Tokenizer - Online Appointment Booking System

A PROJECT REPORT

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DECLARATION

Project Title: Tokenizer – Online Appointment Booking System

Degree for which the Project Report is submitted: B. Tech

I give undertaking that this project report contains my own ideas and work in my own words. I have adequately cited and listed other's ideas or words in the reference materials. All the parts of the report are prepared without any plagiarism. I have adhered to all principles of academic honesty and integrity. No falsified or fabricated data have been presented in the thesis. I understand that any violation of the above will cause for disciplinary action by the Institute, including revoking the conferred degree, if conferred, and can also evoke penal action from the sources which have not been properly cited or from whom proper permission has not been taken.

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CERTIFICATE

It is certified that the work contained in this project report entitled 'Online Appointment Booking System' submitted by SHAH LABDHI(VAD2018B.TECHI-CSE4F005), PRAJAPATI BHUMI(VAD2018B.TECHI-CSE4F009) studying at ITM Vocational University for the award of B.Tech (COMPUTER SCIENCE & ENGINEERING) is absolutely based on his/her own work carried out under <my/our> supervision and that this work has not been submitted elsewhere for any <degree/diploma>.

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ITM Vocational University

Date: Place:



COMPLIANCE CERTIFICATE

This is to certify that research work embodied in this project report entitled 'Online Appointment Booking System' was carried out by SHAH LABDHI(VAD2018B.TECHI-CSE4F005), PRAJAPATI BHUMI(VAD2018B.TECHI-CSE4F009)at ITM Vocational University for partial fulfillment of B. Tech degree to be awarded by ITM Vocational University. He/ She has complied the comments of the <PROJECT – I, PROJECT – II, PROJECT – IV and PROJECT – V> with <my/our> satisfaction.

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PROJECT APPROVAL CERTIFICATE

This is to certify that Project work embodied in this project report entitled "Online Appointment Booking System" carried out by SHAH LABDHI(VAD2018B.TECHI-CSE4F005), PRAJAPAT BHUMI(VAD2018B.TECHI-CSE4F009) at Faculty of Engineering & Technology is approved for the degree of Bachelor of Technology in Department of Computer Science & Engineering by ITM Vocational University, Vadodara.

Date: Place:	
Examiners' Sign and Name:	
1)	
2)	

Abstract

Today we all are aware of covid-19 pandemic situation in which we all have to maintain social distancing. So, to achieve this we have to manage crowd properly in places like malls, hospitals, etc. where more crowd gather. To solve this issue of crowd management in public places we have proposed an online appointment booking system (Tokenizer) which helps to book appointment online in just few steps. This application reduce the crowd in public places as people have to book appointment before visiting place so this will also save time. Therefore, managing crowds effectively in locations such as malls, hospitals, etc. to address this challenge, we've introduced an online appointment booking system called "Tokenizer". This platform simplifies the appointment process, allowing individuals to book appointments conveniently. By requiring appointments in advance, Tokenizer helps alleviate crowds in public places, thus saving time. Crowd management is a very tough task. Queue is a quick solution to this problem but it has its own drawbacks. People need to stand for hour waiting for their turn. This application reduce the crowd in public places as people have to book appointment before visiting place so this will also save time and save money.

Acknowledgement

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

I am highly indebted to higher authorities for their guidance & constant supervision as well as for providing necessary information regarding the project & for their support in completing the project.

I would like to express my gratitude towards my parents & member of ITM Vocational University for their kind co-operation & encouragement which help me in completion of this project.

I would like to express my special gratitude & thanks to industry persons for giving me such attention & time.

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Again, I like to thank my guide Mr. Harun Mohammed for his support I really appreciate that.

