

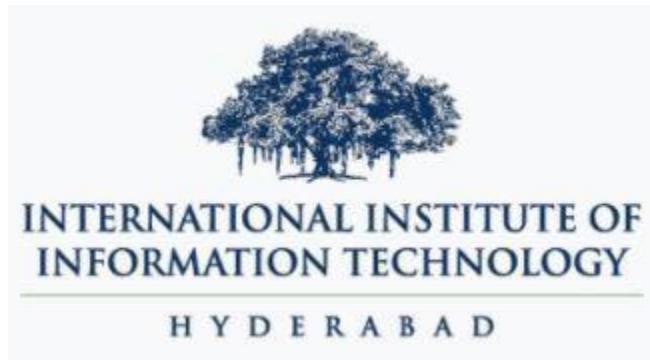
A PROJECT REPORT ON

ADMISSION PORTAL

MASTER OF SCIENCE

In

INFORMATION TECHNOLOGY



Submitted by

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ABSTRACT

Admission Portal is a web-based application that allows students to go online and apply for admission as well as process their admission details and get admission into MSIT. This system is an online system that can be accessed throughout the organization and outside as well with proper login provided.

Our system has two types of accessing modes, administrator and user. The student management system is managed by an administrator. It is the job of the administrator to admit and monitor the whole process. When a user logs in to the system, he would only view the details of the student. He can't perform any changes. The system has two modules. They are the User and Administrator. Students log in to apply for the course by attempting the Walk-in or GAT Exam. Administrator logs in to access/search information put up by the applicants and generate GAT hall ticket to the user.

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1.INTRODUCTION

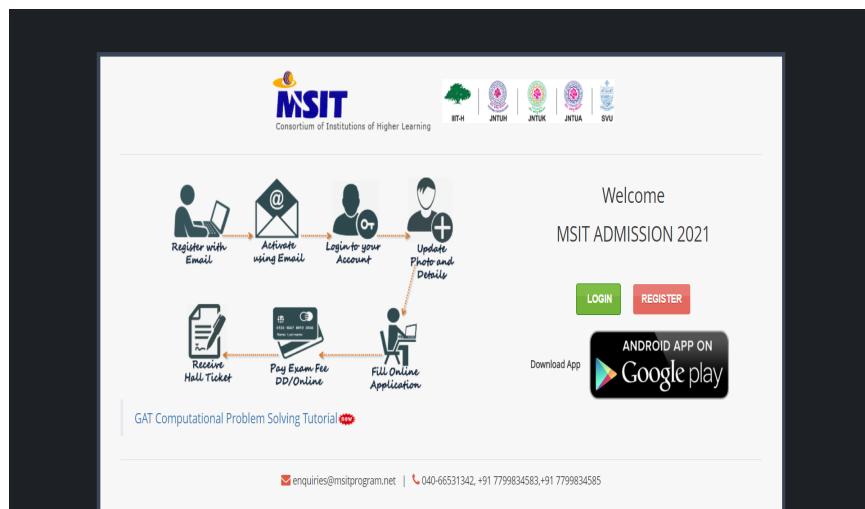
1.1 System Analysis

System analysis aims at establishing requests for the system to be acquired, developed and installed. It involves studying and analyzing the ways an organization currently processes the data to produce information. Analyzing the problem thoroughly forms a vital part of the system study. In system analysis, the prevailing situation of the problem is carefully examined by breaking them into subproblems. Problematic areas are identified and information is collected. Data gathering is essential to any analysis of requests. It is necessary that this analysis familiarizes the designer with objectives, activities and the function of the organization in which the system is to be implemented.

1.2 Study of Existing System

The existing application was designed by using PHP. It was developed 10 years ago and also has many redundancies.

- PHP is not secure because as it is open-sourced, all people can see the source code
- It is a server-side scripting language so the time complexity of the program increases.
- PHP is not suitable and is difficult to use for large content-based web applications.
- Using more features of PHP framework and tools cause poor performance of online applications.
- PHP has a weak type, which may lead to incorrect data and unexpected bugs.
- Compared to other programming languages, PHP has bad error handling methods.



1.3 Proposed System

The proposed system is designed by using React JS for front-end development and FastAPI, MySQL for back-end development.

- React JS is secure. It speeds up the development process.
- As compared to other front-end libraries and frameworks, the ReactJS code is easier to update and manage due to its modular structure.
- Apps built with ReactJS are extremely flexible and can be scaled easily.
- With ReactJS, the complex UI is broken down into smaller, reusable components that you can reuse to build another application having the same functionality.
- Fast API is a modern, open-source, fast, and highly performant Python web framework used for building Web APIs
- Fast to code: Increase the speed to develop features by about 200% to 300%.
- Fewer bugs: Reduce about 40% of human (developer) induced errors.
- Easy: Designed to be easy to use and learn. Less time reading docs.

The image is a composite of two parts. On the left, there's a photograph of a young woman with dark hair, smiling and holding a blue smartphone with a red earbud cord. She is wearing a grey sweatshirt and blue jeans, carrying a brown backpack. Overlaid on the top left of this photo is the MSIT logo, which consists of a white circle containing the text 'MSIT' in blue, with '20 YEARS OF' written above it in a smaller arc. Below the photo, the text 'Accerelate your career in Advanced Data Sciences' is displayed, followed by social media icons for Facebook, LinkedIn, and Instagram. On the right side of the image is a blue-themed website landing page for 'Admissions 2021'. The page features a 'REGISTER' button at the top, followed by four input fields for Name*, Email*, Contact Number*, and Password*. Below these is a 'Confirm Password*' field. At the bottom of the form is a red 'REGISTER NOW' button. To the right of the form, there is a link 'Sign up and track your application status on the go with our app' next to a 'GET IT ON Google Play' button with the Google Play logo.

1.4 ReactJs

React is an open-source front-end JavaScript library for building user interfaces or UI components. It is maintained by Facebook and a community of individual developers and companies. React can be used as a base in the development of single-page or mobile applications. It's used for handling the view layer for web and mobile apps. React also allows us to create reusable UI components. It is a front end framework that is based on JavaScript, developed by Facebook, and best known for its virtual DOM feature. With React, we recommend Express.js/Express as a backend service. Build encapsulated components that manage their own state, then compose them to make complex UIs.

1.5 FASTAPI:

FastAPI is a modern, fast (high-performance), a web framework for building APIs with Python 3.6+ based on standard Python type hints. Technically, FastAPI is based on the Starlette framework accounting for quick development and quicker deployment. Besides, the framework facilitates automatic OpenAPI validation as well as documentation. Experts consider this to be a game-changer in the development space, offering a wealth of opportunities to create feature-rich web applications.

2. METHODOLOGIES

2.1 Registration Process:

The main page contains register and login components. We can switch between these two components by clicking on the one we desire to see. If we click on the REGISTER, then the registration form would be displayed. And if we click on the LOGIN, then the login form would be displayed.

The main page contains register and login components. We can switch between these two components by clicking on the one we desire to see. If we click on the REGISTER, then the registration form would be displayed. And if we click on the LOGIN, then the login form would be displayed.

Using the Register component, we can create an account for a new user. This is done by giving input details in the form fields and clicking on the REGISTER NOW button. When this happens, those input details are stored into the database.

In this registration process, there are both client-side validations and server-side validations for the inputs in the registration form.

2.1.1 Client-Side Validation

Empty Input fields:

The screenshot shows a registration form with two tabs: "REGISTER" and "LOGIN". The "REGISTER" tab is active. There are four input fields: "Name*", "Email*", "Password*", and "Confirm Password*". Each field has a red error message below it: "Cannot be empty". A large orange "REGISTER NOW" button is at the bottom.

This is a common validation for all input fields. This is implemented both when the input is being given and when the user tries to click on REGISTER NOW, while still having empty input fields. In the first case, when the user gives the input and then deletes it back to an empty field, then the error message *Cannot be empty* would be shown. In the second case, when a user tries to submit the form by clicking on REGISTER NOW without filling the form completely or keeping any field empty, then the same error message would be displayed below the respective fields.

Field-specific validation:

The screenshot shows a registration form with two tabs: "REGISTER" and "LOGIN". The "REGISTER" tab is active. There are four input fields: "Name", "Email", "Password", and "Confirm Password". The "Name" field contains "p" and has an error message: "Name cannot be less than 4 characters". The "Email" field contains "p" and "4" and has two error messages: "Email is not valid" and "Not valid Contact number". The "Password" field contains a single dot and has an error message: "Password cannot be less than 8 characters". The "Confirm Password" field contains a single dot and has an error message: "Both the password fields must match". A large orange "REGISTER NOW" button is at the bottom.

Each field has specific validation criteria:

Name: The field input cannot be less than 4 characters on submission. The field input cannot have anything other than alphabet characters.

Email: The field input should match the email address format on submission.

Contact: The field input should only contain numbers and should not have more than 10 digits. On submission, the number of digits should be exactly 10.

