interface using HTML, CSS, and JavaScript.
- Utilize React.js to build interactive components and ensure a responsive design.

5.4 Back-end Development

- Develop the server-side functionality using Node.js and Express.js.
- Integrate the database to store and retrieve user data, placement information, book details, and notes.
- Implement webmail verification during the signup process.

5.5 Integration and Testing

- Integrate the front-end and back-end components to create a fully functional web application.
- Perform thorough testing to identify and fix any bugs or issues.

- Conduct user acceptance testing with NITJSR students to gather feedback and make necessary improvements.

6. System Development and Implementation

1. Requirements Gathering:

- Gather detailed requirements from stakeholders, including students, seniors, and faculty members at the National Institute of Technology, JAMSHEDPUR(NITJSR).
- Identify key features such as placement process information, interview experiences, senior's placement process sharing, email communication, bookstore functionality for buying and selling books, and access to senior notes for core subjects and programming languages.

2. System Design:

- Design a user-friendly web application that allows NITJSR students to access various features and functionalities.
- Use a responsive design approach to ensure compatibility with different devices (desktop, tablets, mobile).

3. User Authentication and Authorization:

- Implement a user registration and login system.
- Use NITJSR's webmail verification for signup to ensure only NITJSR students can access the platform.
- Maintain user profiles with relevant information such as email, contact details, and academic details.

4. Placement Process Information:

- Create a section that provides detailed information about the placement process, including registration, eligibility criteria, interview rounds, and frequently asked questions.
- Keep the information up to date and allow for easy updates by authorized administrators.

5. Interview Experience Sharing:

- Allow senior students to upload their placement process experiences and interview questions.
- Provide search and filtering options for juniors to find relevant experiences by company, role, or department.
- Implement a rating system to help juniors identify the most helpful experiences.

6. Communication:

- Enable juniors to contact seniors via email using an internal messaging system.

- Protect the privacy of email addresses by routing communication through the platform without revealing actual email addresses.

7. Book Store Functionality:

- Develop a marketplace where students can sell their old or new books.
- Provide search and filtering options for students to find the books they need.
- Include features such as book descriptions, pricing, condition, and contact information for the seller.
- Implement a secure payment gateway for book purchases if required.

8. Security and Privacy:

- Implement appropriate security measures to protect user data, such as encryption, secure storage, and secure data transmission.
- Ensure that only authorized users can access and modify the relevant data.
- Comply with relevant data protection regulations, including obtaining necessary user consent for data collection and processing.

9. Testing and Deployment:

- Conduct thorough testing to identify and fix any bugs or issues.
- Deploy the system on a reliable web hosting platform.
- Monitor system performance and make

necessary optimizations.

10. Maintenance and Support:

- Provide ongoing maintenance and support to ensure the system runs smoothly.
- Regularly update the platform with new features and improvements based on user feedback and evolving requirements.

7.

Modules/Schema

In this, we use three schema :-

- User
- books
- Token
- Placements
- academics

7.1 User

```
const Userschema = new
  Schema({name: {
    type:String,
    required:true
  },
  email: {
    type:String,
    required:true
    ,unique:true
  },
  password: {
    type:String,
    required:true
  },
  mobile_no:{
    type:String,
    required:true
    ,unique:true
  },
  user_image:{
    type:String,
    required:true
  },
  },
```

```
public_id:{
  type:String,
  required:tru
e
},
department:{
  type:String,
  required:tru
e
},

date:{

  type:Date,
  default:Date.no
w

},

gender:{
  type:String,
  required:tru
e
},

role:{

  type:String,

  enum:[roles.ADMIN,
roles.CLIENT],
  default:roles.CLIENT

},

isBlocked:{
  type:Boolean
,
  default:fals
e
},

verified:{
  type:Boolean
,
  default:fals
e
}

});
```

7.2. BOOKS

```
const itemSchema=new
  Schema({user:{
    type:mongoose.Schema.Types.ObjectId,
    ref: 'user'
  },
  user_name:{
    type:String,
    required:true
  },
  name:{
    type:String,
    required:true
  },
  // type:{
  //   type:String
  // },
  date:{
    type>Date,
    default>Date.now
  },
  },
```



```
// place:{  
//   type:String,  
//   required:true  
// },  
description:  
{  
  type:String  
},  
image_name:{  
  type:String,  
  required:tru  
e  
},  
public_id:{  
  type:String,  
  required:tru  
e  
},  
is_reported:{  
  type:Boolean  
  ,  
  default:fals  
e  
},  
status:{  
  type:String,  
  required:tru  
e  
}  
});
```

