

# TCET KIOSK SYSTEM

*Submitted in partial fulfillment of the requirements*

*of the degree of*

BACHELOR OF ENGINEERING  
*in*  
INFORMATION TECHNOLOGY  
(A.Y. 2018-2019)

by

Shreeya Gupta (Roll No:27)  
Yash Kanodia (Roll No.:35)  
Rakshanda Zagade (Roll No.:81)

Under the Guidance of

**Mr. Anil Vasoya**

Assistant Professor, I.T Department, TCET



**University of Mumbai**



**TCET**  
**DEPARTMENT OF INFORMATION TECHNOLOGY (IT)**  
Credit Based Grading System [CBGS - 2012(R)]/Choice Based Credit and Grading Scheme [CBCGS - 2016(R)]  
**University of Mumbai**



## Project Report Approval for Bachelor of Engineering

This project report entitled *“Tcet kiosk system”* by *Shreeya Gupta (Roll No.27), Yash Kanodia (Roll No.35), Rakshanda Zagade (Roll No.81)*, is approved for the degree of *BACHELOR OF ENGINEERING in INFORMATION TECHNOLOGY*.

Signature: \_\_\_\_\_

Name: Mr. Anil Vasoya  
Assistant Professor

Signature: \_\_\_\_\_

Name: Dr. Rajesh S. Bansode  
HOD-IT

Signature: \_\_\_\_\_

Name: Dr. B. K. Mishra  
Principal,  
Thakur College of Engineering and Technology.

### Examiners

1. Signature :-----

Name :

Date:

2. Signature :-----

Place:

Name :

# Certificate

This is to certify that Ms. Shreeya Gupta, Mr. Yash Kanodia, Ms. Rakshanda Zagade, are bonafide students of Information Technology Department, Thakur College of Engineering and Technology, Mumbai. They have satisfactorily completed the requirements of PROJECT-II as prescribed by the University of Mumbai, while working on “TCET Kiosk System”.

Signature :-----  
Name : Mr. Anil Vasoya  
Assistant professor

Signature :-----  
Name : Dr. Rajesh S. Bansode  
HOD-IT

Signature: -----  
Name : Dr. B. K. Mishra  
Principal,  
Thakur College of Engineering and Technology.

**Internal Examiner:**

**External Examiner:**

Signature :-----

Signature :-----

Name :

Name :

Thakur College of Engineering and Technology, Kandivali (East), Mumbai.

Date:

Place:

# Declaration

We declare that this written submission represents our ideas in our own words and where others ideas or words have been included, we have adequately cited and referenced the original sources. We also declare that we have adhered to all principles of academic honesty and integrity and have not misrepresented or fabricated or falsified any idea/data/fact/source in our submission.

We understand that any violation of the above will be cause for disciplinary action by the Institute 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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Shreeya Gupta (27)

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Yash Kanodia (35)

-----

Rakshanda Zagade (81)

Date:

# **Acknowledgement**

We sincerely thank to our Principal Dr. B. K. Mishra, Vice Principal Dr. Deven Shah, Dean Dr. Kamal Shah, Dr. R.R Sedamkar, our HOD Dr. Rajesh Bansode for always encouraging us to do our best. We are highly indebt to our guide Mr. Anil Vasoya for his guidance and support for carrying out our project work.

1.Shreeya Gupta (Roll No:27)

2.Yash Kanodia (Roll No:35)

3.Rakshanda Zagade (Roll No:81)

## **ABSTRACT**

Kiosk is a small structure which are built to reduce the human efforts. This kiosk system is aimed for the TCET (Thakur College of Engineering & Technology) students and faculty members instead of writing the letter this system helps them for directly taking the print of the letter and submit it to the admin office .The present letter writing system to the college is a tradition system like writing the letter and submit it to admin section these takes a lot of time also sometimes it's difficult to know the format of the letter.

Some mistakes may happen while writing the letter and they have to write the letter again this issue will be resolved by our system by providing Inward/Outward letter formats. This TCET Kiosk system gives all type of letter formats and features like editing the letter if the subject is change according to users requirement if he/she wants to format the letter according to his/her needs. Itwill help the user saving the time and efforts which is beneficial for TCET and also managing the letter will be easier for admin office as everything will be in college database.

The software will ease the work of students writing the letter as well as the admin storing the data of each and every individual. This software will aim for getting the satisfactory letter generated for our client. This software is made for the use of even a layman with a particular amount of resources required. The software will be able to generate the letter for every required format and in case there is not a particular format then there is also an option for customization of the letter in which the student will be able to generate its own type of letter and helps the user to track the letter.

Majority of kiosk system is made for Railway Station for the ticket printing, shopping mall for giving the information about the shops,food area, game zoneetc. Places the kiosk system is available now but in our college the letter system faces many problems so we think such type of system is developed for our college so the process should be fast. This kiosk system will be available online so nobody has to go anywhere they can directly go to the site and enter the details and take the print. This system helps students and faculty members and admin office to manage the data about the letters in the database for the future use also and they can retrieve information about past letters submitted also.

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# **Chapter 1**

## **Overview**

# **Chapter 1**

## **Overview**

### **1.1 Introduction**

This kiosk system is aimed for the TCET (Thakur College of Engineering & Technology) students and faculty members instead of writing the letter this system helps them for directly taking the print of the letter and submit it to the admin office. The present letter writing system to the college is a tradition system like writing the letter and submit it to admin section these takes a lot of time also sometimes it's difficult to know the format of the letter. Some mistakes may happen while writing the letter and they have to write the letter again this issue will be resolved by our system by providing Inward/Outward letter formats. This TCET Kiosk system gives all type of letter formats and features like editing the letter if the subject is change according to user requirement if he/she wants to format the letter according to his/her needs. It will help the user saving the time and efforts which is beneficial for TCET and also managing the letter will be easier for admin office as everything will be in college database.

### **1.2 Motivation**

Majority of kiosk system is made for Railway Station for the ticket printing, shopping mall for giving the information about the shops, food area, game zone etc. Each paper used different method and algorithm to get good accuracy and efficiency in different kiosk systems developed.

### **1.3 Objectives and Scope of the project**

#### **Objectives of the project**

- Kiosk system should be easy to use.
- Our system should provide all type of letters with a proper format.
- System should be able to print and preview the letter.
- Kiosk system should track the letter which will help admin office and students.

## **Scope of the Project**

1. The Kiosk for letter generation system can be used by students as well as the faculty.
2. The software can be used to increase efficiency.
3. Best feature of this application is the simplicity and can be used by anyone who doesn't know much about technology.

## **1.4 Phases Involved**

### **Phase 1:**

1. Planning: Applying agile methodology for TCET Kiosk system for better usage of resources and time with great performance.
2. Analysis: Prepare a detailed analysis on present kiosk system and overcoming its limitations in our system.
3. Design: Integration of our system with the college website also the integration of data and designing of our system.
4. Coding: Writing the whole system code and taking help of open source.
5. Implementation: Giving user to test alpha testing and gathering centric analysis of performance, feedback, and try to improve the quality of the result/output.

### **Phase 2:**

1. Testing: Doing the various test on system app like as Unit testing, Smoke testing, Stress testing, Integration testing, Regression testing, System testing, etc. of test case data to check if the integrated system functions are as desired by the end user.
2. Deployment: Conduct the beta testing for identifying any further errors, bugs and improvement that can be performed. After the testing and approval, deploy the proposed system.

## **1.5 Summary**

In this chapter, we started with the basic introduction of our project by stating the background and what motivated us to implement it. Then we moved on to the importance and objectives of our project. The basic objective was to provide a system which can help the user to generate a letter automatically with simple interface. So, the first chapter introduces the reader to the project and explains its boundary, motivation, objective, scope, application, etc. to the reader.

# **Chapter 2**

## **Proposed Work and Literature Review**

## Chapter 2

### Proposed Work and Literature Review

#### 2.1 Introduction

Majority of kiosk system is made for Railway Station for the ticket printing, shopping mall for giving the information about the shops, food area, game zone etc. Each paper used different method and algorithm to get good accuracy and efficiency in different kiosk systems developed.

#### 2.2 Literature Survey

Table 2.1 Literature survey Table

Sr. no.	Title of the paper, Publication and Year of Publication	Name of Authors	Proposed solution after key findings	Research Gaps (After comparison between key finding & proposed solution)
1.	“Developing an Interactive Kiosk for Mobile Devices: A Practical Experience”  Proceedings of the International Conference on Wireless Networks, ICWN '04, Volume 2 & Proceedings of the International Conference on	Stan Kurkovsky,  Bhagyavati,  Manish Shah	Users had the satisfaction of getting interactive Information that updates dynamically.  Devices that can provide secure access to information have the potential to increase the visibility and efficiency of the product	KIOSK was designed for mobile devices with limited memory , restricted display size and constrained processor power  The task of creating multimedia interactive kiosk although transparent to the end user, is time consuming.