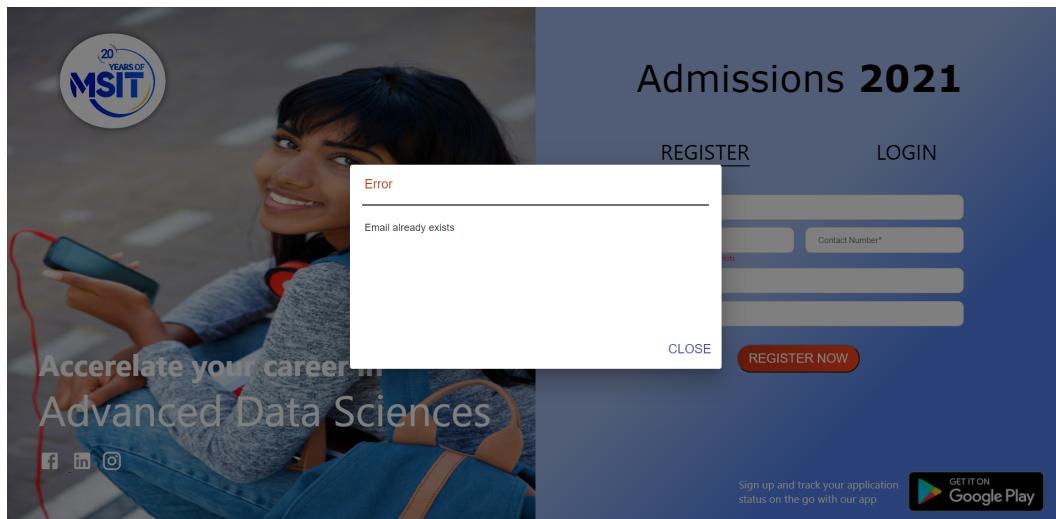
Password: The field input should not be less than 8 characters on submission.

Confirm Password: The field input should match with the password field input on submission.

If these validation conditions are not satisfied, then the respective error messages would be shown below the fields.

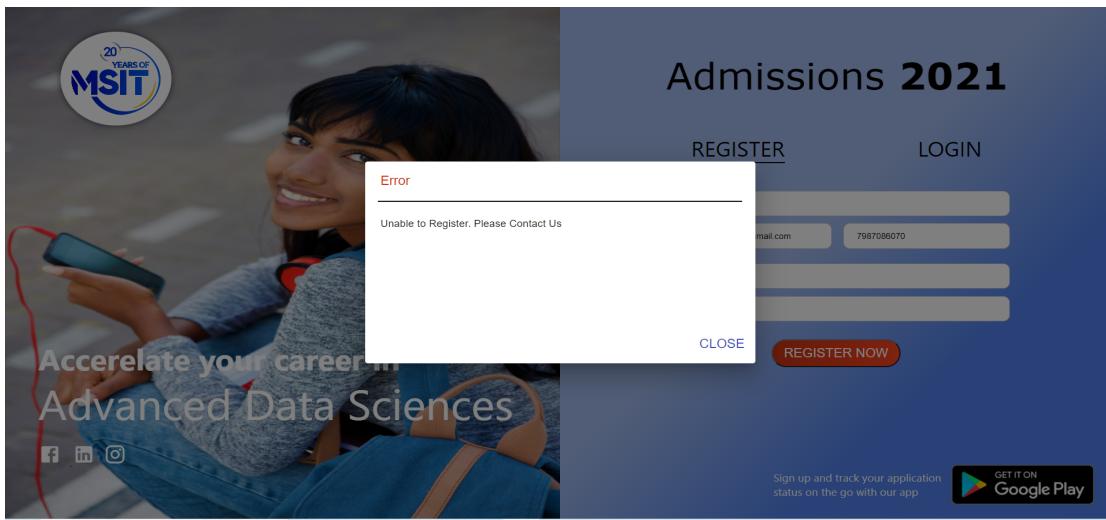
2.1.2 Server-Side Validation

Email Error:



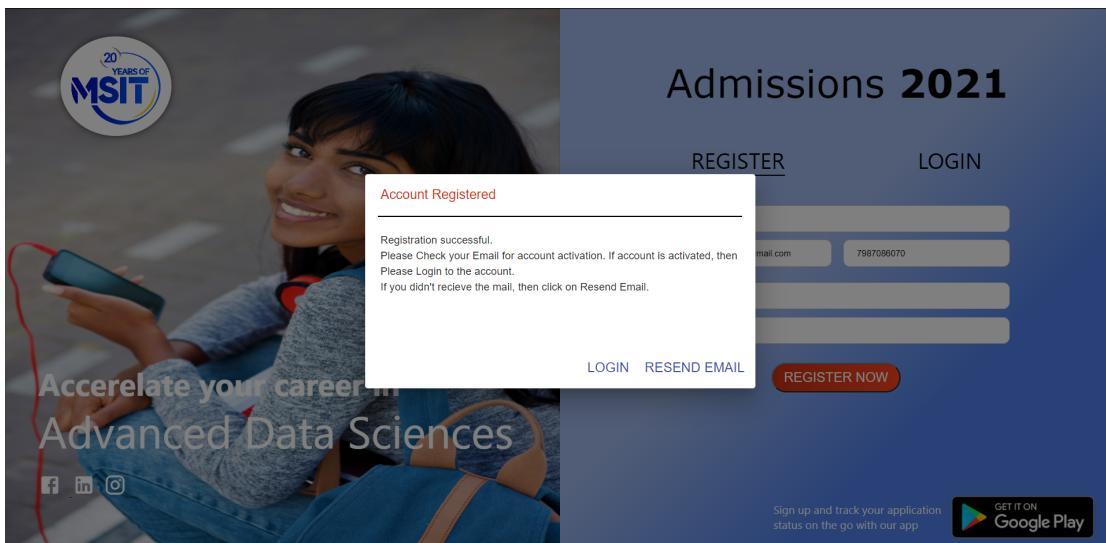
This validation is done while the input is being given. It checks with the server and the database whether the given email is already there in the database or not. If it already exists, then this error popup message would be displayed.

Server Error:



If any server error is there while registering, then this error message would be displayed.

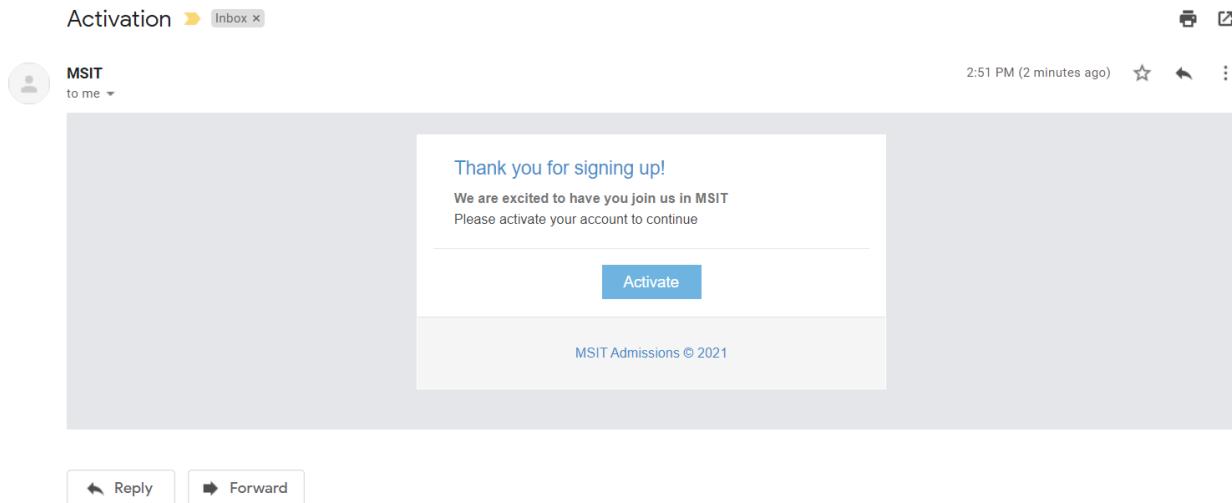
Registration Success:



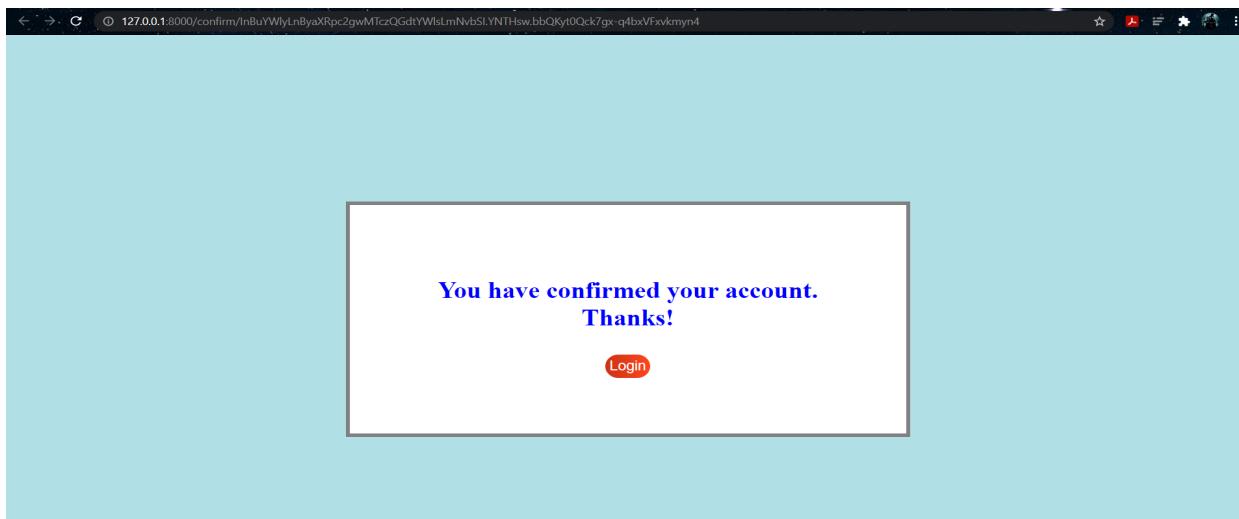
If the registration is successful, then the input details are sent to the server, where a new account is created and the details are stored in the database. After which, the user is redirected to the login page. Also, if there was any server error in sending mail and the user didn't receive them, then they can click on the resend email.