7.3. Token

```
const tokenSchema = new mongoose.Schema(  
  {  
    userId: {  
      type:  
        Schema.Types.ObjectId, ref:  
        'user',  
      required: true  
    },  
    token: {  
      type: String,  
      required:  
        true,  
    },  
    createdAt:  
      {type:  
        Date,  
        default: Date.now,  
        index: { expires: 1 }  
      }  
  }  
);
```

7.4 PLACEMENT

```
const placementSchema = new mongoose.Schema({
  {
    userId: {
      type:
        Schema.Types.ObjectId, ref:
        'user',
      required: true
    },
    company_name: {
      type: String,
      required:
        true,
    },
    profile: {
      type:
        String,
      required: true,
    },
    No_students: {
      type: String,
      required:
        true,
    },
    No_rounds: {
      type: String,
      required:
        true,
    },
    intern_or_fte:
      {type:
        String,
        required:
          true,
      },
    round_exp: {
      type: String,
      required:
        true,
    },
  }
});
```

```
    },  
  
    uploader: {  
      type: String,  
      required: true,  
    },  
  
    date: {  
      type: Date,  
      required: true,  
    },  
  },  
},  
);
```

7.5 NOTES

```
const notesSchema=new
  Schema({user_id:{
    type:mongoose.Schema.Types.ObjectId,
    ref:'user'
  },
  user_name:{
    type:String,
    required:true
  },
  notes_name:{
    type:String,
    required:true
  },
  file_name:{
    type:String,
    required:true
  },
  date:{
    type>Date,
    default>Date.now
  },
  description:
    {
      type:String
    },
  is_reported:{
    type:Boolean
  },
  default:false
},
likes:{
  type:Number
```

```
,default:0
```