	Pervasive Computing and Communications, PCC'04, June 21-24, 2004, Las Vegas, Nevada, USA			
2.	<p>“Design and Implementation of the Kiosk Net System”</p> <p>2007 International Conference on Information and Communication Technologies and Development</p>	<p>S. Guo, M.H. Falaki, E.A. Oliver, S. Ur Rahman, A. Seth, M.A. Zaharia, U. Ismail, and S. Keshav David R. Cheriton</p> <p>School of Computer Science University of Waterloo</p>	<p>It support mobility for users who may choose to move from one kiosk to another.</p> <p>Provide private and authenticated communication amongst kiosk users, and between a kiosk user and a secure node in the Internet.</p>	<p>In the project the system can run under only Linux and Windows.</p> <p>It does not provide the ability for a kiosk controller, cell phone, or proxy to use application specific policies to choose from one of many network interfaces,</p>
3.	<p>“Web-based Interactive Form Generator for Public Kiosks”</p> <p>2015 IEEE Conference on Open Systems (ICOS)</p> <p>11 January 2016</p>	<p>Amir Negametzyanov, SianLunLau, ChinFei Ng</p>	<p>Usage of forms for self-service kiosk On a self-service kiosk, the forms serve as interactive means to obtain input from an end-user. Usually, the forms are not static, and the transition varies according to the input provided by a particular end-user. Therefore, the application should support flexible transition between forms that completes the designed transitions.</p> <p>Technology agnostic</p>	<p>One has to engage a programmer to create and deploy the desired forms.</p> <p>Every update or change will require him to reinitiate the process.</p> <p>Not able to convert the document in desired form such as pdf.</p>

			<p>approach The forms on a self service kiosk are usually programmed by technically trained personnel. An ideal approach is to provide form creation without needing technical know-how, such as programming. To address this need, the application should be designed in a way where forms and transitions can be created without the need of technical know-how.</p>	
4.	<p>“Automatic Letter Composition for Customer Service”</p> <p><a href="http://aaai.org/Papers/IAAI/1991/IAAI91-006.pdf">http://aaai.org/Papers/IAAI/1991/IAAI91-006.pdf</a></p> <p>04-01-1991</p>	Stephen, Paul Buta, and Thomas C. Wolf	<p>Customization of the letter is possible</p> <p>Users with little or no information to write letter can invoke the system to automatically compose complete, high-quality letters specifically tailored to the addressee’s situation.</p>	<p>Reduced or eliminated the need for separate word processing and quality control staffs</p> <p>Tracking system is not there in the project.</p> <p>No database system</p>
5.	<p>“User Interface Design for Public Kiosks: An Evaluation of the Taiwan High Speed Rail Ticket Vending Machine”</p> <p>Article in Journal of</p>	FrodeEikaSandnes, Hua-Li Jian, Yo-Ping Huang, Yueh-Min Huang	<p>Users in public spaces are usually in a hurry. Any view should be limited to a minimum of information.</p> <p>Prefer direct selection over selection by cycling through items. Cyclic based interaction is common in consumer electronics where one cycles through options in order to reach the</p>	<p>The welcome message on the start page is an unnecessary element of that could be omitted. Users standing in front of the vending machine are most likely in a hurry and do not care about pleasantries.</p>

	Information Science and Engineering 01-01-2010		desired state, such as setting digital alarm clock	
6.	“Kiosks in retailing: the quiet revolution”  Article in International Journal of Retail & Distribution Management 31(6) • June 2003	Jennifer Rowley ( Head, School of Management and Social Sciences, Edge Hill University College, Ormskirk, UK)  Frances Slack (Senior Lecturer, School of Computing and Management Sciences, Sheffield, UK.)	Technology Searching was carried out either through the catalogue number or name of STUDENT entered on a touch screen key pad. The display provided a INFORMATION OF STUDENT (branch, name ,id,letter number, date of submission of letter).	Security is an issue as the transaction is occurring between the consumer and retailer and no security is provided while transaction.  There is no tracking system for the consumer about the delivery of the product.

The above table shows the research gaps and key findings. It also shows the solution for the gaps and findings.

## 2.3 Proposed Work

Android Studio is software that is required to develop different kinds of software that can be operated in different screens such as tabs or mobiles. It is basically used for the development of the kiosk system which generated the letter automatically and can be printed for the hardcopy by giving instruction on the software itself.

## **2.4 Problem Definition (Phase wise)**

### **Phase 1:**

- The system should be robust.
- This system should be able to generate Inward and Outward letter in proper format.
- The system should be simple and have attractive graphical user interface(GUI).

### **Phase 2:**

- The system should have the preview button and should be able to convert into Pdf format.
- The system should have the details of past letter information (such as letter number, student details who has submitted letter, etc.)
- System will be providing print option to take the print of letter
- System will be able to keep the track of the letter

## **2.5 Methodology Used**

Methodology used in our project is in the two categories i.e. for user and for admin.

### **Methodology for user:-**

- 1) Select the type of letter (Inward or Outward).
- 2) Select the type of Inward Letter or Select the type of Outward Letter.
- 3) Enter the details as per requirement of letter (subject , address , name etc..).
- 4) Select preview option.
- 5) Select print option.
- 6) Convert into the pdf for admin office
- 7) Start tracking and review.

### **Methodology for Admin:-**

- 1) Letter accepted by admin office.
- 2) Check the format of letter.
- 3) Tick the check box when the letter is forwarded to any department.

## **2.6 Summary**

This chapter covered the literature survey or the researches that was carried out with respect to our topic of concern. We were able to gather different paper published such that each paper had a different key finding, which used different types of algorithms to get the desired results effectively and efficiently. Then we talked about the various features of the project and the methodology used in implementing the project and all the necessary resources required in the implementation process.

# **Chapter 3**

## **Analysis and Planning**

## **Chapter 3**

### **Analysis and Planning**

#### **3.1 Requirement Specification**

**Functional Requirements:** Functional requirement are the functions or features that must be included in any system to satisfy the business needs and be acceptable to the users. Based on this, the functional requirements that the system must require are as follows. The system should be able to predict an approximate share price. The system should collect accurate data from the website in consistent manner.

**Non-Functional Requirements:** Non-functional requirement is a description of features, characteristics and attribute of the system as well as any constraints that may limit the boundaries of the proposed system. The non-functional requirements are essentially based on the performance, information, economy, control and security efficiency and services. Based on these the non-functional requirements are as follows:

1. The system should provide better accuracy.
2. The system should have simple interface for users to use.
3. To perform efficiently in short amount of time.

#### **3.2 Project Planning (Resources, Tools used, etc.)**

**Functional Requirements:** Functional requirement defines the functionality of a system or one of its subsystems. It also depends upon the type of software, expected users and the type of system where the software is used. Based on this, the functional requirements that the system must require are as follows: The system should collect accurate data from the user in consistent manner.

**Non-Functional Requirements:** Non-functional requirement is a requirement that specifies criteria that can be used to judge the operation of a system, rather than specific behaviors. They are contrasted with functional requirements that define specific behavior or functions. Based on these the non-functional requirements are as follows:

1. The system should provide better accuracy.
2. The system should have simple interface for users to use.

### 3.3 Types of Inward Letter

1. Transcript
2. Letter of Recommendation
3. Provisional Degree Certificate
4. CGPI Verification Letter
5. Medium of Instruction Letter
6. Character certificate
7. No Objection certificate
8. Bonafide Certificate
9. Medical Leaving Certificate
10. Leaving Certificate
11. Transfer certificate
12. Migration Certificate
13. Identification card letter
14. Duplicate Marksheet
15. Verification Education
16. Duplicate for receipt
17. Internship
18. Duplicate Hall ticket
19. Re-evaluation Mark sheet
20. Grievances letter

### 3.4 Technology

**Table 3.1 Technology**

<b>Technology used at Back end</b>	: Firebase for database
<b>Resources Required</b>	: Manpower, Programmers, testers, debuggers
<b>Software required:</b>	
Minimum Operating System	: Android 5.1 or more
User interface	: Android Devices
Tools	: Android Studio, Google Firebase

The above table shows the technologies used in application.



### **3.5 Steps**

1. User will select the type of letter (Inward/Outward)
2. Choose the format for Letter whereas Inward or Outward
3. Enter the details of the student.
4. Preview the letter to check the dimensions of letter.
5. Generate the PDF of the letter.
6. Print the letter
7. Submit letter to the admin office
8. Accept the letter by admin office.
9. Checking the format by admin office.
10. Tick the checkbox if the letter is further forwarded to any department for tracking purpose.

### **3.6 Summary**

This chapter focuses on the analysis and planning phase of our project. We studied types of Inward letter and what will be steps to implement it. The requirement gathering consisted of all the different hardware and software components that we used for implementation. We also studied functional requirements and non-functional requirements of our project.