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(1) End-User App:

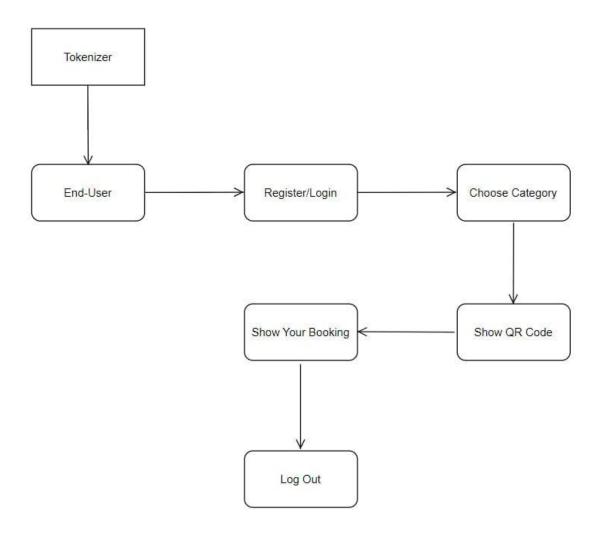


Figure: Flow diagram of End-User

(2) Business-Use App:

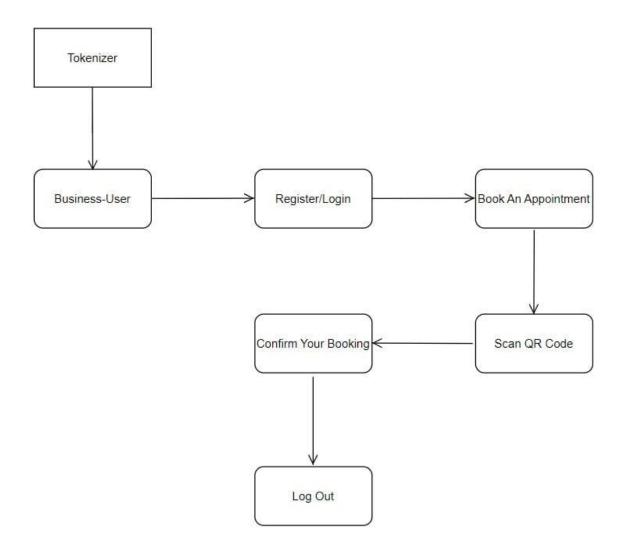


Figure: Flow diagram of Business-User

1. Introduction

1.1. About Project

We have developed an online appointment booking system (Tokenizer) which helps to book appointment for places like hospitals, malls & Personal care etc. where people have to wait in long queues. User has to book appointment before going to that place. Main feature of our application is that any business owner can register his/her business on our platform to avail online booking. This app is created to decrease long queues at a certain extent by fixing an appointment at your convenience. It offers convenience by allowing users to book appointments in advance, reducing the need to wait in long queues. One of the standout features of tokenizer is its accessibility to businesses, enabling them to register and utilize the platform for online bookings, enhancing their operational efficiency. User will be reminded before 30 minutes of appointment via google calendar. To authenticate user's booking we have developed QR code system such that user has to show his/her booking's QR code to confirm booking.

1.2. Definition and purpose of Project

Our main purpose for developing such online appointment booking platform is to provide proper crowd management in this covid pandemic and also to save time. We have developed this application to help people and business owners to maintain proper crowd management which helps to maintain social distancing as less people will gather in same place (e.g. long queues) in this global pandemic. We have developed two application one for End- User and another for business-users. In end-user application, user is able to register himself/herself or login via google to start booking appointment. User can see his/her appointment in your booking's section of the application. A unique QR code will be generated for each and every booking. For business user, business user first need to register his/her business to avail online booking service. After registration, business user can manage bookings of his/her business in home page of application. To confirm booking end-user has to show his/her QR code to business user to confirm booking. Business user has to scan QR code from end user to confirm booking. Our main purpose for developing such online appointment booking platform is provide proper crowd management and also to save time. We have developed this application to help people and business owners to maintain proper crowd management which helps to maintain social distancing as less people will gather in same place (e.g. long queues).

1.3. Scope of the Project

We have to develop a system which enables user to book appointment. Any business owners should able to register their business and will able to see their customer's booking in application and also able to manage it. We have to develop a QR code system also such that for every user booking a unique QR code would be generated. Business owner or representative should able to scan this QR code though our application to confirm user's booking. To achieve this we have to use Firebase Firestore which is a scalable No-SQL cloud database offered by Google.