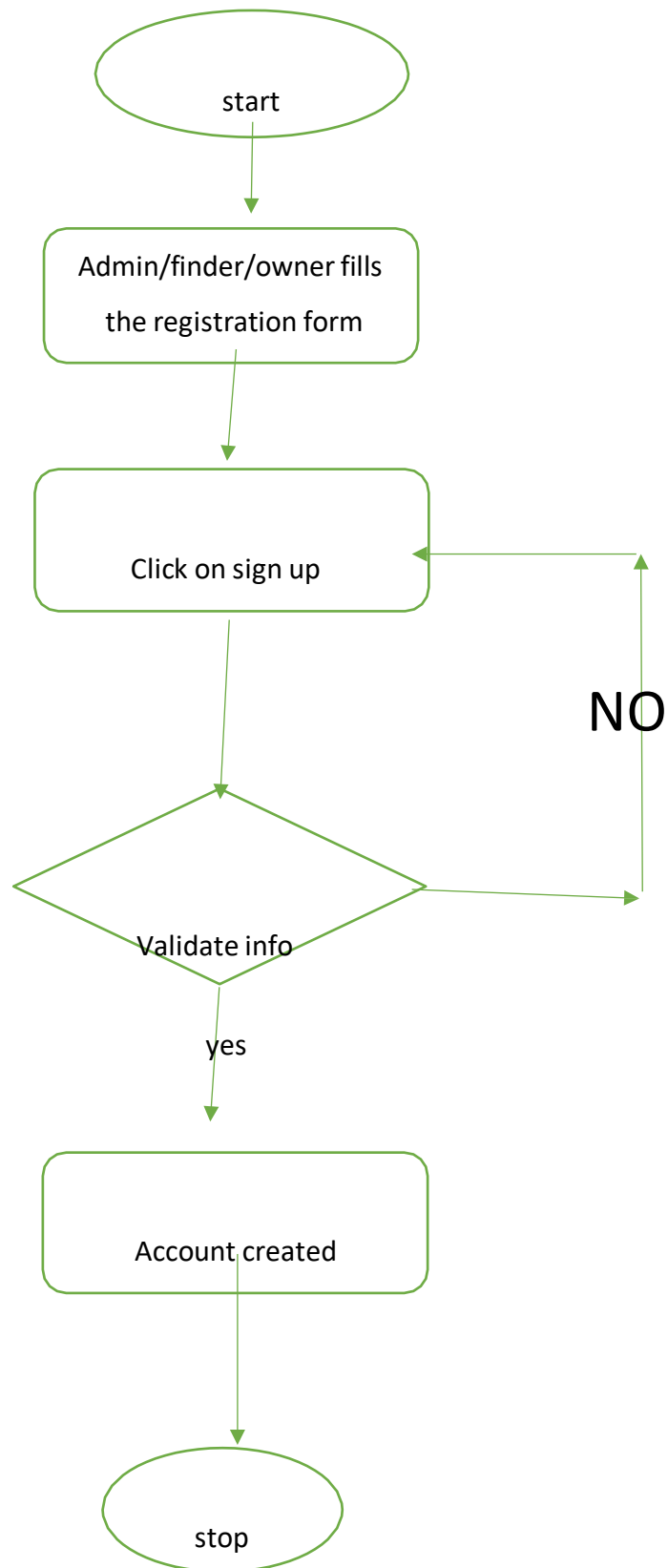
```
}
```

```
});
```

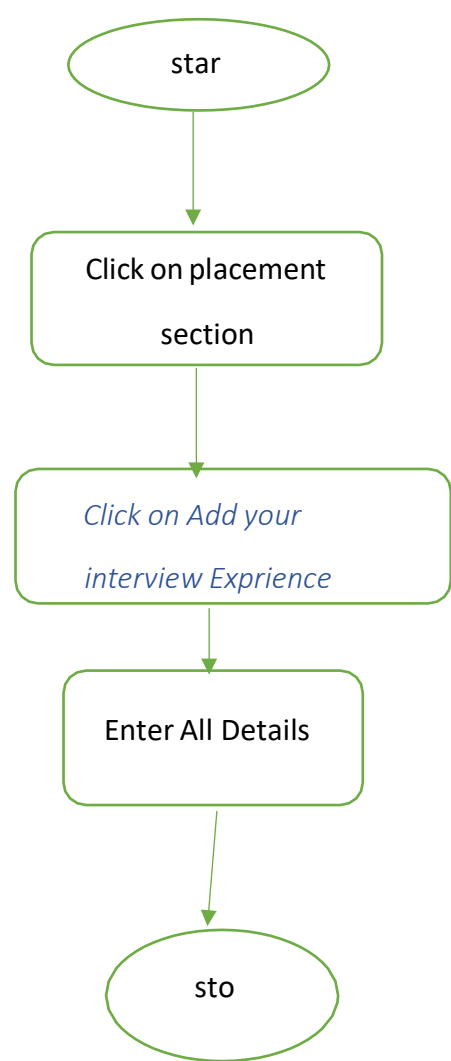
8.