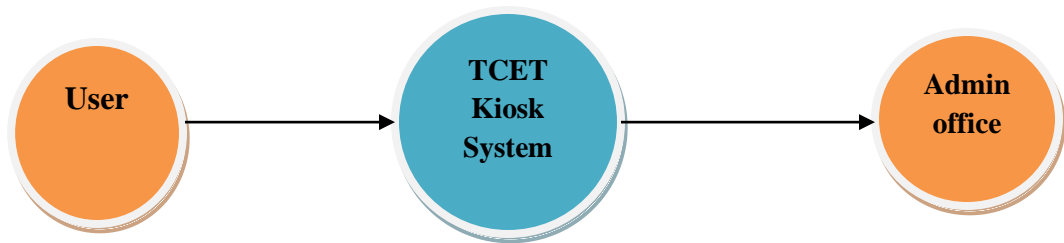
# **Chapter 4**

## **Design and Implementation**

## Chapter 4

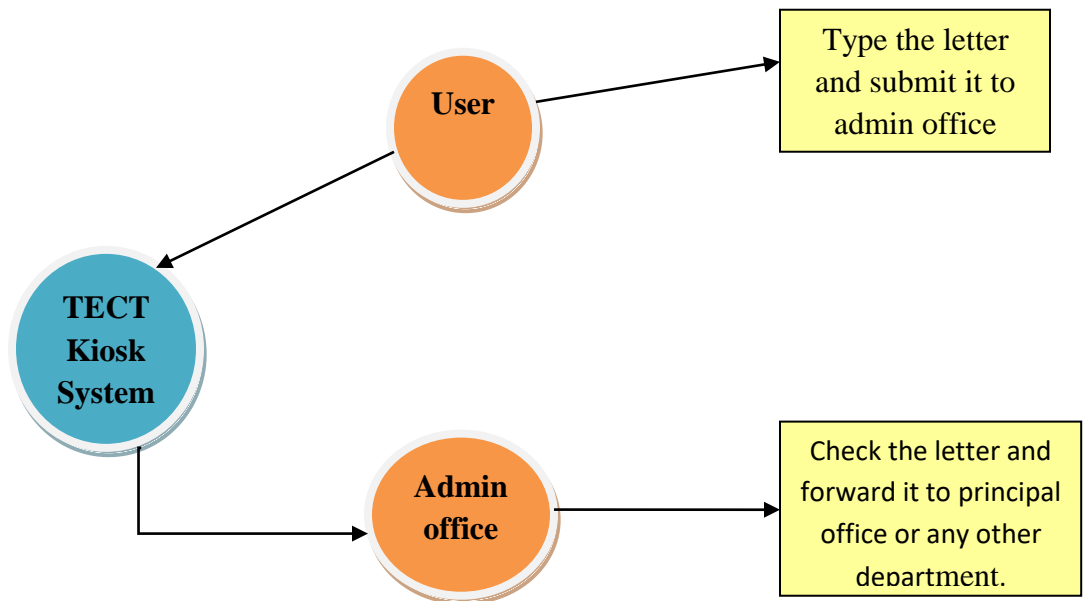
### Design and Implementation

#### 4.1 DFD



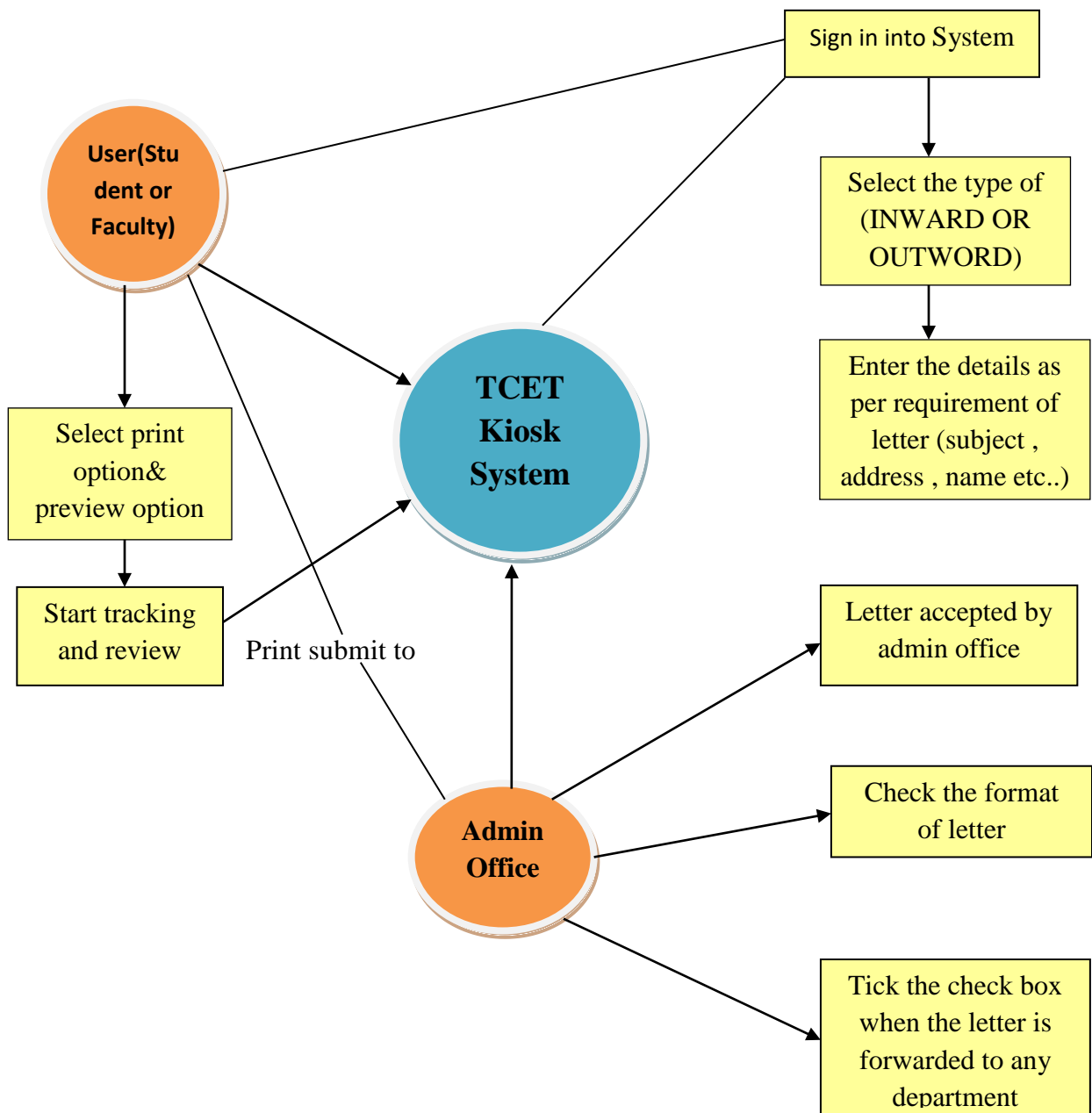
**Fig.4.1: Level 0 DFD**

This is Level 0 DFD which shows the basic relations between the entities of the system.



**Fig.4.2: Level 1 DFD**

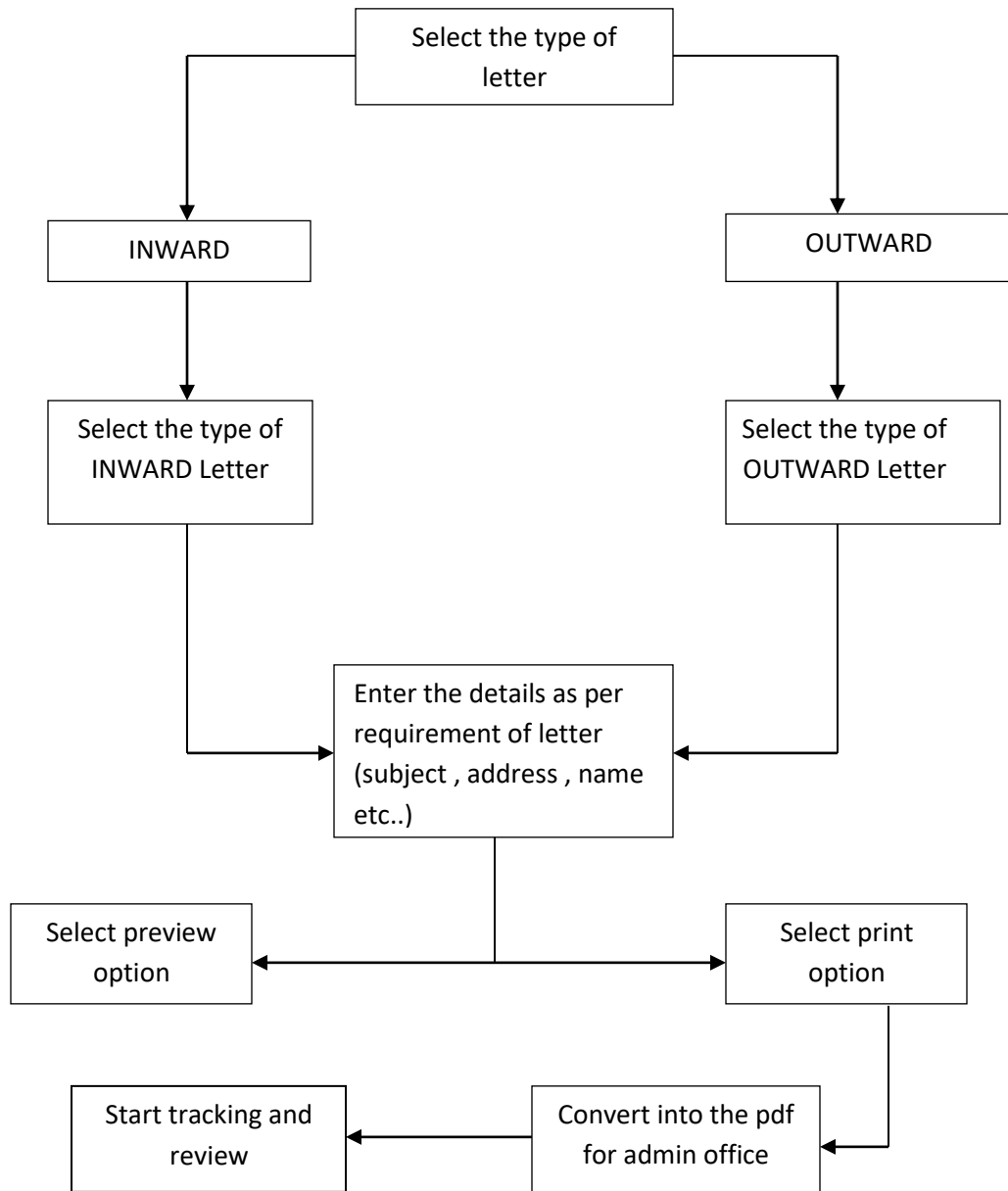
This is Level 1 DFD which gives us some detail working of the entities. It shows the detail about the entities user and Admin office.



**Fig.4.3: Level 2 DFD**

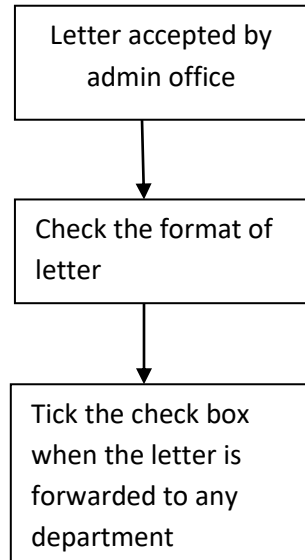
The above figure is Level 2 DFD which represents the complete detail about each entity and also it shows the relations among the entities.

## 4.2 Flow Chart



**Fig 4.4: Methodology for user**

The above figure is the flow chart for the methodology of the user. It represents the working of the user and how the system will flow for the user.