2.1.3 Account Activation

After the successful registration, a token is generated. Then a mail is sent to the registered user's email address, which contains an activation link with the token as the path parameter in that link.

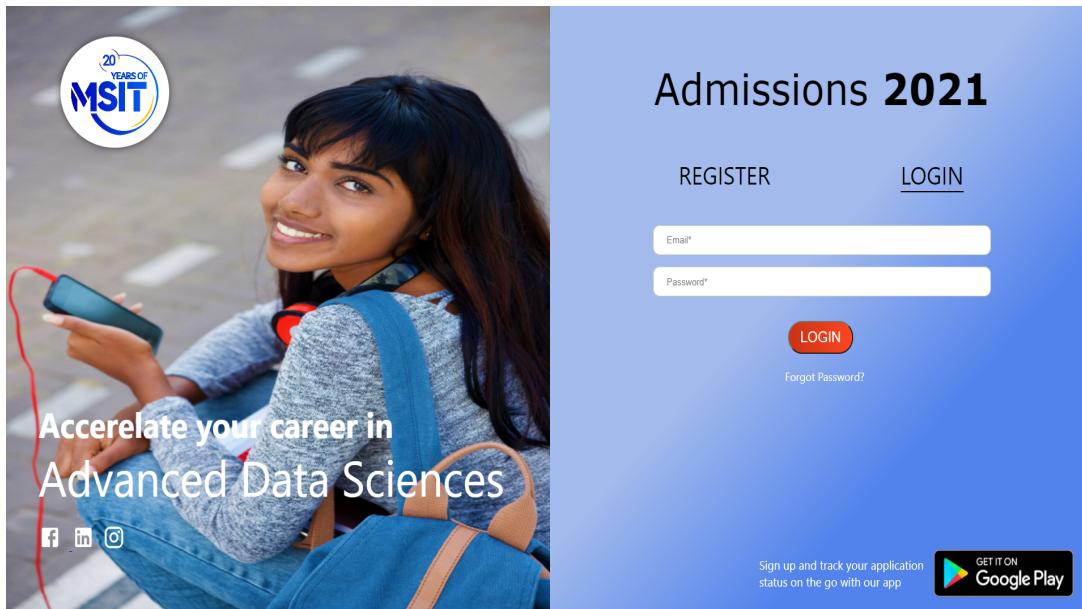


This link redirects the user to the confirmation page.



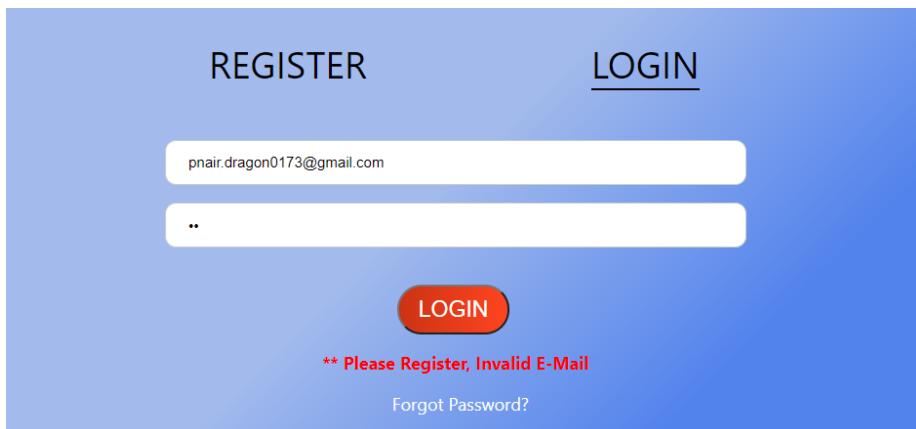
The URL path contains the token. When the user lands on this page, the server retrieves the token from the URL path and confirms the account and activates it by updating the status to 'active'. After this, the user can login to their account.

2.2 Login Process:



In the login process, the user has to fill two input fields, email and password. The validations over these input fields are done from the server.

If the given email address is incorrect or is not registered, then the following error message is shown:



This validation is done from the server-side, by checking with the database whether an account has been created with the given email id or not.

If the password given does not match with the hashed password in the database corresponding to the registered email given in the input field, then this error message is displayed:



If the user tries to login into the account without activating it, then the following error message is displayed:

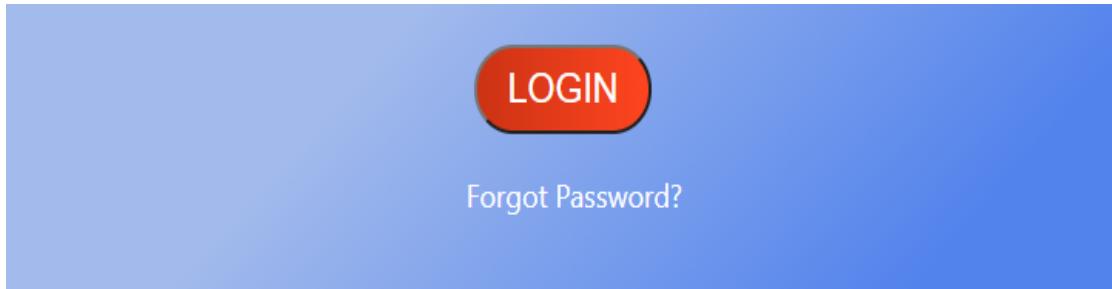
The image shows a composite screen. On the left is a promotional image for MSIT featuring a smiling woman holding a phone, a circular logo with 'MSIT' and '20 YEARS OF', and social media icons for Facebook, LinkedIn, and Instagram. Overlaid on this image is the text 'Accerelate your career in Advanced Data Sciences'. On the right is a light blue background with the text 'Admissions 2021' at the top. Below it are 'REGISTER' and 'LOGIN' buttons. There are two input fields: the first contains 'pnair.pritish0173@gmail.com' and the second contains '.....'. A red 'LOGIN' button is centered below the inputs. Below the button, the text 'Activate the Link' is displayed in red. At the bottom left is a 'Forgot Password?' link. At the bottom right is a callout for the app with the text 'Sign up and track your application status on the go with our app' and a 'GET IT ON Google Play' button.

This checking is done by searching for the account in the database using the given email id and seeing whether the status is active or not.

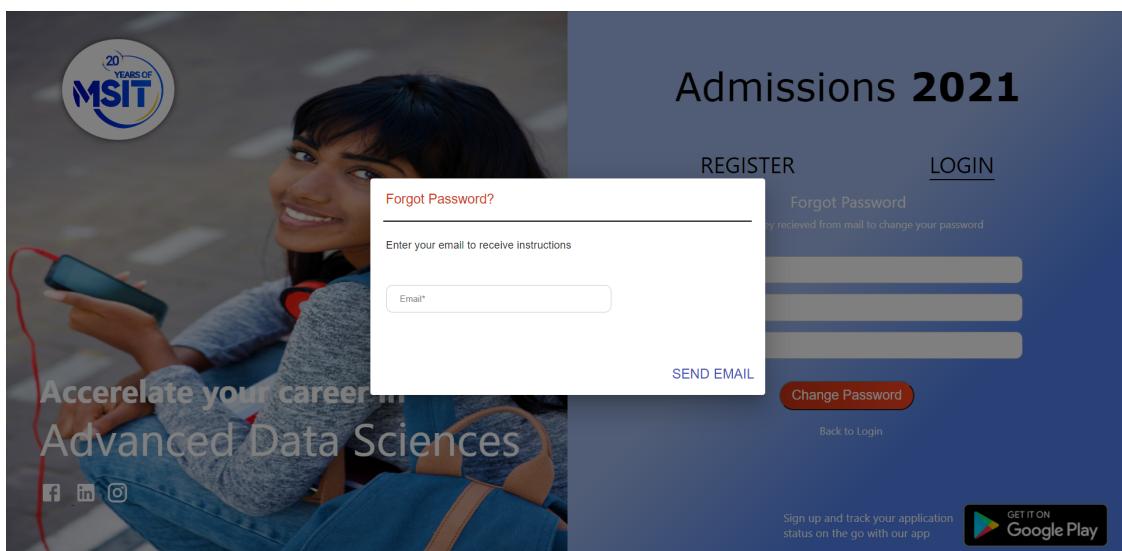
If the login is successful, then we are redirected to the dashboard. If logging in for the first time, then we are redirected to the page where we have entered the profile details.