ACTIVITY DIAGRAM

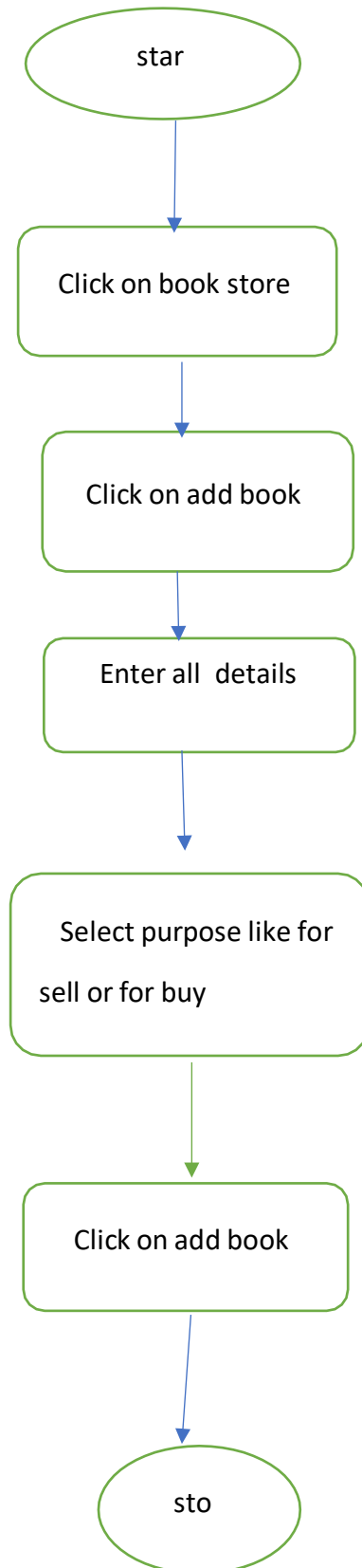
8.1. Create Account



8.2. Upload placement procedure:



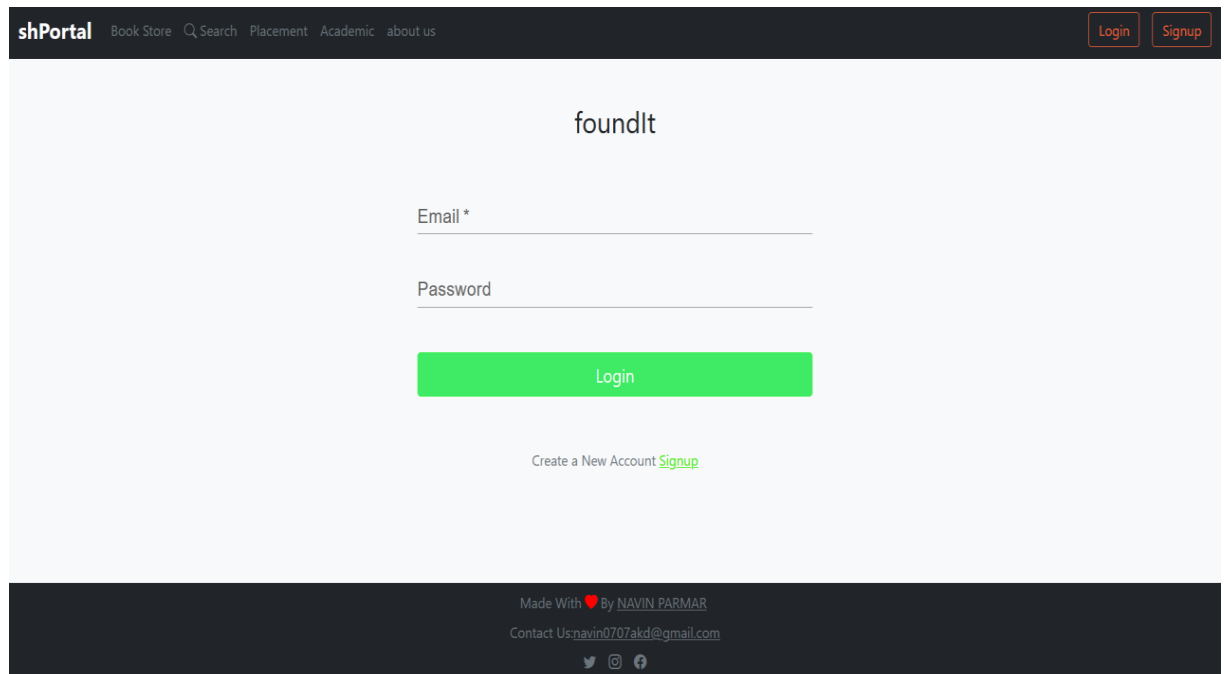
8.3. Upload book for sell



9.

SCREENSHOTS

9.1 Login



The screenshot shows the login page of the 'foundIt' application. The header is dark grey with the 'shPortal' logo on the left and 'Login' and 'Signup' buttons on the right. The main content area is light grey and contains the text 'foundIt' at the top. Below it are two input fields: 'Email *' and 'Password'. A large green 'Login' button is centered below the password field. At the bottom of the main area, there is a link 'Create a New Account Signup'. The footer is dark grey and contains the text 'Made With ❤️ By NAVIN PARMAR', 'Contact Us:navin0707akd@gmail.com', and social media icons for Twitter, Instagram, and Facebook.