**Fig 4.5: Methodology for admin**

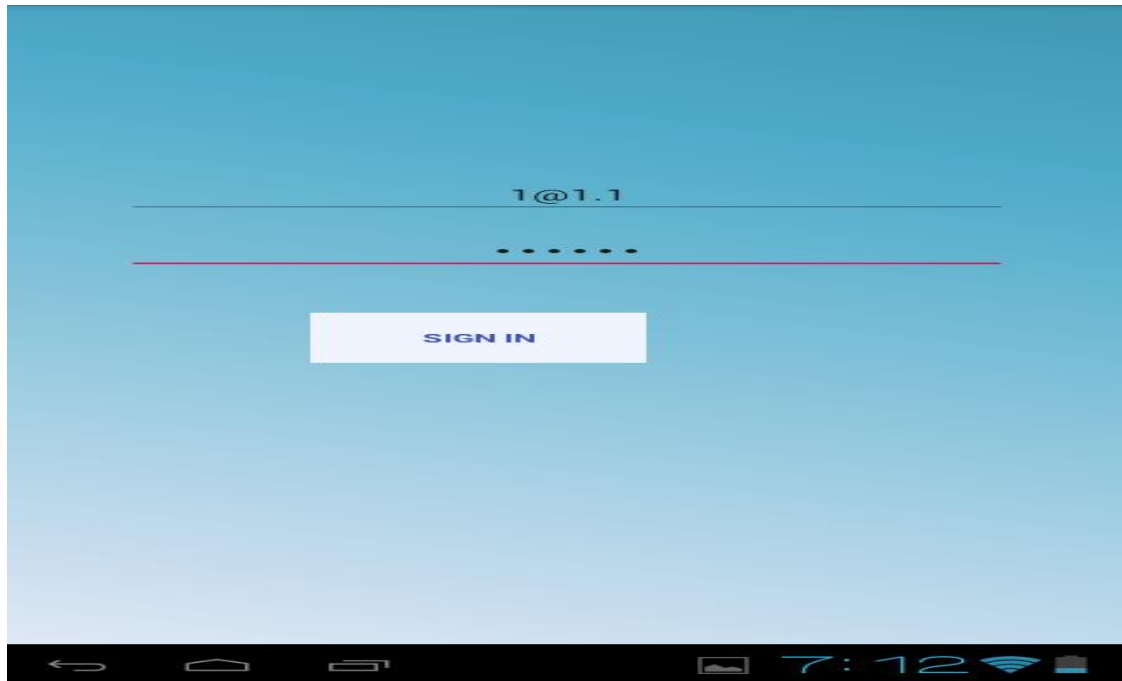
The above figure represents the methodology for admin. It shows how the system will work for admin office.

### 4.3 GUI screenshot



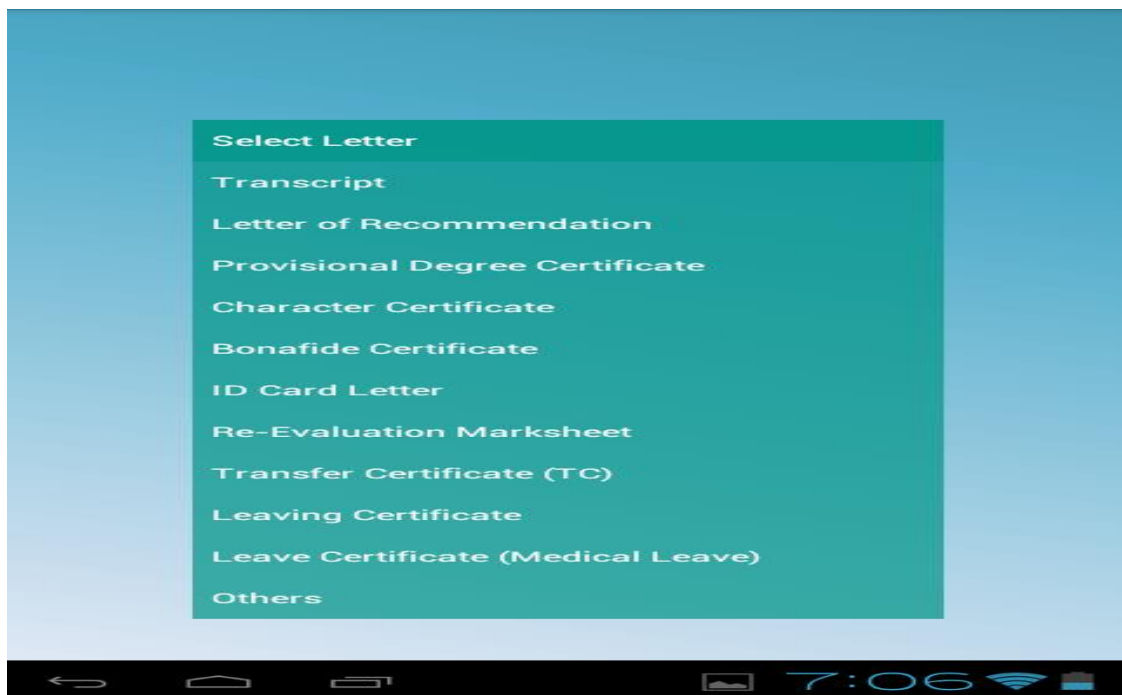
**Fig 4.6 Welcome Screen**

The above figure represents the welcome screen of the application. It has the logo of TCET and it is loading page, which loads for around 2 seconds when the application starts.



**Fig 4.7 Sign in screen**

The above figure represents the sign in page of the application. User needs to enter username and password and then click on sign in to generate the letter.



**Fig 4.8 Types of letters**

The above figure represents the drop box which has all types of letters like transcript, letter of recommendation, etc.



Add the Information required for the Letter

Jay Patel

BE

IT

A

11

D/610, Sarita Complex

Parle Point, Sector 2

Kandivali-West

Mumbai-400067

8898198927

2015-2019

patel123@yahoo.com

SUBMIT

**Fig 4.9 Additional details for letter**

The above figure represents the additional details to be filled which are required to generate letter.

Enter the details for the type of letter you wish to generate

Enter the Subject here

Explain the Subject with Reasons

NEXT

**Fig 4.10 other letter format**

The above figure represents the other letter format it pops up when user select other letter format. User needs to enter the subject and need to explain reasons of subject.

Jay Patel  
D/610, Sarita Complex  
Parle Point, Sector 2  
Kandivall-West  
23-Apr-2019

**Subject: Request for 2 copy of Transcript.**

Thanking you.

**Jay Patel**  
**BE , IT A**  
**Roll no: 11**  
**Academic Year: 2015-2019**  
**Email: patel123@yahoo.com**  
**Phone no: 8898198927**

1. All Semester Marksheets.
2. GRE/TOEFL Scorecard.



24

ID: 1555999668

Jay Patel  
D/610, Sarita Complex  
Parle Point, Sector 2  
Kandivali-West  
23-Apr-2019

To,  
The Principal,  
Thakur College Of Engineering and Technology,  
Kandivali-E,  
Mumbai-400101

**Subject: Request for 3 copy of Letter of recommendation.**

Respected Sir,

I, Jay Patel student of BE IT, Division-A, Roll No-11, am writing this letter requesting you '3' copy of the official Letter of recommendation for the purpose of applying for Masters of Science in a foreign University.

Kindly do the needful,  
Thanking you.

Yours sincerely,

**Jay Patel**  
**BE , IT A**  
**Roll no: 11**  
**Contact no: 8898198927**  
**Email: patel123@yahoo.com**  
**Academic Year: 2015-2019**

**Enclosure:**  
**1. Letters of each Professor..**

The above figure represents the Letter of Recommendation. It occurs when user enter details for Letter of Recommendation and also has enclosure for the Letter of Recommendation, user can convert it into pdf and can take print then submit it to admin office.

ID: 1555999691

Jay Patel  
D/610, Sarita Complex  
Parle Point, Sector 2  
Kandivali-West  
23-Apr-2019

To,  
The Principal,  
Thakur College Of Engineering and Technology,  
Kandivali-E,  
Mumbai-400101

**Subject: Request for copy of provisional degree certificate.**

Respected Sir,  
I, Jay Patel student of BE IT, Division-A, Roll No-11, am writing this letter requesting you to get my Provisional degree certificates. I have applied for a job position recently and I need to submit my qualification certificates So I request you to kindly provide me with my provisional degree certificates.  
Kindly do the needful,  
Thanking you.

Yours sincerely,

**Jay Patel  
BE , IT A  
Roll no: 11  
Contact no: 8898198927  
Email: patel123@yahoo.com  
Academic Year: 2015-2019**

**Enclosure:**  
**1. All Semester Marksheets.**

7:08

**Fig 4.13 Provisional degree certificate**

The above figure represents the Provisional degree certificate. It occurs when user enter details for provisional degree certificate and also has enclosure for the provisional degree certificate, user can convert it into pdf and can take print then submit it to admin office.

Jay Patel  
D/610, Sarita Complex  
Parle Point, Sector 2  
Kandivli-West  
23-Apr-2019

**Subject: Request for Character certificate.**

I, Jay Patel student of BE IT, Division-A, Roll No-11, am writing this letter requesting you to get my Character Certificate. I am in need of a Character Certificate. I request you to issue the Character certificate at the earliest possible time.

Yours sincerely,

1. Passing Certificate.
2. All Semester Marksheets.
3. Leaving Certificate.



27

ID: 1555999747

Jay Patel  
D/610, Sarita Complex  
Parle Point, Sector 2  
Kandivali-West  
23-Apr-2019

To,  
The Principal,  
Thakur College Of Engineering and Technology,  
Kandivali-E,  
Mumbai-400101

**Subject: Request for ID Card.**

Respected Sir,

I, Jay Patel student of BE IT, Division-A, Roll No-11, am writing this letter requesting you to issue me an ID Card as I have lost my original ID Card.

I hereby request you to issue the same as soon as possible as I require it for attending College. I am ready to pay the necessary fees for the same.

Kindly do the needful,  
Thanking you.