Forgot Password:

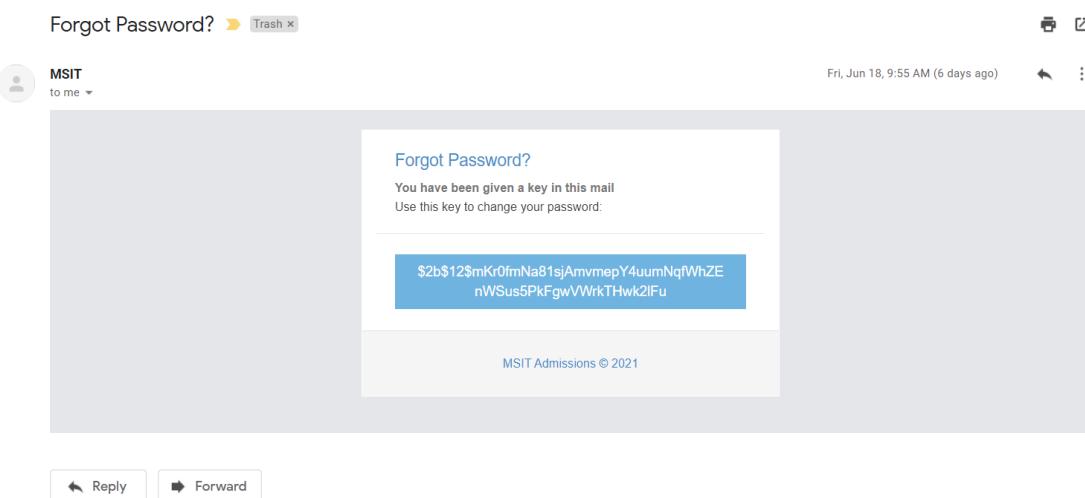
Below the login button, there is the forgot password feature.



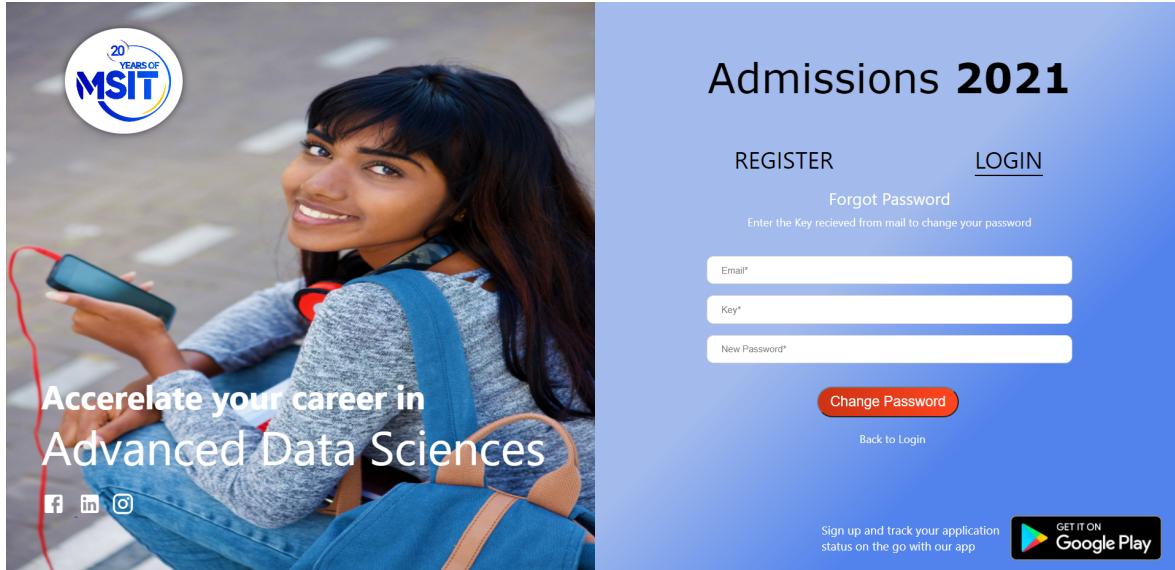
If we click on this, then the following screen is displayed:



The user has to input the registered email. When the user clicks on send an email, then an email is sent to the given registered email id.



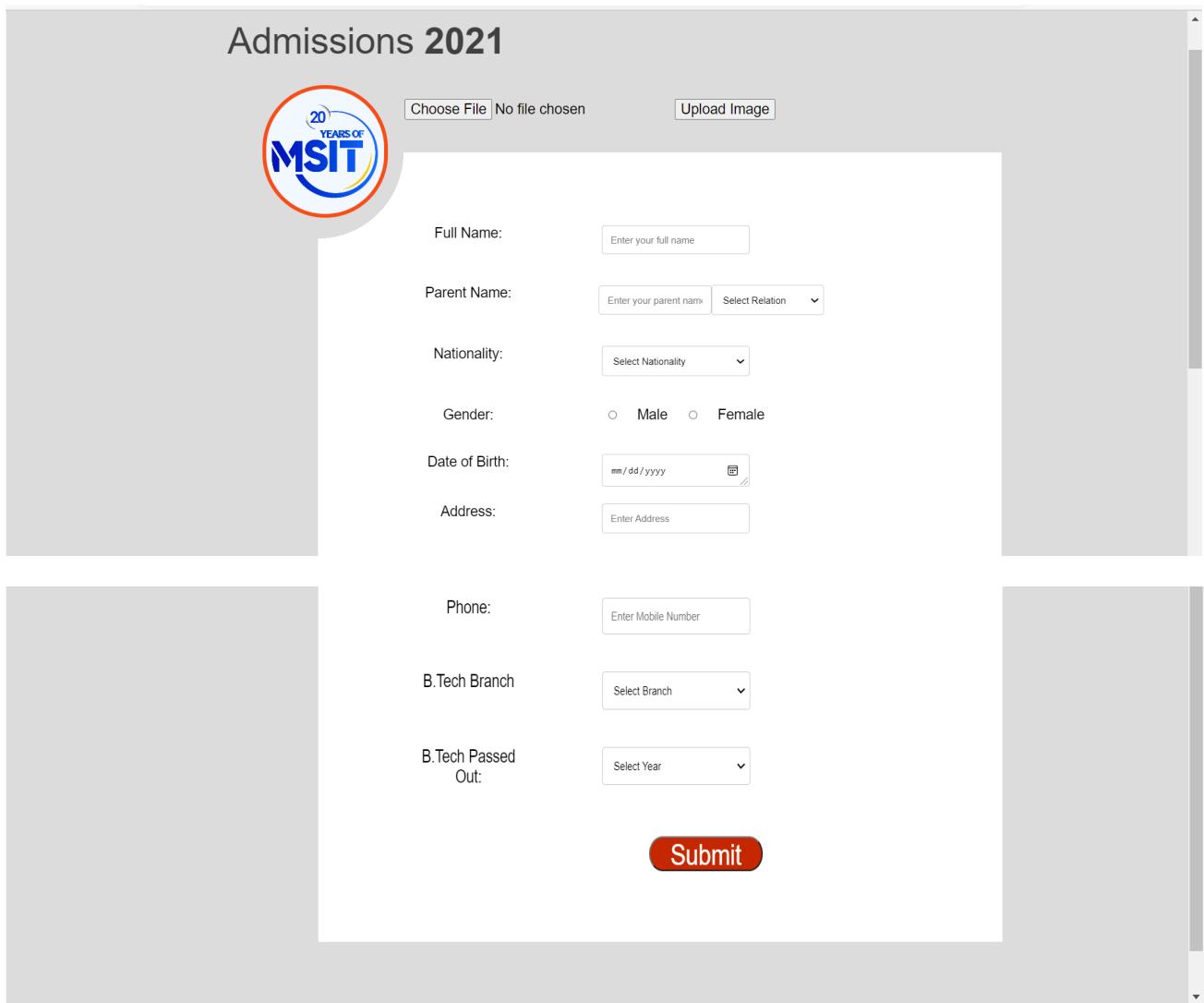
The mail contains a key, which is then hashed salt that was generated for the account when it was created. This key is sent in the mail so that the user could use it for the following process.



The user can now use the key they received to create a new password. And then, by clicking on the CHANGE PASSWORD, the password for the account is updated in the database and it's hashed value is stored in the password section.

2.3 View & Update Process:

When a new user login to the website, the page will redirect to the edit details page, where a form will be generated with some input fields, where the user can fill in all required details. There are so many fields and each of them is of different formats. For example, names will be text, date of birth will be a date type, and some fields should have options that the user can select which is appropriate to him/her. And these details were stored in JSON format. Also, these were handled using the Axios in ReactJs.



The image shows a web-based form titled "Admissions 2021". At the top left is the "MSIT" logo with "20 YEARS OF" text. To its right is a circular "Upload Image" field with a "Choose File" button and a "No file chosen" message. Below the logo are several input fields: "Full Name:" with a placeholder "Enter your full name", "Parent Name:" with a placeholder "Enter your parent name" and a dropdown menu for "Select Relation", "Nationality:" with a dropdown menu for "Select Nationality", "Gender:" with radio buttons for "Male" and "Female", "Date of Birth:" with a date input field showing "mm/dd/yyyy" and a calendar icon, and "Address:" with a placeholder "Enter Address". In the bottom section, there are three dropdown menus: "Phone:" (placeholder "Enter Mobile Number"), "B.Tech Branch" (placeholder "Select Branch"), and "B.Tech Passed Out:" (placeholder "Select Year"). A large red "Submit" button is centered at the bottom of the form area.