shPortal Book Store Search Placement Academic about us Login Signup

foundIt

Email *

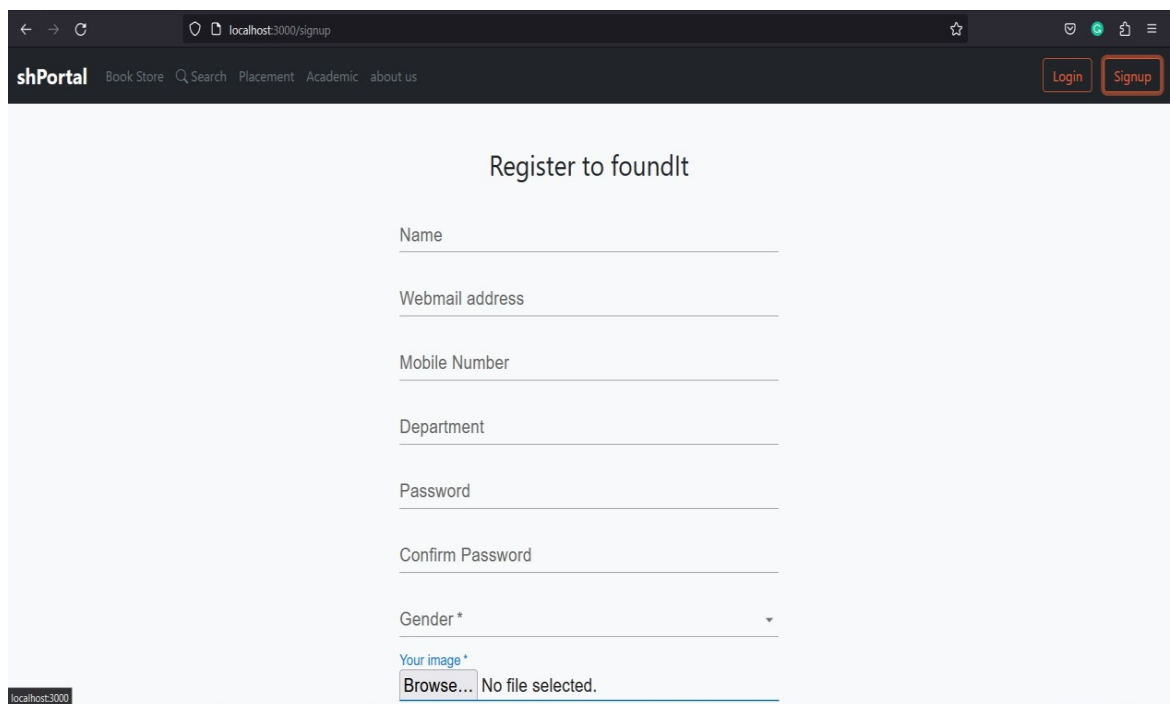
Password

Login

Create a New Account [Signup](#)

Made With ❤️ By NAVIN PARMAR
Contact Us:navin0707akd@gmail.com
Twitter Instagram Facebook

9.2 Signup



The screenshot shows the signup page of the 'foundIt' application. The browser address bar shows 'localhost:3000/signup'. The header is dark grey with the 'shPortal' logo on the left and 'Login' and 'Signup' buttons on the right. The main content area is light grey and contains the text 'Register to foundIt' at the top. Below it are several input fields: 'Name', 'Webmail address', 'Mobile Number', 'Department', 'Password', and 'Confirm Password'. There is also a 'Gender *' dropdown menu. At the bottom, there is a section for 'Your image *' with a 'Browse...' button and the text 'No file selected.'. The browser status bar at the bottom left shows 'localhost:3000'.

localhost:3000/signup shPortal Book Store Search Placement Academic about us Login Signup