Yours sincerely,

**Jay Patel**  
**BE , IT A**  
**Roll no: 11**  
**Contact no: 8898198927**  
**Email: patel123@yahoo.com**  
**Academic Year: 2015-2019**

**Enclosure:**  
**1. F.I.R.**

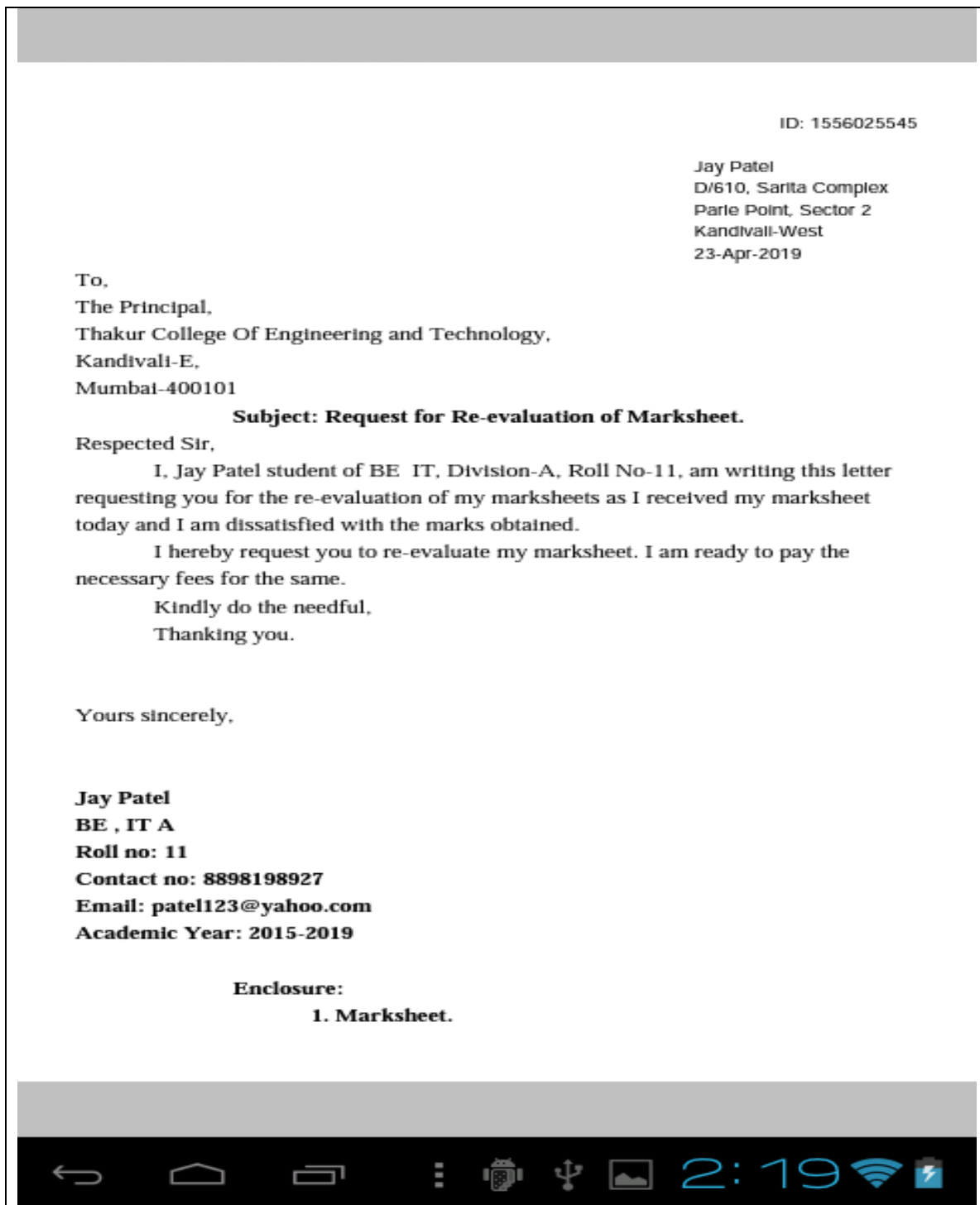
←🏠📁⋮🖼️7:09📶🔋

**Fig 4.15 Request for ID card letter**

The above figure represents the Request for ID card letter. It occurs when user enter details for Request for ID card letter and also has enclosure for the Request for ID card letter, user can convert it into pdf and can take print then submit it to admin office.

Jay Patel  
D/610, Sarita Complex  
Parle Point, Sector 2  
Kandivli-West  
23-Apr-2019

### 1. Marksheet.



The above figure represents the Request for Re-evaluation of Marksheet letter. It occurs when user enter details for Request for Re-evaluation of Marksheet letter and also has enclosure for the Request for Re-evaluation of Marksheet letter, user can convert it into pdf and can take print then submit it to admin office.

To,  
The Principal,  
Thakur College Of Engineering and Technology,  
Kandivali-E,  
Mumbai-400101

**Subject: Request for Transfer Certificate.**

Respected Sir,

I, Shreeya Gupta student of BE A, Division-IT, Roll No-27, am writing this letter requesting you to issue me a Transfer Certificate

I hereby request you to issue the same as soon as possible as I require it for attending College. I am ready to pay the necessary fees for the same.

Kindly do the needful,

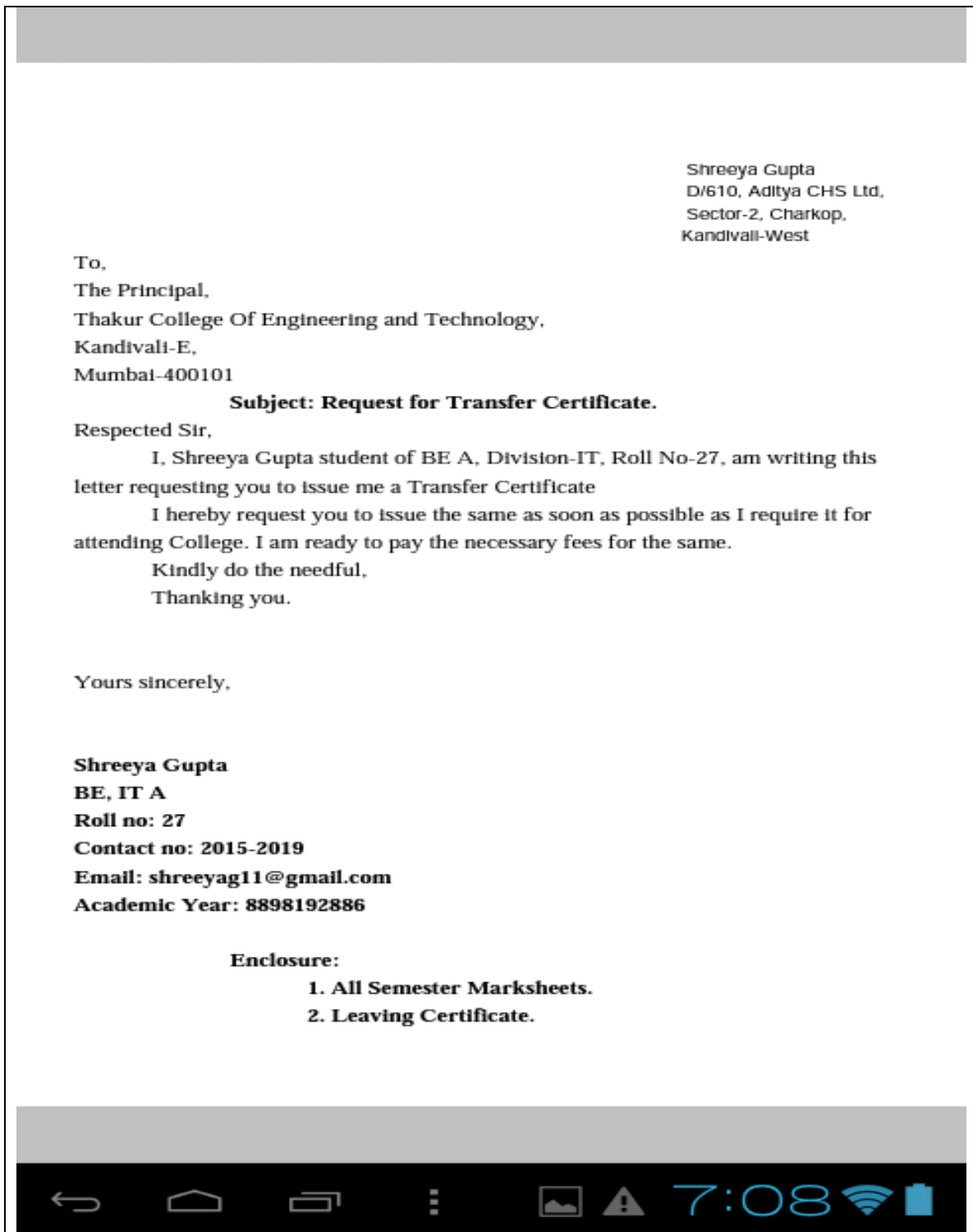
Thanking you.

Yours sincerely,

**Shreeya Gupta**  
**BE, IT A**  
**Roll no: 27**  
**Contact no: 2015-2019**  
**Email: shreeyag11@gmail.com**  
**Academic Year: 8898192886**