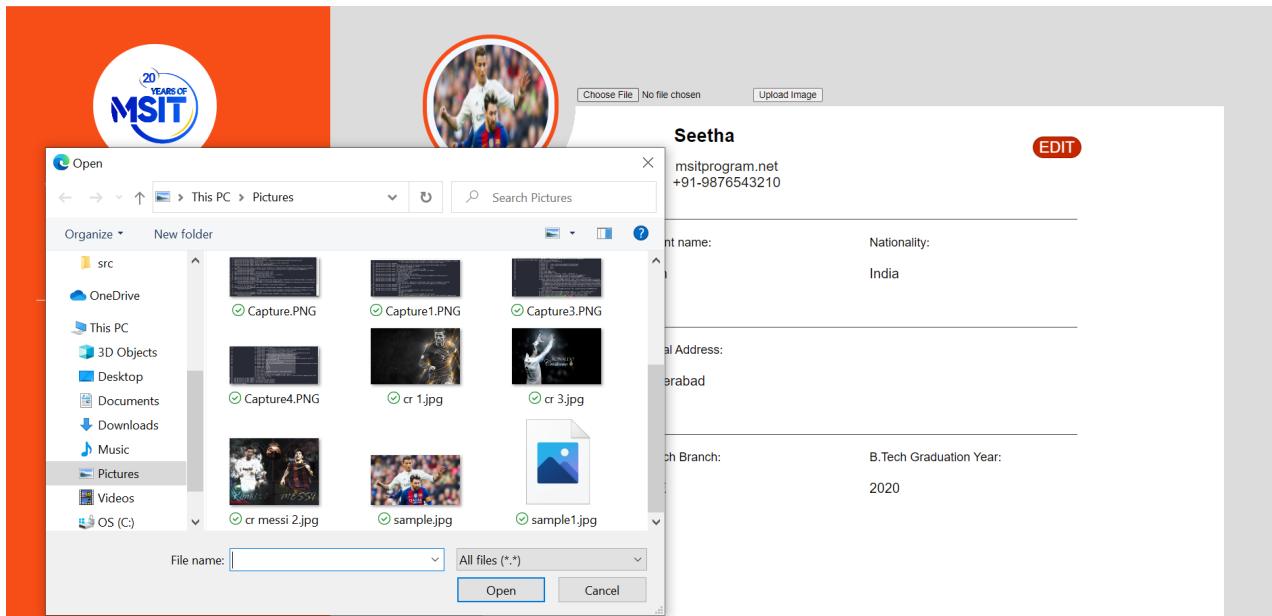
After filling in the personal details, the user can then submit the form by clicking the submit button. After clicking the submit button, a post request is called by the fastapi to access the database and all

the details that were filled will be stored in the database and the details will be displayed in the dashboard. Then the user can proceed with the application or log out of the portal.

The screenshot shows a two-column dashboard. The left column has an orange header with the MSIT logo and a welcome message for 'hema'. It includes links for 'My Profile', 'GAT Application', 'Walk-in Application', 'Pay online', and 'Logout', along with social media icons for Facebook, LinkedIn, and Instagram. The right column has a grey header 'Admissions 2021'. Below it is a circular profile picture of a person, with a 'Choose File' button, a 'No file chosen' message, and an 'Upload Image' button. The user's name 'Seetha' is displayed with contact information: 'msitprogram.net' and '+91-9876543210'. An 'EDIT' button is next to the name. The dashboard is divided into sections: 'Relationship' (Parent name: Ram, Nationality: India), 'Location' (Postal Address: Hyderabad), and 'Academics' (B.Tech Branch: CSE, B.Tech Graduation Year: 2020).

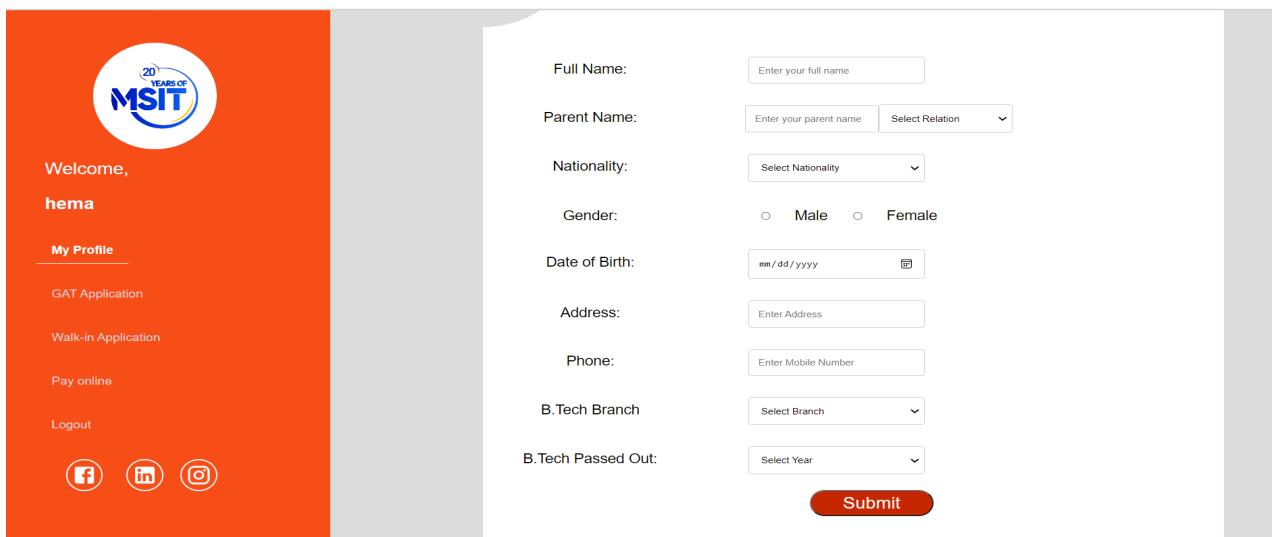
Image upload:

In the My Profile section, the user needs to upload their image along with the required details. So, for uploading an image we have provided two buttons i.e; Choose File button and then the Upload Image button, If the user wants to change his/her Image, then the user should be able to select an image for their local system, after clicking the Choose File button. Once the user selects an image then the user needs to click on the Upload Image button so that the image gets uploaded and will be displayed in the dashboard. Since we will have a number of users, and each user needs to upload their respective images. So, in order to store all the images from different users, we have created an empty folder for storing the images. So, when the user clicks on the upload button after choosing an image, that particular image will be stored in the folder. And, after uploading, a post request will be called by the fastapi and the image name will be stored in the database in the user profile of the respective user.



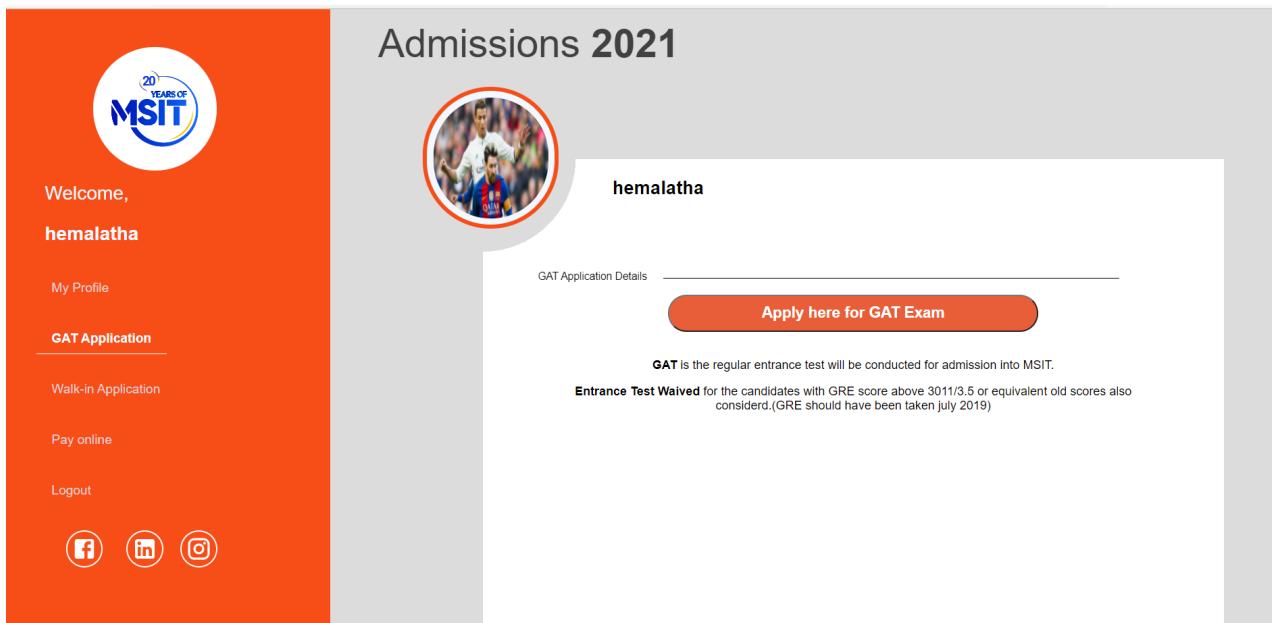
Update profile:

If the user makes a mistake while submitting the details or if the user wants to make some changes, then he/she can click on the edit button that is provided in the form, and it will redirect to the user details form. There, the user can make necessary changes and can submit those changes by clicking on the submit button. After clicking the submit button, the details will get updated accordingly in the form as well as in the database.