Register to foundIt

Name

Webmail address

Mobile Number

Department

Password

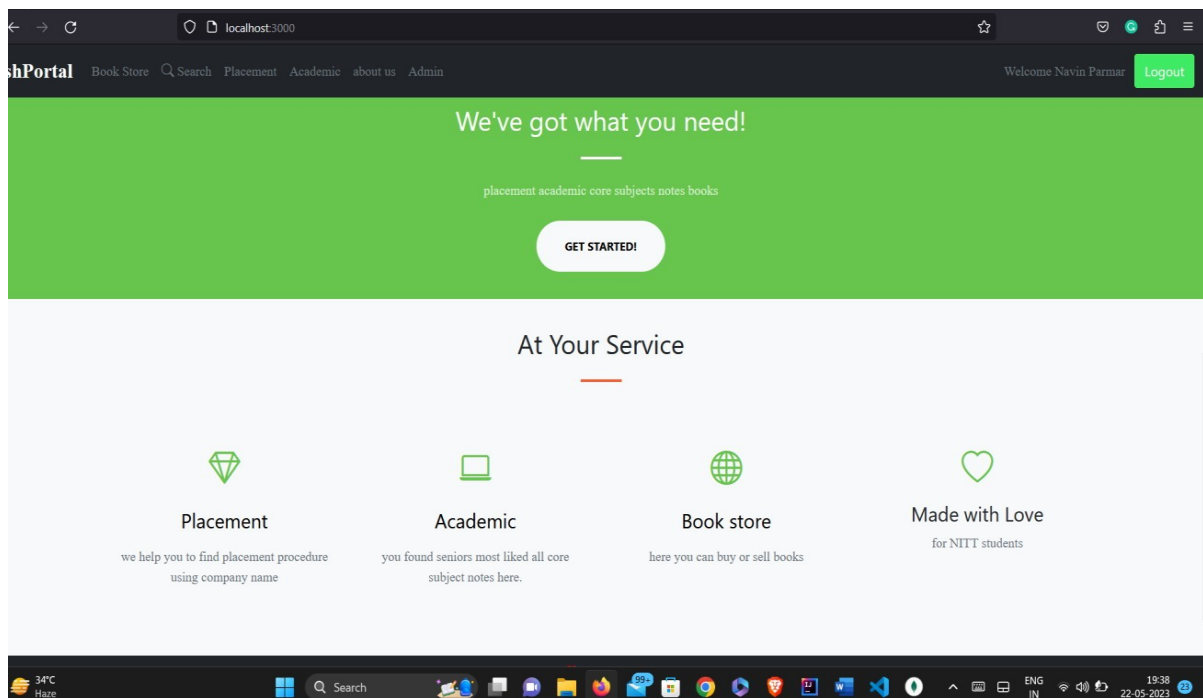
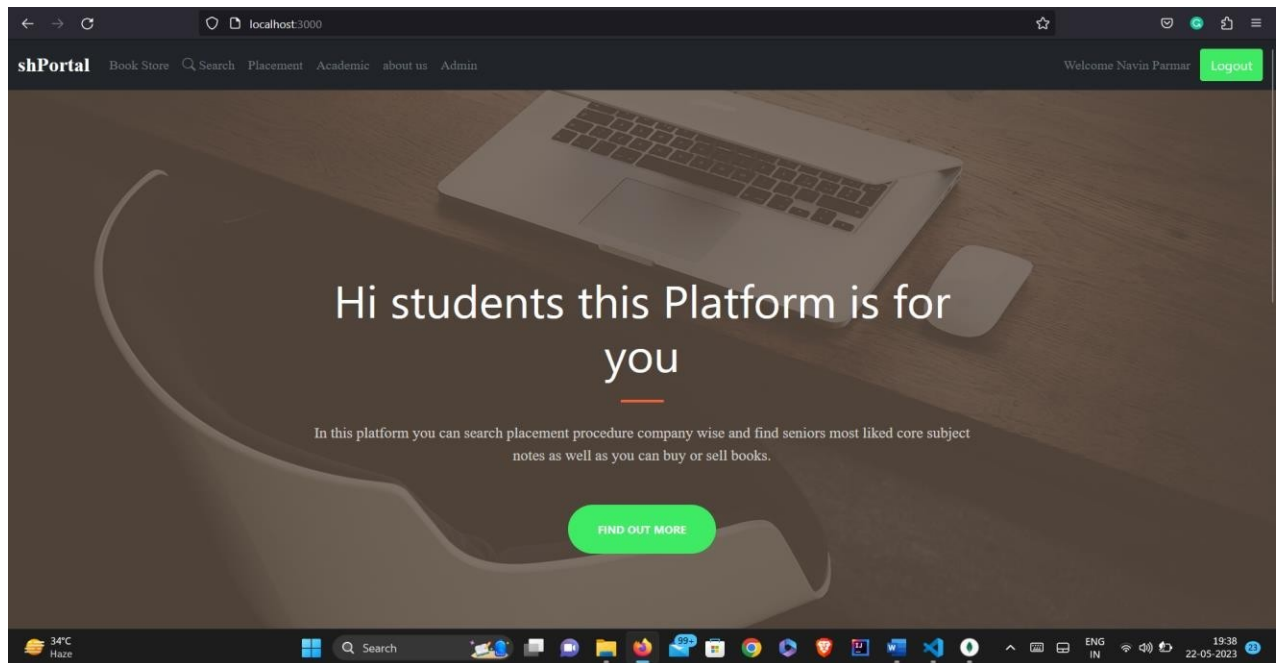
Confirm Password

Gender *

Your image *
Browse... No file selected.

localhost:3000

9.3. Homepage



9.4. Placement Section

shPortal

Book Store

Search

Placement

Academic

about us

Admin

Welcome Navin Parmar

Logout

STUDENT NAME	COMPANY	DATE	PROFILE	INTERN/FTE	NUMBER_OF_ROUNDS	NUMBER OF STUDENTS	PI EXPERIENCE
Navin Parmar	Pine Labs	2022-10-21T00:00:00.000Z	sde	FTE	5	3	view
Rishikant Patel	SAMSUNG SEMICONDUCTOR INDIA RESEARCH	2022-10-15T00:00:00.000Z	SDE	FTE	3	5	view
Piyush Devda	Amazon	2022-09-20T00:00:00.000Z	SDE	FTE	4	3	view
SHANOOR AHMED	BNY MELLON	2022-09-20T00:00:00.000Z	SDE	Intern+ FTE	3	3	view
Hrishikant Mehta	SAMSUNG SEMICONDUCTOR INDIA RESEARCH	2022-10-15T00:00:00.000Z	SDE	FTE	4	5	view