1.4. Salient Contributions of Project

We have developed an online appointment booking system. To implement this online appointment system we have used android studio to develop android application. We have developed two application one for End-User and another for business-users. In end-user application, user is able to register himself/herself or login via google to start booking appointment. User can see his/her appointment in your booking's section of the application. A unique QR code will be generated for each and every booking. For business user, business user first need to register his/her business to avail online booking service. After registration, business user can manage bookings of his/her business in home page of application. A QR code scanner is implemented in Business user application to ensure authentication of booking. These were the contributions which we have made till now.

1.5. Outline for Project Report

For End-User

- 1. First step is to Register or login into app. You can also register/login directly using your gmail by clicking on sign in with google button.
- 2. After registering in app, dashboard activity will open.
- 3. You can see places around you by clicking on respective category.
- 4. After selecting category (clicking on specific category) you can see list of places fall under that category.
- 5. Now, you can book appointment of that place by clicking on that place details.
- 6. To book appointment you have to select date and time and after selecting it you can click on submit button.
- 7. If you have allow read and write permission of calendar then before 10 minutes of your booking time you will get notification.
- 8. You can see your bookings in your bookings section from navigation drawer.
- 9. When you click on your booked place than QR code of that booking place is displayed.
- 10. Now, user has to show that QR code to the business user to confirm their booking

For Business-User

- 1. Business user has to register their business to the Tokenizer Business app (User can also login if already registered).
- 2. After registration, user will be directed to the dashboard.
- 3. In dashboard, business user will find all their future appointment details.
- 4. For appointment confirmation, business user has to scan QR code from user(client) by clicking on user's(client) booking.
- 5. After successful scanning, business user has to confirm details shown in the dialog box.
- 6. After confirmation, the appointment details will be removed from dashboard.

2. Project Overview

We have developed this project using android studio which is the official integrated development environment (IDE) for Google's Android operating system designed specifically for Android development. We have chosen application for android operating system because android is the widely used operating system in smartphones. In world, around 71.81% users uses android operating system and in India around 96.07% users uses android operating system in smartphones. We have used Google Firebase as backend service for our android application. Firebase is the official Google's mobile application development platform that helps to build android application with powerful inbuilt API's and free cloud database (to limited extent). Firebase provides built in email authentication system and also built in google sign in system which helps to register end user easily. It also provides facilities like forgot password for email authentication. The main feature of firebase is it's free cloud database. In this project we have used Firebase Firestore which is scalable No-SQL cloud based database. We have used Firebase Cloud Storage to store photos of places with their unique registration id's. We have used android mads QR code android library which is publicly available on GitHub to implement QR code system. We have used material design android library which helps in styling UI widgets of android app. To use our application user first need to register/login. We have developed an online appointment booking system. To implement this online appointment system we have used android studio to develop android application. We have developed two application one for End-User and another for business-users. In enduser application, user is able to register himself/herself or login via google to start booking appointment. User can see his/her appointment in your booking's section of the application. A unique QR code will be generated for each and every booking. For business user, business user first need to register his/her business to avail online booking service. After registration, business user can manage bookings of his/her business in home page of application. A QR code scanner is implemented in Business user application to ensure authentication of booking. These were the contributions which we have made till now.

3. Objectives of the study

The objective of the report can be viewed in two forms:

1. General Objective

2. Specific Objective

General Objective: - Our general objective to create tokenizer is to provide a proper platform where business user can register their business and end-user can book appointment.

Specific Objective: -More specifically, this study involves the following aspects:

- To provide proper crowd management system in public places like hospitals, malls, etc.
- To save time of people visiting such public places.
- To increase the concept of social distancing by removing long queues which helps to prevent covid-1