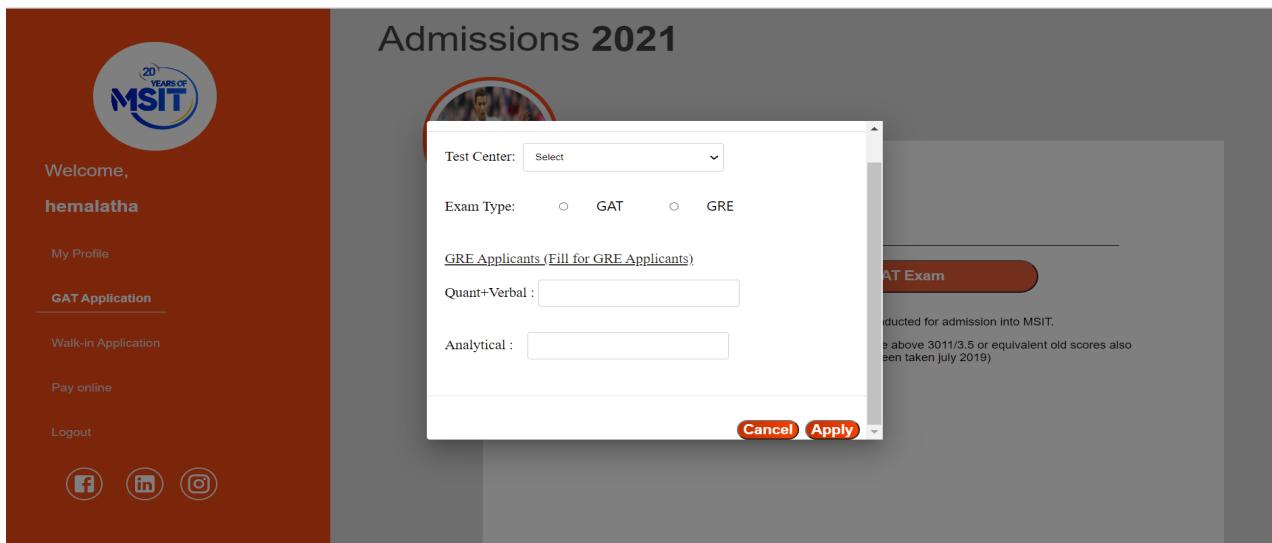


2.4 GAT Application Process:

After a user registers and login to the website, he\she is needed to update the profile. After that, they are needed to navigate to the GAT Application.



They will see a button 'Apply here for GAT', by clicking on the button he\she will be able to see a dialog box in which the user needs to select test center, exam type. By clicking on the apply button it will display another dialog box that has an application number and payment buttons.



Welcome, hemalatha

My Profile

GAT Application

Walk-in Application

Pay online

Logout

[Facebook](#) [LinkedIn](#) [Instagram](#)

Admissions 2021

hemalatha

Applied for GAT exam
Your application number is: 2021GAT83500

PAYLATER **PAYNOW**

GAT Exam

GAT is the regular entrance test will be conducted for admission into MSIT.

Entrance Test Waived for the candidates with GRE score above 3011/3.5 or equivalent old scores also considered.(GRE should have been taken July 2019)

If he\she clicks on pay now they will be redirected to the payment page and if he clicks on pay-later, his\her details will be stored into the database and then displayed in a tabular format.

Welcome, hemalatha

My Profile

GAT Application

Walk-in Application

Pay online

Logout

[Facebook](#) [LinkedIn](#) [Instagram](#)

Admissions 2021

hemalatha

GAT Application Details

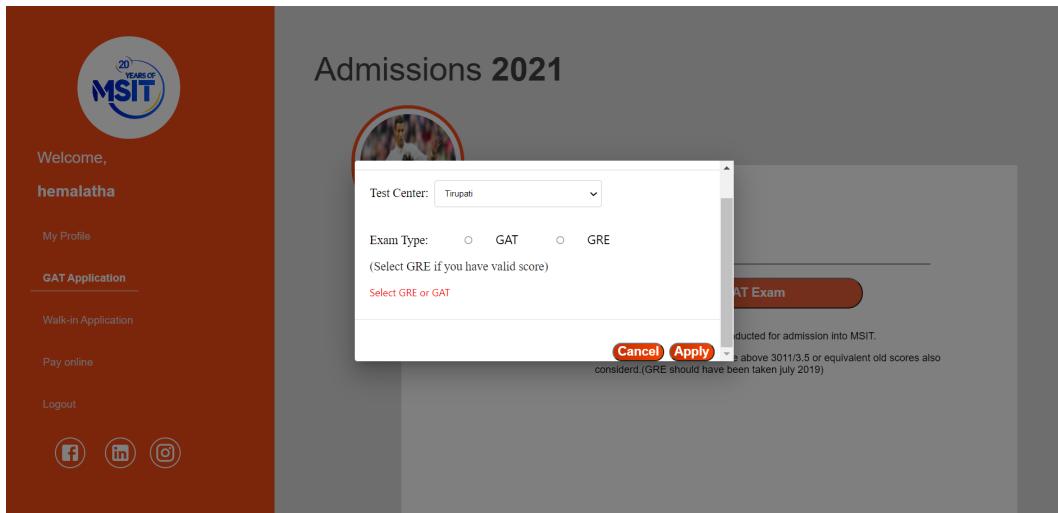
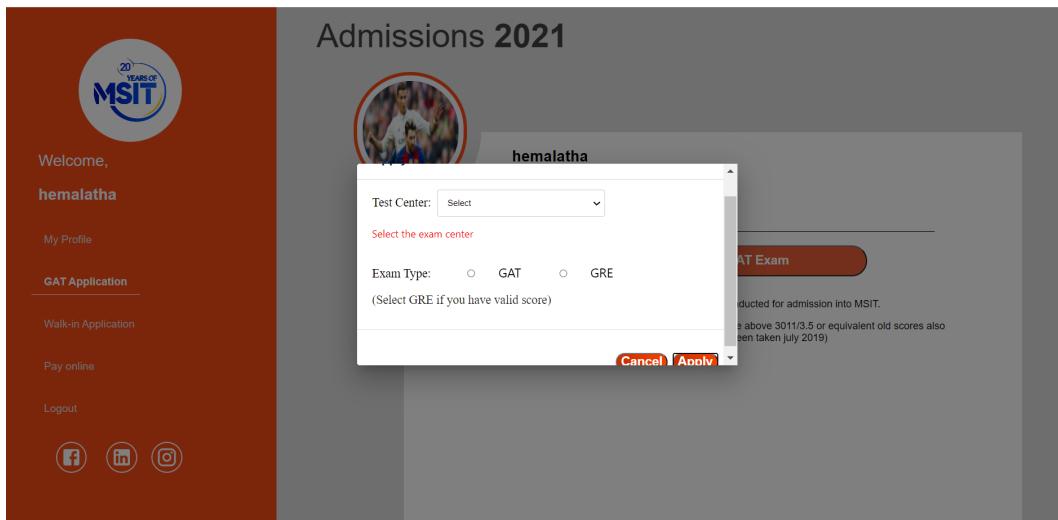
GAT Application Details			
applicationno	testcenter	examtype	paymentStatus
2021GAT83500	1	GAT	No

EDIT

Error Handling:

Error handling for application is important because there are certain conditions for applying for the GAT exam. If the user doesn't select any test center, exam type, it will show errors like select a test

center and select GAT or GRE. If he\she selects GRE, then two input boxes will be displayed as ‘quant+verbal’ and ‘analytical’, their scores should be 301 and 3.5 respectively. If the scores are not in range then errors like ‘score should be in between 301 to 340’ and ‘score should be in between 3.5 to 6’ will be displayed.



Welcome, hemalatha

My Profile

GAT Application

Walk-in Application

Pay online

Logout

[Facebook](#) [LinkedIn](#) [Instagram](#)

Admissions 2021

Test Center: Select

Exam Type: GAT GRE

GRE Applicants (Fill for GRE Applicants)

Quant+Verbal :

Score should be between 301 to 340

Analytical :

Conducted for admission into MSIT.
The above 301/3.5 or equivalent old scores also
been taken July 2019)

GAT Exam

Cancel **Apply**

Below the tabular format, there is an edit button that helps you to edit your test center and exam type again for the exam.

Welcome, hemalatha

My Profile

GAT Application

Walk-in Application

Pay online

Logout

[Facebook](#) [LinkedIn](#) [Instagram](#)

Admissions 2021

Test Center: Select

Exam Type: GAT GRE (Select GRE if you have valid score)

cancel **update**

hemalatha

GAT Application

Welcome, hemalatha

My Profile

GAT Application

Walk-in Application

Pay online

Logout

[Facebook](#) [LinkedIn](#) [Instagram](#)

Admissions 2021

Test Center: Online

Exam Type: GAT GRE(Select GRE if you have valid score)

GRE Applicants (Fill for GRE Applicants)

Quant+Verbal : 320

Analytical : 4.8

cancel **update**

The screenshot shows a user profile on the left with a red sidebar containing links for My Profile, GAT Application (which is highlighted), Walk-in Application, Pay online, and Logout. Below these are social media icons for Facebook, LinkedIn, and Instagram. The main content area has a dark grey header with the text "Admissions 2021". A modal window is open, titled "GAT Application Details". It contains fields for "Test Center" (set to "Online"), "Exam Type" (radio buttons for "GAT" and "GRE" where "GRE" is selected), and "GRE Applicants" (fields for "Quant+Verbal" with value "320" and "Analytical" with value "4.8"). At the bottom of the modal are "cancel" and "update" buttons.

The updated details will again be displayed by using a tabular format.