9.5 Add interview Experience

shPortal

Book Store

Search

Placement

Academic

about us

Admin

Welcome Navin Parmar

Logout

Add your interview Exprience

Company Name

Profile

Company visit date

Number of students selected

Number of rounds


Intern or FTE

Explain Procedure stepwise

Submit

9.6 Open interview experience

shPortal Book Store Search Placement Academic about us Admin



1/2

Username SHANOOR AHMED

Company : BNY MELLON

Profile : SDE

Date : 2022-09-20T00:00:00.000Z

Number of Rounds : 3


Intern or FTE Intern+ FTE

Send a message

BNY MELLON interview Experience:

Mode: Offline 1st round(Technical): 20-25 mins Tell me about yourself In depth discussion of one of the modules of my project Password Authentication: Given a password, check if it is a strong or a weak password. -> I started with my own assumptions and then the interviewer added some more of his own -> Paper coding Asked a few basic question related to Git and Github What do I do in my free time apart from academics? Asked about the clubs I am in and what we do there Where do I see myself in 5 years professionally and personally Questions for the interviewer 2nd round(Technical): 30-40 mins Took 5-10 mins to review my entire resume. Verified my coding profiles as I had mentioned some of my contest ranks in my resume. Brief discussion on the game I built, the platform I used, workflow, deployment In depth discussion of the workflow for the websites I built, how I distribute my work Things i have learned apart from academics Brief explanation of the AI project I am building Neural Network Knowledge Graph (AI), couldn't answer Questions on Version Control System Asked if i had used Github plugins in any of my projects Function pointer, couple more questions on OOPS Multiple inheritance, use case Questions on computer architecture, which I couldn't answer Little

shPortal Book Store Search Placement Academic about us Admin



Username Piyush Devda

Company : Amazon

Profile : SDE

Date : 2022-09-20T00:00:00.000Z

Number of Rounds : 4

Intern or FTE FTE

Send a message

Amazon interview Experience:

Amazon OA was quite simple in first question i was given an array and integer k. Have to make array size equals to k by adding numbers from 1 to infinity which are not present in the array with minimum sum of the added number. In second question given an array ,have to add two numbers unit digit and put back it into the array.this way each iteration size reduces by 1.Do this operation till array size become 2 and finally return string of the remaining numbers in the array. Also behavioural type questions were there Round 1 Initially he gave his intro and asked me TMAY Then he gave me a question <https://leetcode.com/problems/delete-node-in-a-linked-list/> Which i gave approach and code it successfully with the discussion of te 2nd ques he gave me was <https://practice.geeksforgeeks.org/problems/preorder-traversal-and-bst4006/1> I gave him recursive approach after a discussion he satisfied and asked me to code. I coded but some corner cases were missed Then he asked some situation based questions Then he asked me to ask any question if I have. verdict : not selected

9.7 Upload books for buy and sell

shPortalBook StoreSearchPlacementWelcome Navin ParmarLogout

Add Book

Name of Book *

Purpose *

description

Date when You lost or found *
dd/mm/yyyy

Image of Item *
Browse... No file selected.
Only images are expected, max image size is 2MB

Add

Close

1 books
you have upload

1 sell books
Your books for sell

+ Add Book

9.8 Search Book

shPortalBook StoreSearchPlacementAcademicabout usAdminWelcome Navin ParmarLogout

Status

Type of Item

Place where You lost or found the Item

Date when You lost or found the Item
dd/mm/yyyy

Apply filters

Search Results

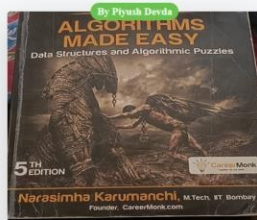
By Piyush Dandia
ALGORITHMS
MADE EASY
Data Structures and Algorithmic Puzzles

By You
OPERATING
SYSTEM
CONCEPTS

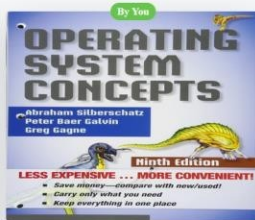
By Rishikant Patel
ACCOUNTING
FOR
MANAGERS
(STARTING FROM BASICS)