**Enclosure:**

1. All Semester Marksheets.
2. Leaving Certificate.

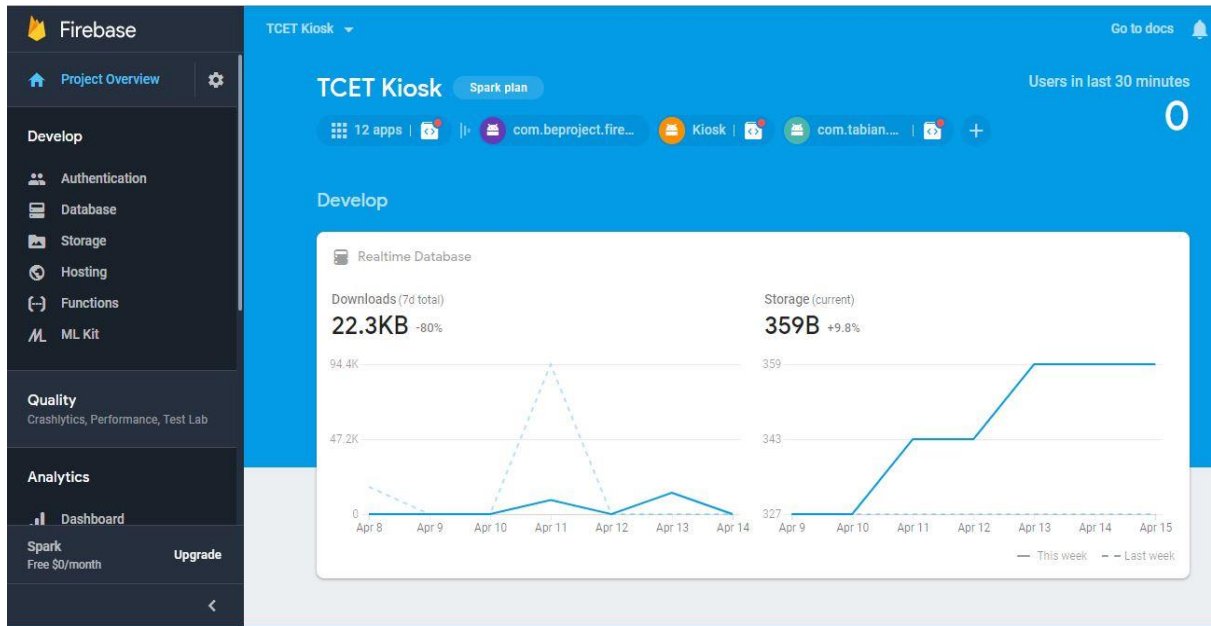


**Fig 4.17 Request for Transfer certificate letter**

The above figure represents the Request for Transfer certificate letter. It occurs when user enter details for Request for Transfer certificate letter and also has enclosure for the Request for Transfer certificate letter, user can convert it into pdf and can take print then submit it to admin office.



## 4.4 Database screenshot



**Fig 4.18 Google firebase console**

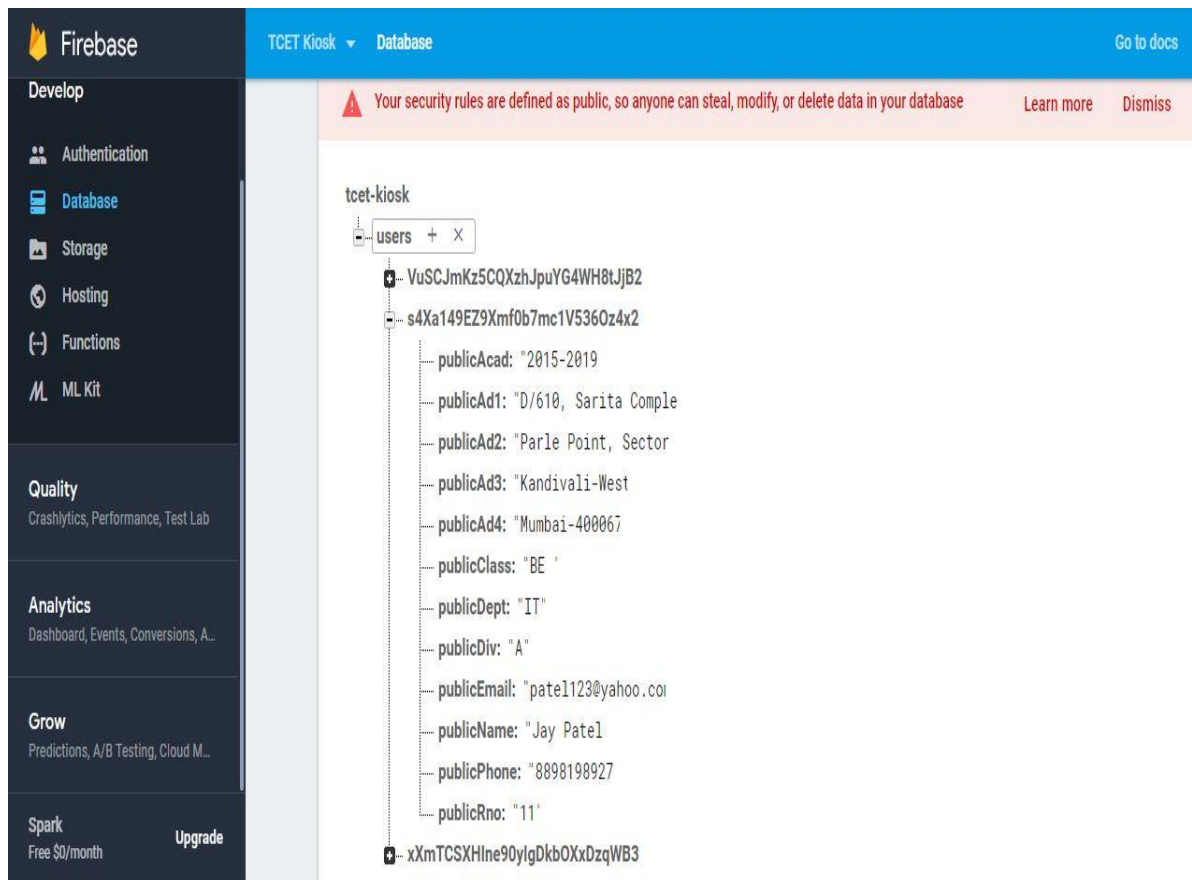
Above figure is a snapshot of Google firebase console. It shows the storage used by the application and gives the project overview.

The screenshot shows the Google Firebase console for the 'TCET Kiosk' project, specifically the Authentication Users page. The left sidebar contains navigation links for Project Overview, Develop (Authentication, Database, Storage, Hosting, Functions, ML Kit), Quality (Crashlytics, Performance, Test Lab), and Analytics (Dashboard). The main area displays the Authentication Users page. It shows a search bar with the text 'Search by email address, phone number, or user UID'. Below the search bar is a table with columns: Identifier, Providers, Created, Signed In, and User UID. There are two users listed in the table. The first user has an Identifier of '2@2.2', a Provider of 'Email', a Created date of 'Apr 1, 2019', a Signed In date of 'Apr 1, 2019', and a User UID of '7LPwrToveObTV3fA6Z39MNSW6b...'. The second user has an Identifier of '1@1.1', a Provider of 'Email', a Created date of 'Mar 30, 2019', a Signed In date of 'Apr 1, 2019', and a User UID of 's4Xa149E29Xmf0b7mc1V536Oz4...'. At the bottom right of the table, there is a 'Rows per page' dropdown set to '50' and a '1-2 of 2' indicator.

Identifier	Providers	Created	Signed In	User UID ↑
2@2.2	Email	Apr 1, 2019	Apr 1, 2019	7LPwrToveObTV3fA6Z39MNSW6b...
1@1.1	Email	Mar 30, 2019	Apr 1, 2019	s4Xa149E29Xmf0b7mc1V536Oz4...

**Fig 4.19 Authentication**

Above figure is a snapshot of authentication which shows the users Id, when it was created, when user last signed in and user UID.



**Fig 4.20 Database**

Above figure is a snapshot of Database which shows the user details entered at the time of registering the account.

# **Chapter 5**

## **Results & Discussion**

## **Chapter 5**

### **Results& Discussion**

#### **5.1 Actual Results**

##### **a. Outputs**

The software will ease the work of students writing the letter as well as the admin storing the data of each and every individual. This software will aim for getting the satisfactory letter generated for our client. This software is made for the use of even a layman with a particular amount of resources required. The software will be able to generate the letter for every required format.

##### **b. Outcomes**

###### **Phase I:**

1. The planning of reducing the time and effort of students writing the letter.
2. Gathering the information from different research papers and finding the gaps and planning how to overcome them.
3. Gathering all the information required for the type of letter submitted in the admin office on daily basis.
4. Forming the software in such a way so that it contains all the formats of letter.

###### **Phase II:**

1. The software will be functioning as desired by the client.
2. The proposed software will be tested by the user giving us feedback.
3. The proposed system meets all the requirements of the institutes and serves them efficiently.

## **5.2 Future Scope**

In Future Tcet kiosk can be implemented on ERP System. Enterprise resource planning (ERP) is business process management software that allows an organization to use a system of integrated applications to manage the business and automate the technology, services and human resources. This application can be implemented on web in future and can be done completely online due to which it will also ease the work of pass out students who are in other countries or working in some industry. So basically they don't need to travel and come to college they can do the process from home only. Tracking of the letters can be improvised so that students don't need to go to admin office to get updates they can check the status of their letter online.

# **Chapter 6**

## **Conclusion**

## **Chapter 6**

### **Conclusion**

#### **6.1 Conclusion**

We conclude that the proposed software i.e. TCET Kiosk for letter generation will be helpful for the organization and will be used effectively by the college. This software can be used by a layman as it is simple to operate. It will automate the letter generation and will help to track the letter thus helping us to save the time. This system will be helpful for the admin office as they can maintain the record of the letters from students on the computer system rather than maintaining the hardcopies. Kiosk system will ease the work of the students and organization.

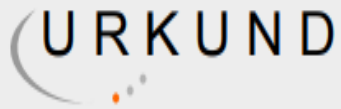
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“From Informing to Remembering: Ubiquitous Systems in Interactive Museums,”  
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- 2) M. Gandy, D. Ross, T. Starner. “Universal Design: Lessons for Wearable  
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informational kiosks,” in Proceedings of the 6th International Conference on  
Multimodal
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- 7) R. Denton, P. Jensen. “From VTs to iMacs: Moving Public Computing Access  
into the 21st Century”, In Proceedings of the 28th annual ACM SIGUCCS  
conference on User services: Building the future, Richmond, VA, October 2000.
- 8) 20 Ginsburg, J (1999) Deck the malls with kiosks (the popularity of kiosks)  
Business Week (USA),



## A] Plagiarism check Report



### Urkund Analysis Result

<b>Analysed Document:</b>	TCET KIOSK BLACKBOOK.docx (D50803175)
<b>Submitted:</b>	4/18/2019 8:03:00 AM
<b>Submitted By:</b>	rajesh.bansode@thakureducation.org
<b>Significance:</b>	4 %

#### Sources included in the report:

Bluebook.docx (D42925612)  
Machine Reading of content of customer Feedback (38,66,55).docx (D42617974)

#### Instances where selected sources appear:

2

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# TCET Kiosk System

Shreeya Gupta<sup>1</sup>, Yash Kanodia<sup>2</sup>, Rakshanda Zagde<sup>3</sup>

Department of Information Technology, Thakur College of Engineering and Technology, Mumbai, India  
shreeyag11@gmail.com<sup>1</sup>, yashkanodia16@gmail.com<sup>2</sup>, rakshandazagade@gmail.com<sup>3</sup>

**Abstract:** Kiosk is a small structure which are built to reduce the human efforts. This kiosk system is aimed for the TCET (Thakur College of Engineering & Technology) students and faculty members instead of writing the letter this system helps them for directly taking the print of the letter and submit it to the admin office. The present letter writing system to the college is a tradition system like writing the letter and submit it to admin section these takes a lot of time also sometimes it's difficult to know the format of the letter.