Welcome, hemalatha

My Profile

GAT Application

Walk-in Application

Pay online

Logout

[Facebook](#) [LinkedIn](#) [Instagram](#)

Admissions 2021

hemalatha

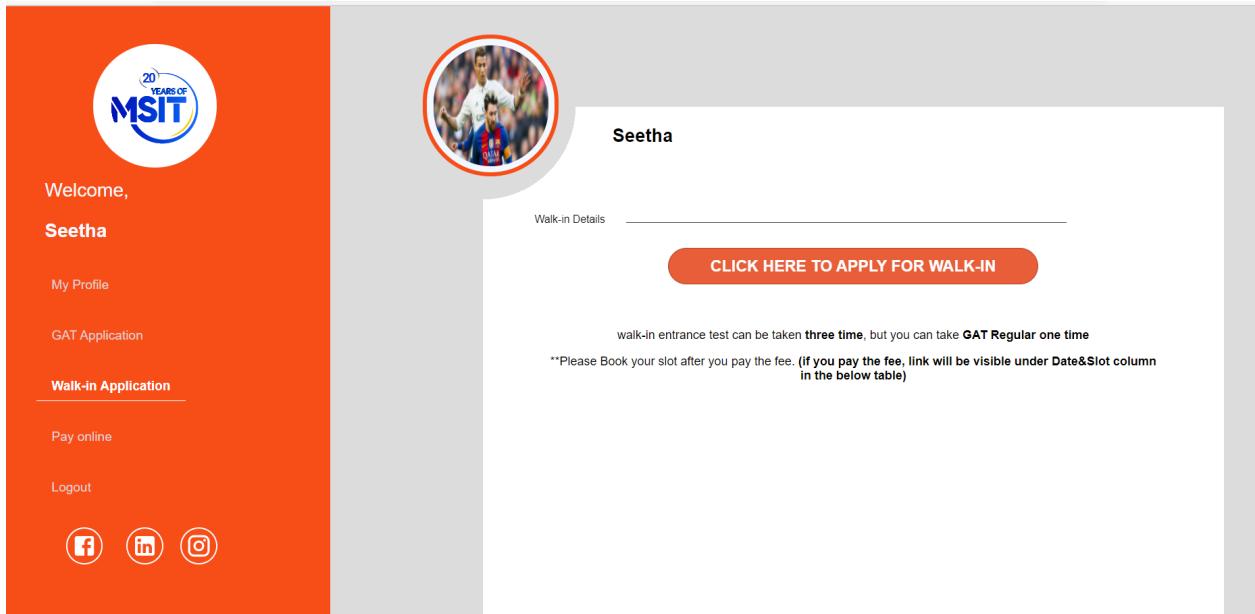
GAT Application Details

GAT Application Details			
applicationno	testcenter	examtype	paymentStatus
2021GAT83500	8	GRE	No

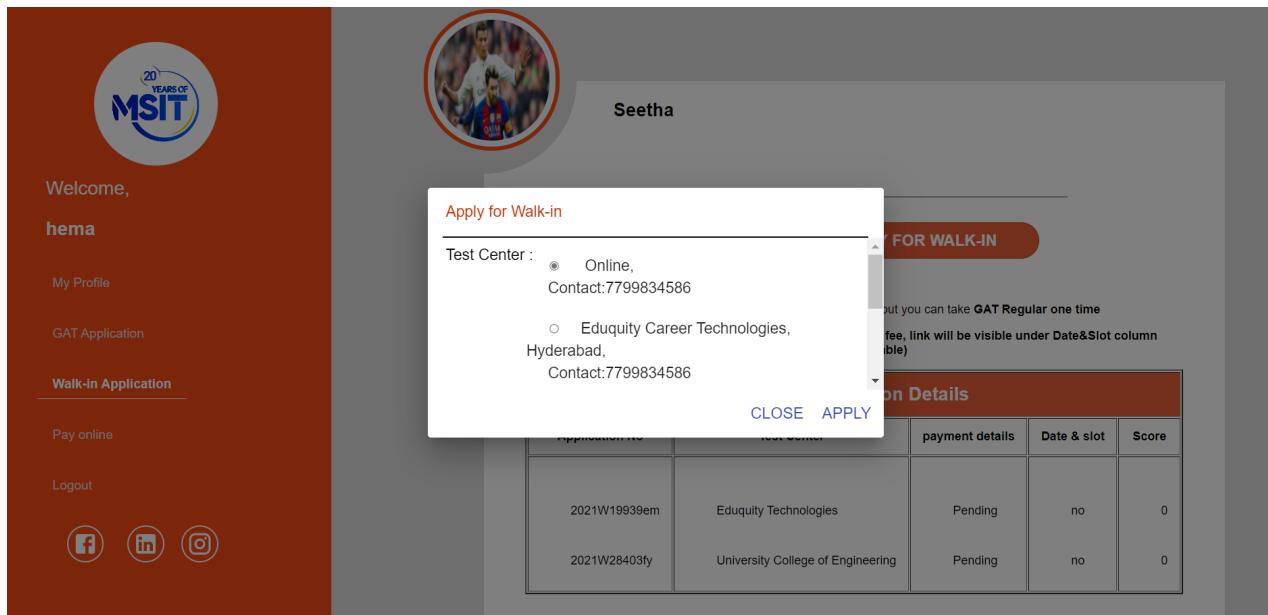
EDIT

The screenshot shows the same user profile and sidebar as the previous one. The main content area now displays the "GAT Application Details" table. The table has a red header row with four columns: "applicationno", "testcenter", "examtype", and "paymentStatus". The data row contains the values: "2021GAT83500", "8", "GRE", and "No". A red "EDIT" button is located at the bottom right of the table. The overall layout is clean and modern, using a light orange background for the sidebar and a white background for the main content area.

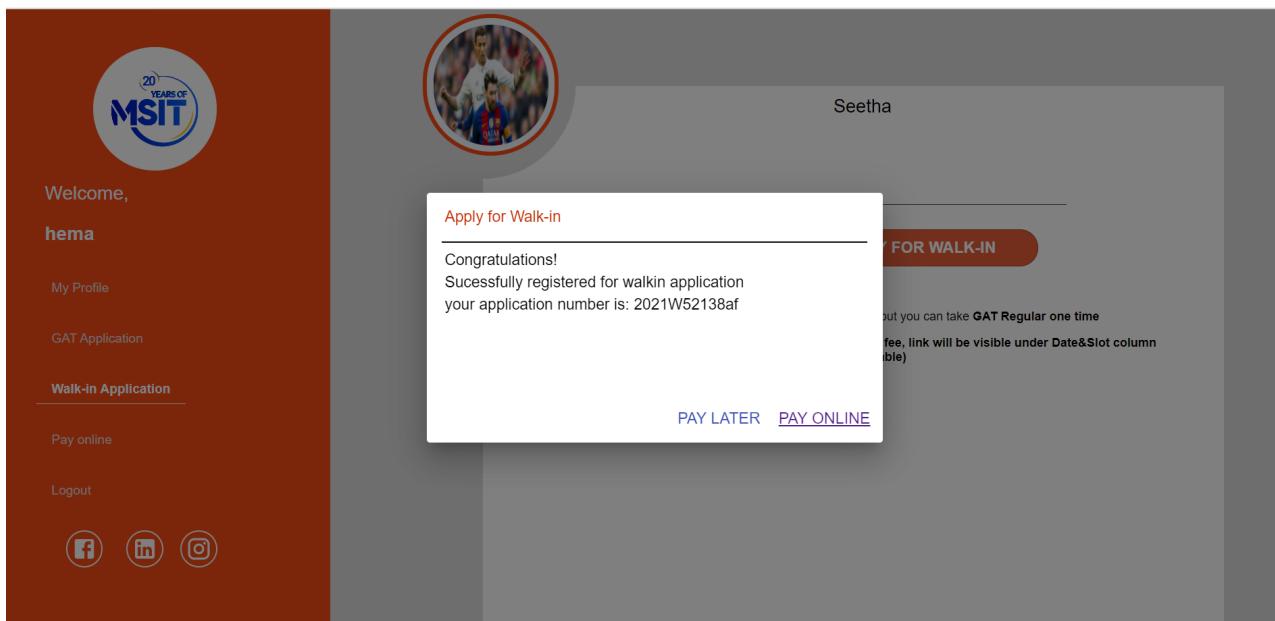
2.5 Walk-in Process:



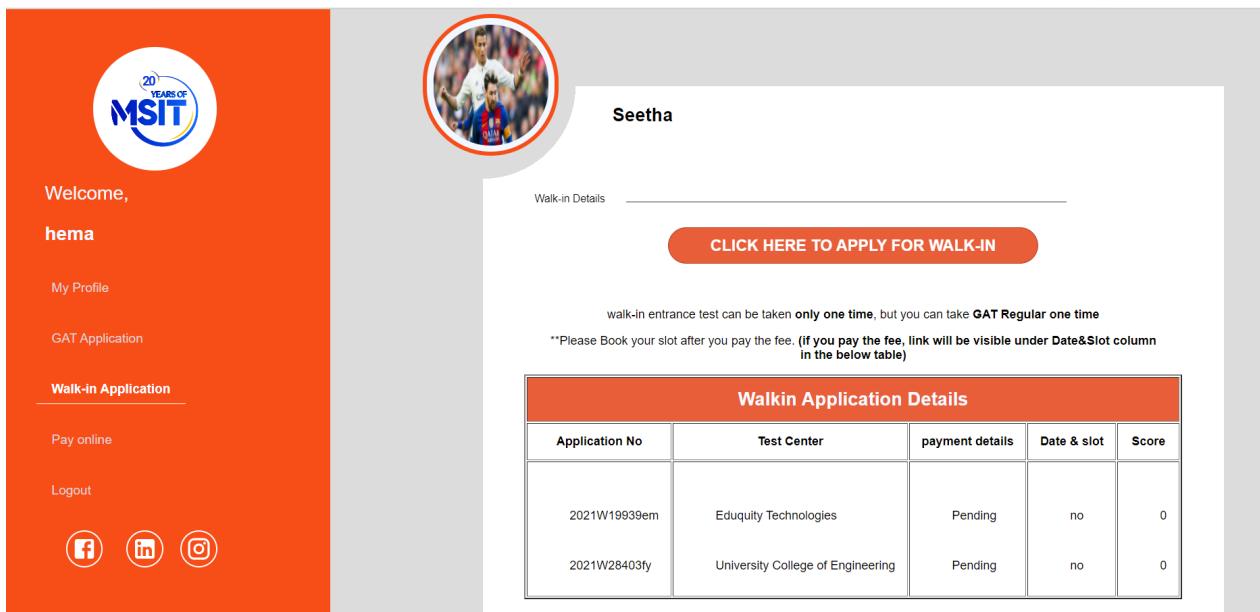
After the user login to the website, he\she is needed to update the profile. After that, they are needed to navigate to the Walk-in Application. They will see a button ‘Apply here for Walk-in, by clicking on the button he\she will be able to see a dialog box in which the user needs to select a test center.