By SHANOOR AHMED
The
Complete
Reference

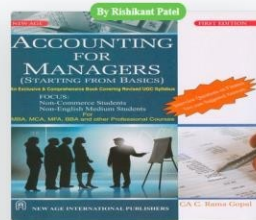
Search Results



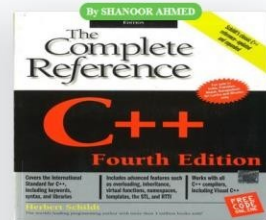
Book Name : Data Structure and algorithms By Narasimha karumanchi
purpose: To Buy
uploaded By Piyush Devda on
[Read More](#)



Book Name : Operating System Concepts
purpose: To Sell
uploaded By Navin Parmar on
[Read More](#)



Book Name : ACCOUNTING FOR MANAGERS Text Book
purpose: To Buy
uploaded By Rishikant Patel on
[Read More](#)



Book Name : C++: The Complete Reference, 4th Edition
purpose: To Sell
uploaded By SHANOOR AHMED on
[Read More](#)

Made With ❤ By NAVIN PARMAR

9.9 Find Seniors Notes

Add Your Notes

<input type="text" value="Notes Name"/>	<input type="text" value="Description"/>	<input type="button" value="Browse..."/> No files selected.	<input type="button" value="Add"/>
---	--	---	------------------------------------

All Notes

Notes Name: C++ Notes

Uploaded By: Navin Parmar

Description: it cover all concept of cpp

likes: 0

Date: 22May

Notes Name: DBMS Notes

Uploaded By: Rishikant Patel

Description: it cover all dbms topics

likes: 0

Date: 22May

Notes Name: OOPS Notes

Uploaded By: Hrishikant Mehta

Description: it cover all concept of oops

likes: 0

Date: 22May

Notes Name: Operating System Notes

Uploaded By: Navin Parmar

Description: it cover all os concept

likes: 0

Date: 22May

Made With ❤ By NAVIN PARMAR

Contact Us: navin0707akd@gmail.com



In conclusion, our project is a comprehensive platform designed to assist students at NITJSR(National Institute of Technology, JAMSHEDPUR) in various aspects of their academic and career journey. By providing access to placement procedures and interview experiences of seniors, we aim to empower juniors with valuable insights and guidance to navigate the placement process successfully.

One of the key features of our platform is the ability for seniors to upload their placement experiences, including their email addresses, allowing juniors to reach out and seek further advice or clarification. This fosters a strong sense of community and encourages knowledge sharing between students.

Additionally, our platform offers a convenient book store where students can sell their used books to other students who are in need of them. This feature promotes sustainability and cost-effectiveness within the student community, as well as facilitates easy access to required course materials.

Another significant aspect of our project is the availability of senior notes. Students can access the most popular and well-received notes from seniors, covering core subjects as well as programming languages. This centralized repository of high-quality notes provides a valuable resource for students to enhance their understanding and excel in their studies.

To ensure the security and exclusivity of the platform, we have implemented a webmail verification system for sign-ups, limiting access to NITJSR students only. This adds an additional layer of authentication and reinforces the trustworthiness and relevance of the information shared within the platform.

Overall, our project strives to create a dynamic and supportive ecosystem within NITJSR, bridging the gap between juniors and seniors, facilitating knowledge exchange, and enhancing the overall learning and placement experience for the students. By leveraging technology and harnessing the power of community, we believe our platform will greatly benefit students in their academic and professional growth.

While the current version of the project has accomplished its core goals, there are several potential areas for future improvement and expansion:

1. **Enhanced User Interaction:** Explore the implementation of a discussion forum or chat functionality where students can engage in real-time conversations, seek advice, and discuss placement-related topics.
2. **Recommendation System:** Develop a recommendation engine that suggests relevant interview experiences, notes, or textbooks based on a student's profile, academic interests, and previous interactions with the platform.
3. **Alumni Engagement:** Extend the platform to include participation from NITJSR alumni who can provide industry insights, mentorship, and networking opportunities for current students.
4. **Analytics and Feedback Mechanism:** Incorporate analytics tools to gather user feedback and track platform usage patterns, enabling continuous improvements and feature enhancements.
5. **Collaboration with Departments:** Collaborate with various academic departments within NITJSR to gather additional resources, such as subject-specific notes, research papers, and project guides, to further enrich the learning experience for students.
6. **Expansion to Other Institutions:** Consider expanding the platform to cater to students from other educational institutions, allowing for broader knowledge sharing and connectivity among a larger student community.

By implementing these future enhancements, the project can continue to evolve and provide an even more robust and valuable platform for students, fostering a supportive and collaborative environment that enhances their academic and career journeys.

1.For React.js

<https://reactjs.org/>

2.For Node.js

<https://nodejs.org/en/>

3.For Express.js

<https://expressjs.com/>

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