Some mistakes may happen while writing the letter and they have to write the letter again this issue will be resolved by our system by providing Inward/Outward letter formats. This TCET Kiosk system gives all type of letter formats and features like editing the letter if the subject is change according to users requirement if he/she wants to format the letter according to his/her needs. It will help the user saving the time and efforts which is beneficial for TCET and also managing the letter will be easier for admin office as everything will be in college database.

The software will ease the work of students writing the letter as well as the admin storing the data of each and every individual. This software will aim for getting the satisfactory letter generated for our client. This software is made for the use of even a layman with a particular amount of resources required. The software will be able to generate the letter for every required format and in case there is not a particular format then there is also an option for customization of the letter in which the student will be able to generate its own type of letter and helps the user to track the letter.

## I. Introduction

This kiosk system is aimed for the TCET (Thakur College of Engineering & Technology) students and faculty members instead of writing the letter this system helps them for directly taking the print of the letter and submit it to the admin office. The present letter writing system to the college is a tradition system like writing the letter and submit it to admin section these takes a lot of time also sometimes it's difficult to know the format of the letter. Some mistakes may happen while writing the letter and they have to write the letter again this issue will be resolved by our system by providing Inward/Outward letter formats. This TCET Kiosk system gives all type of letter formats and features like editing the

letter if the subject is change according to users requirement if he/she wants to format the letter according to his/her needs. It will help the user saving the time and efforts which is beneficial for TCET and also managing the letter will be easier for admin office as everything will be in college database.

## II. Material And Methods

### Materials :

- **Technology used at Back end:** MsSQL for database
- **Resources Required:** Manpower, Programmers, testers, debuggers
- **Software required:**
  - *Minimum Android Version:* Android 5.1 or more
  - *Minimum Operating system:* Windows 7, 8 or 10
  - *User Interface:* Dot Net
  - *Tools:* Visual Basics

### Methodology:

#### Phases Involved:

##### Phase 1:

1. **Planning:** Applying agile methodology for TCET Kiosk system for better usage of resources and time with great performance.
2. **Analysis:** Prepare a detailed analysis on present kiosk system and overcoming its limitations in our system.
3. **Design:** Integration of our system with the college website also the integration of data and designing of our system.
4. **Coding:** Writing the whole system code and taking help of open source.
5. **Implementation:** Giving user to test alpha testing and gathering centric analysis of performance, feedback, and try to improve the quality of the result/output.

## Phase 2:

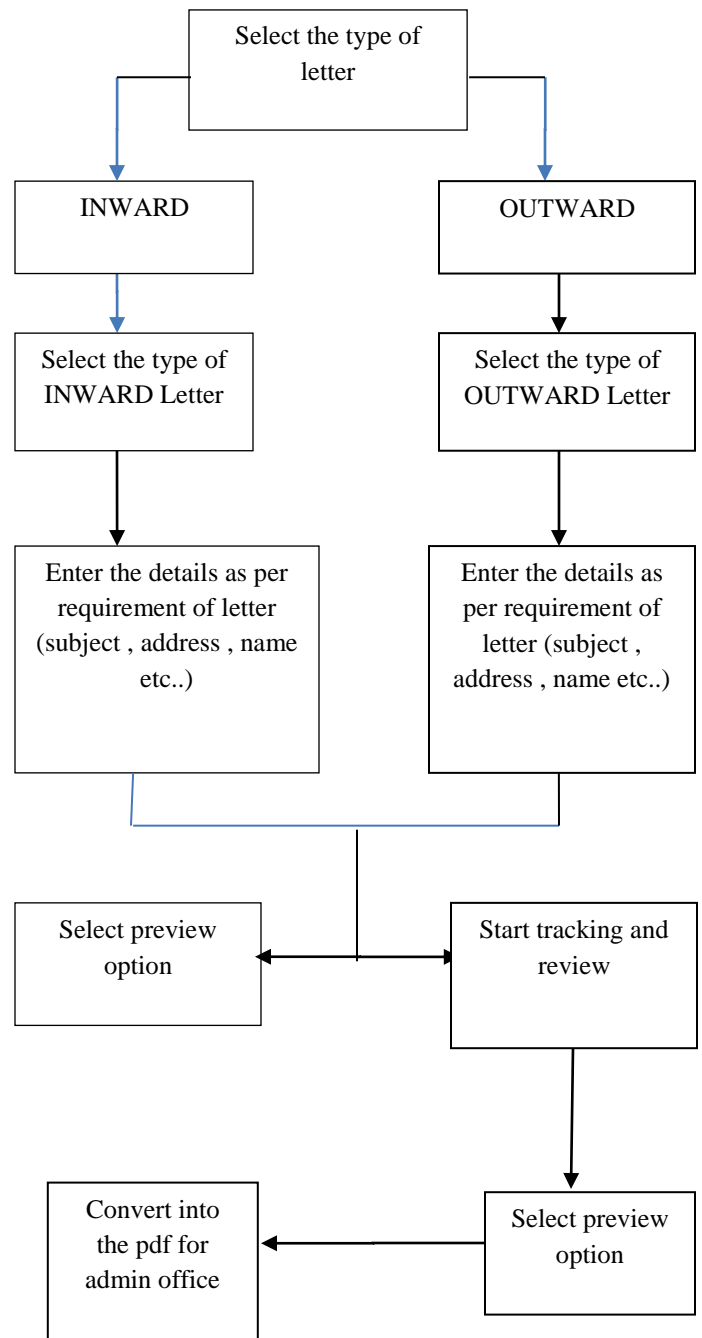
1. Testing: Doing the various test on system app like as Unit testing, Smoke testing, Stress testing, Integration testing, Regression testing, System testing, etc. of test case data to check if the integrated system functions are as desired by the end user.
2. Deployment: Conduct the beta testing for identifying any further errors , bugs and improvement that can be performed. After the testing and approval, deploy the proposed system.

## Steps:

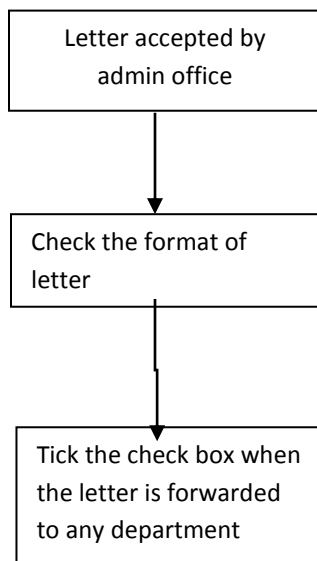
1. User will select the type of letter (Inward/Outward)
2. Choose the format for Letter whereas Inward or Outward
3. Enter the details of the student.
4. Preview the letter to check the dimensions of letter.
5. Generate the PDF of the letter.
6. Print the letter
7. Submit letter to the admin office
8. Accept the letter by admin office.
9. Checking the format by admin office.
10. Tick the checkbox if the letter is further forwarded to any department for tracking purpose.

## Workflow:

### Methodology for user



### Methodology for admin



### III. Result

#### Phase I:

1. The planning of reducing the time and effort of students writing the letter.
2. Gathering the information from different
3. research papers and finding the gaps and planning how to overcome them.
4. Gathering all the information required for the type of letter submitted in the admin office on daily basis.
5. Forming the software in such a way so that it contains all the formats of letter.

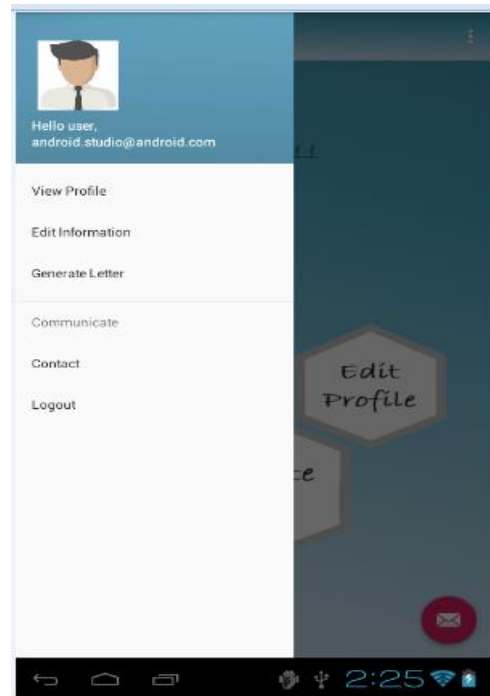
#### Phase II:

1. The software will be functioning as desired by the client
2. The proposed software will be tested by the user giving us feedback.
3. The proposed system meets all the requirements of the institutes and serves them efficiently.

### GUI: Snapshot of welcome to the system



### Snapshot of after successful login the account of user can be created



Snapshot of if user wants to update his/her information

Add the Information required for the Letter

Jay Patel

BE

IT

A

11

D/610, Sarita Complex

Parle Point, Sector 2

Kandivali-West

Mumbai-400067

8898198927

2015-2019

patel123@yahoo.com

SUBMIT

snapshot of types of the letter after the account is created user need to select type of the latter from the list of letters

Select Letter

Transcript

Letter of Recommendation

Provisional Degree Certificate

Character Certificate

Bonafide Certificate

ID Card Letter

Re-Evaluation Marksheet

Transfer Certificate (TC)

Leaving Certificate

Leave Certificate (Medical Leave)

Others

Snapshot of letter user data fetches directly to the letter along with the unique letter ID user can take directly print of the letter or can mail it

ID: 1555995684

Jay Patel  
D/610, Sarita Complex  
Parle Point, Sector 2  
Kandivali-West  
23-Apr-2019

To,  
The Principal,  
Thakur College Of Engineering and Technology,  
Kandivali-E,  
Mumbai-400101

Subject: Request for 2 copy of Transcript.