By clicking on the apply button it will display another dialog box that has an application number and payment buttons.



If he\she clicks on pay now they will be redirected to the payment page and if he clicks on pay-later, his\her details will be stored into the database and then displayed in a tabular format.



Note: The user can only attempt the Walk-in exam three times and if he/she exceeds the attempts then it shows an alert message like “Your Walk-in chances are over”.

Welcome, Seetha

My Profile

GAT Application

Walk-in Application

Pay online

Logout

[Facebook](#) [LinkedIn](#) [Instagram](#)

Walk-in Details

Alert: Your Walkin application chances are over.

walk-in entrance test can be taken **three time**, but you can take **GAT Regular one time**

**Please Book your slot after you pay the fee. (If you pay the fee, link will be visible under Date&Slot column in the below table)

Walkin Application Details				
Application No	Test Center	payment details	Date & slot	Score
2021W343727c	online	Pending	no	0
2021W48321E2	University College of Engineering	Pending	no	0
2021W54569pK	JNTUH	Pending	no	0

Slot Booking:

After paying the fee successfully, users need to book the slot for the Walk-in application. It displays the Book slot button on the page. The Book Your Slot option only appears when the payment detail corresponding to it is shown as ‘Successful’.

Welcome, Seetha

My Profile

GAT Application

Walk-in Application

Pay online

Logout

[Facebook](#) [LinkedIn](#) [Instagram](#)

Walk-in Details

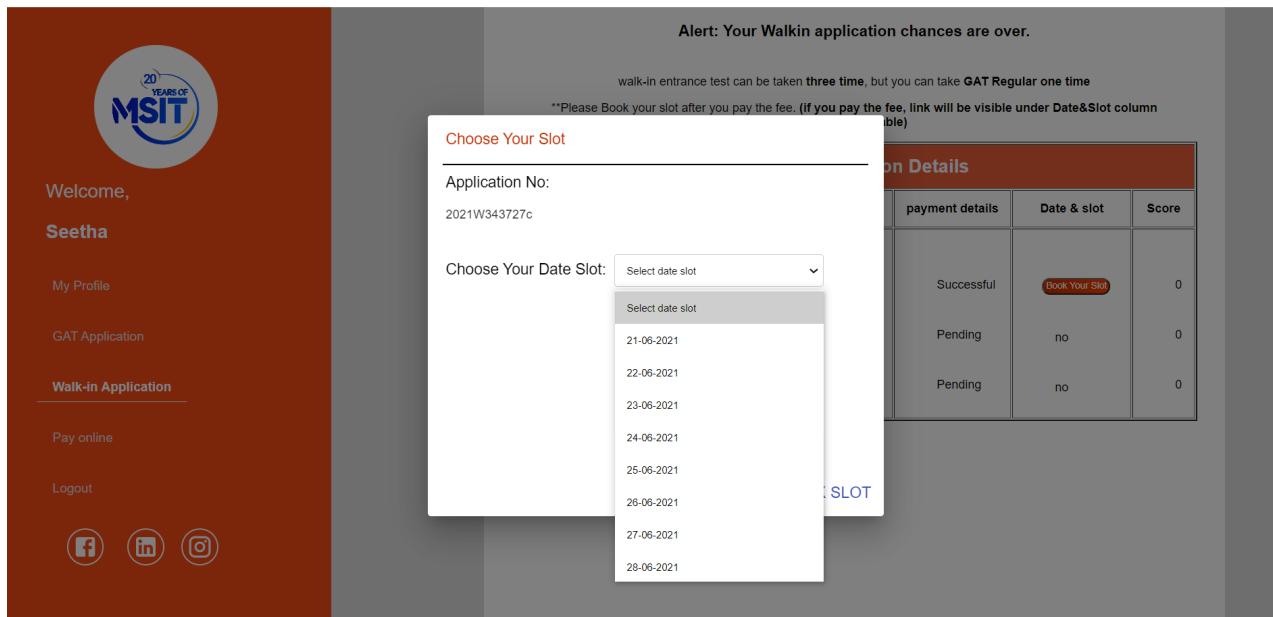
Alert: Your Walkin application chances are over.

walk-in entrance test can be taken **three time**, but you can take **GAT Regular one time**

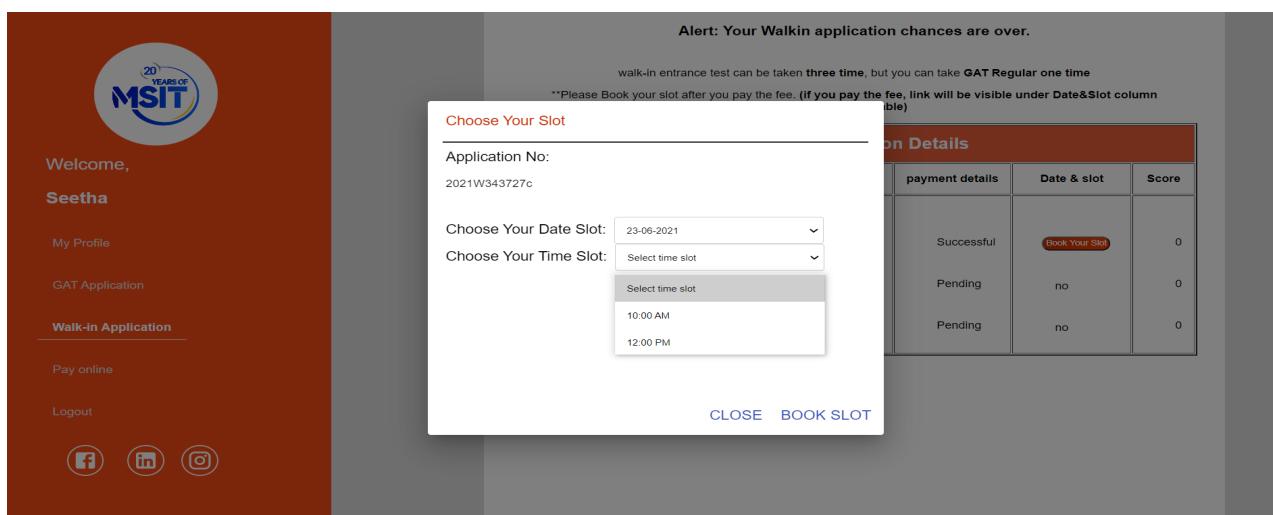
**Please Book your slot after you pay the fee. (If you pay the fee, link will be visible under Date&Slot column in the below table)

Walkin Application Details				
Application No	Test Center	payment details	Date & slot	Score
2021W343727c	online	Successful	Book Your Slot	0
2021W48321E2	University College of Engineering	Pending	no	0
2021W54569pK	JNTUH	Pending	no	0

After clicking on the button, the user will be able to see a dialog box that has the user's application number and input box for choosing the slot date. These slot dates are taken from the database, and only those slot dates would be shown which are available. This is done by checking whether all the slots have a number of students taking those slots less than 25.



Input box for choosing your time slot will only be displayed when you select a slot date. The slot time would only be displayed for the corresponding slot date if they are available. If all the slot times are full, with a maximum capacity of 25 students, then that slot time will not be available as an option. The Footer of the dialog box has two options: close and book slot. If you click on close, the slot will not be booked. If you click on the book slot button, the slot will be booked.



After the slot is booked you will be able to see the date and time of your slot in the place of a button in the table.



Welcome,
Seetha

[My Profile](#)

[GAT Application](#)

[Walk-in Application](#)

[Pay online](#)

[Logout](#)



Seetha

Walk-in Details

Alert: Your Walkin application chances are over.

walk-in entrance test can be taken **three time**, but you can take **GAT Regular one time**

**Please Book your slot after you pay the fee. (If you pay the fee, link will be visible under Date&Slot column in the below table)

Walkin Application Details				
Application No	Test Center	payment details	Date & slot	Score
2021W343727c	online	Successful	23-06-2021 - 10:00 AM	0
2021W48321E2	University College of Engineering	Pending	no	0
2021W54569pK	JNTUH	Pending	no	0

3. APPLICATIONS

This application can be useful to many students who are interested in joining the MSIT program. It also helps the students to know more about themselves by applying for the exam. Students from all countries can apply for this exam. They get to know various types of exams conducted by MSIT.

4. CONCLUSION

Many students are facing problems because of this pandemic, however, the students can get their chance to study by applying to MSIT by writing GAT, GRE and Walkin exams. Everything is conducted online. Therefore, students can write their exam from their home without having to worry about going to centers and writing there. Our application will help students to pursue their goal in MSIT.

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