Respected Sir,

I, Jay Patel student of BE IT, Division-A, Roll No-11, am writing this letter requesting you 2' copy of the official transcript from Semester 1 to Semester 6 for the purpose of applying for Masters of Science in a foreign University.

Kindly do the needful,  
Thanking you.

Yours sincerely,

Jay Patel  
BE , IT A  
Roll no: 11  
Academic Year: 2015-2019  
Email: patel123@yahoo.com  
Phone no: 8898198927

Enclosure:  
1. All Semester Marksheet.  
2. GRE/TOEFL Scorecard.

Snapshot of selecting the number of copies of Letter as per requirement

Please Enter the Additional Details for LOR

Number of Copies

NEXT

## Snapshot of requesting for character certificate letter

To,  
The Principal,  
Thakur College Of Engineering and Technology,  
Kandivali-E,  
Mumbai-400101

ID: 1556025858  
Jay Patel  
D/610, Sarita Complex  
Parle Point, Sector 2  
Kandivali-West  
23-Apr-2019

**Subject: Request for Character certificate.**

Respected Sir,

I, Jay Patel student of BE IT, Division-A, Roll No-11, am writing this letter requesting you to get my Character Certificate. I am in need of a Character Certificate. I request you to issue the Character certificate at the earliest possible time.

Kindly do the needful,  
Thanking you.

Yours sincerely,

Jay Patel  
BE , IT A  
Roll no: 11  
Contact no: 8898198927  
Email: patel123@yahoo.com  
Academic Year: 2015-2019

**Enclosure:**

1. Passing Certificate.
2. All Semester Marksheets.
3. Leaving Certificate.

## Snapshot of request for leaving certificate

To,  
The Principal,  
Thakur College Of Engineering and Technology,  
Kandivali-E,  
Mumbai-400101

ID: 1556025858  
Jay Patel  
D/610, Sarita Complex  
Parle Point, Sector 2  
Kandivali-West  
23-Apr-2019

**Subject: Request for Character certificate.**

Respected Sir,

I, Jay Patel student of BE IT, Division-A, Roll No-11, am writing this letter requesting you to get my Character Certificate. I am in need of a Character Certificate. I request you to issue the Character certificate at the earliest possible time.

Kindly do the needful,  
Thanking you.

Yours sincerely,

Jay Patel  
BE , IT A  
Roll no: 11  
Contact no: 8898198927  
Email: patel123@yahoo.com  
Academic Year: 2015-2019

**Enclosure:**

1. Passing Certificate.
2. All Semester Marksheets.
3. Leaving Certificate.

## Snapshot of request for copy of provisional degree certificate

To,  
The Principal,  
Thakur College Of Engineering and Technology,  
Kandivali-E,  
Mumbai-400101

ID: 1556025858  
Jay Patel  
D/610, Sarita Complex  
Parle Point, Sector 2  
Kandivali-West  
23-Apr-2019

**Subject: Request for Character certificate.**

Respected Sir,

I, Jay Patel student of BE IT, Division-A, Roll No-11, am writing this letter requesting you to get my Character Certificate. I am in need of a Character Certificate. I request you to issue the Character certificate at the earliest possible time.

Kindly do the needful,  
Thanking you.

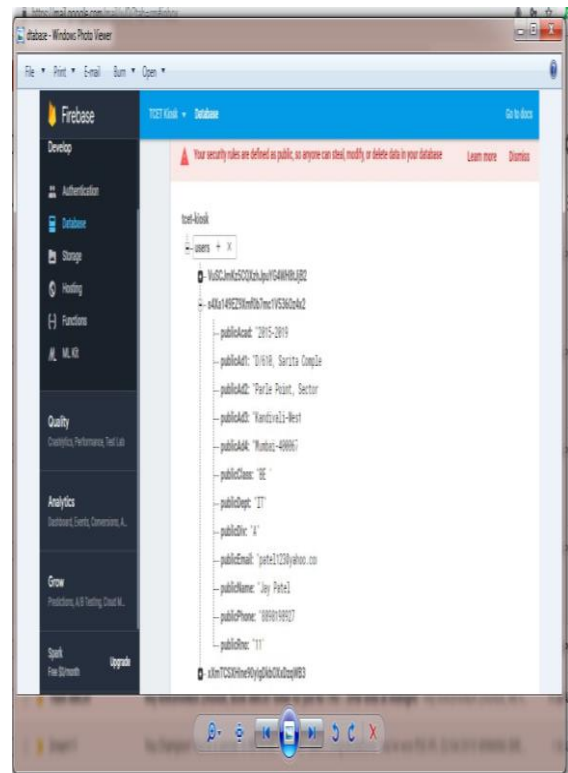
Yours sincerely,

Jay Patel  
BE , IT A  
Roll no: 11  
Contact no: 8898198927  
Email: patel123@yahoo.com  
Academic Year: 2015-2019

**Enclosure:**

1. Passing Certificate.
2. All Semester Marksheets.
3. Leaving Certificate.

## Snapshot of database



#### **IV. Discussion**

The software will ease the work of students writing the letter as well as the admin storing the data of each and every individual. This software will aim for getting the satisfactory letter generated for our client. This software is made for the use of even a layman with a particular amount of resources required. The software will be able to generate the letter for every required format and in case there is not a particular format then there is also an option for customization of the letter in which the student will be able to generate its own type of letter and helps the user to track the letter.

#### **V. Conclusion**

The proposed software i.e. TCET Kiosk for letter generation will be helpful for the organization and will be used effectively by the college. This software can be used by a layman as it is simple to operate. It will automate the letter generation and will help to track the letter thus helping us to save the time. This system will be helpful for the admin office as they can maintain the record of the letters from students on the computer system rather than maintaining the hardcopies. Kiosk system will ease the work of the students and organization.

#### **References**

- [1]. M. Fleck, M. Frid, T. Kindberg, E. O'Brien-Strain, R. Rajani, M. Spasojevic "From Informing to Remembering: Ubiquitous Systems in Interactive Museums," in IEEE Pervasive Computing, pp. 13-21, April 2002.
- [2]. M. Gandy, D. Ross, T. Starner. "Universal Design: Lessons for Wearable Computing," in IEEE Pervasive Computing, pp. 19-23, July 2003.
- [3]. Buta, P., and Springer, S. 1990. OMBUDSMAN: The Correspondence Generation System. In Proceedings of the Tenth International Workshop on Expert Systems and Their Applications: Natural Language Processing.
- [4]. Albert Huang and Kari Pulli and Larry Rudolph: Kimono: kiosk-mobile phone knowledge sharing system. MUM '05: Proceedings of the 4th international conference on Mobile and ubiquitous multimedia, ACM Press, New York, NY, USA, 142-149. (2005)
- [5]. C. Guinn and R. Hubal, "An evaluation of virtual human technology in informational kiosks," in Proceedings of the 6th International Conference on Multimodal
- [6]. s. Guo, N. H. Falaki, E. A. Oliver, S. U. Rahman, A. Seth, M. A. Zaharia, and S.Keshav, "Very low-cost internet access using kiosknet," ACM SIGCOMM ComputerCommunication Review, Vol. 37, 2007, pp. 95-100.
- [7]. R. Denton, P. Jensen. "From VTs to iMacs: Moving Public Computing Access into the 21st Century", In Proceedings of the 28th annual ACM SIGUCCS conference on User services: Building the future, Richmond, VA, October 2000.
- [8]. 20 Ginsburg, J (1999) Deck the malls with kiosks (the popularity of kiosks) Business Week (USA),

## **[C] Graduate Attributes and its mapping with the project**

*These are the Program Objectives :*

- **PO 1 ENGINEERING KNOWLEDGE:**

Apply Knowledge of Mathematics, Science, engineering fundamentals and an engineering specialization to the solution of complex engineering problems.

- **PO 2 PROBLEM ANALYSIS:**

Identify, formulate, research literature and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences and engineering sciences.

- **PO 3 DESIGN / DEVELOPMENT OF SOLUTIONS:**

Design solutions for complex engineering problems and design system components or processes that meet specified needs with appropriate consideration for public health and safety, cultural, societal and environmental considerations.

- **PO 4 CONDUCT INVESTIGATIONS OF COMPLEX PROBLEMS:**

Using research based knowledge and research methods including design of experiments, analysis and interpretation of data and synthesis of information to provide valid conclusions

- **PO 5 MODERN TOOL USAGE:**

Create, select and apply appropriate techniques, resources and modern engineering and IT tools including prediction and modelling to complex engineering activities with an understanding of the limitations.

- **PO 6 THE ENGINEER AND SOCIETY:**

Apply reasoning informed by contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to professional engineering practice.



- **PO 7 ENVIRONMENT AND SUSTAINABILITY:**

Understand the impact of professional engineering solutions in societal and environmental context and demonstrate knowledge of and need for sustainable development.

- **PO 8 ETHICS:**

Apply ethical principles and commit to professional ethics and responsibilities and norms of engineering practice.

- **PO 9 INDIVIDUAL AND TEAM WORK:**

Function effectively as an individual, and as a member or leader in diverse teams and in multi-disciplinary settings.

- **PO 10 COMMUNICATION:**

Communicate effectively on complex engineering activities with the engineering community and with society at large, such as being able to comprehend and write effective reports and design documentation, make effective presentations and give and receive clear instructions.

- **PO 11 LIFE-LONG LEARNING:**

Recognize the need for and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.

- **PO 12 PROJECT MANAGEMENT & FINANCE:**

Demonstrate knowledge and understanding of engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects in multidisciplinary environments