4. Review of Literature/ Theoretical Background

4.1. Theoretical Framework, Background Theory.

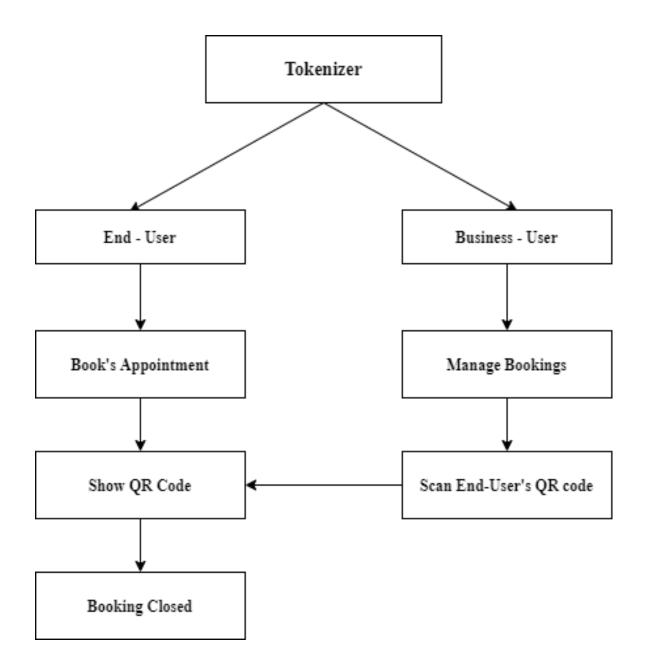


Figure 3.1 Framework

We have created two applications one for end-user and another for business user. First End user has to book appointment using our Tokenizer application and then user has to click on your bookings section from navigation menu. After selecting booking from your bookings QR code will be displayed. Now, business user has to open Tokenizer Business application for manage bookings. End-user has to show his/her QR code to business user to confirm booking. Business user has to scan QR code from end-user to confirm booking. So in user app Register or login into app. You can also register/login directly using your gmail by clicking on sign in with google button. We have created 3 categories like hospitals, corporates, and personal care. Now go to the Tokenizer business app, so there is another app name is business app so 1st step is register the business. Now , business user has to open Tokenizer business application for manage bookings. End user has to show his/her QR code to business user to confirm booking. Business user has to scan QR code from end user to confirm booking.

4.2. Reviews

When someone wants to visit any public place where more people gather like malls, hospitals, etc. then that person uses our application to book appointment of that particular place. Our application reduces the wastage of time for people as they don't have to stand in a long queue due to online appointment system. Our application is also useful for business users as they able to manage crowd. This application will help to maintain social distancing as people have to visit place according to appointment. Our app streamlines the process of booking appointments at crowded public places such as malls, hospitals etc. By enabling users to schedule visits in advance, it eliminates the need to wait in long queues, saving valuable time. Additionally businesses benefit from better crowd management. With appointments spaced out, our app promotes social distancing measures, contributing to a environment for all.

5. Methodology: Materials and Methods

For End-User:

- (1) **Registration/Login:** Users can registration or login directly using the application. Alternatively, they can utilize their Gmail account by selecting "Sign in with google".
- (2) Dashboard Activity: Upon successful registration/login, users are directed to the dashboard activity.
- (3) Exploring places: Users can browse nearby places by selecting the respective category.
- (4) Viewing Places: Upon selecting a specific category, users can view a list of places falling under that category.
- (5) **Book Appointment:** Users can book appointment by accessing the details of a particular place.
- **(6) Selecting Date and Time:** To schedule an appointment, users need to choose a date and time before submitting the booking.
- (7) **Notification Feature:** If granted read and write permission to the calendar, users receive a notification 10 minutes before their appointment time.
- (8) Viewing Bookings: Users can track their bookings in the designated bookings section accessible from the navigation drawer.
- (9) QR Code Display: Upon clicking on a booked place, the app displays a QR code representing the booking.
- (10) **Booking Confirmation:** Users are required to present the QR code to the business user to confirm their booking.

For Business-User:

- (1) **Registration/Login:** Business users register their business or log in if already registered using the Tokenizer Business App.
- (2) Dashboard Access: Upon registration/login, business users are directed to the dashboard.
- (3) **Appointment Details:** The dashboard displays all future appointment details for the business user.
- (4) QR Code Scanning: To confirm appointments, business users scan the QR code presented by the client by clicking on the client's booking.
- (5) Confirmation Process: After successful scanning, business users verify the details shown in the dialog box.
- **(6) Appointment Management:** Upon confirmation, the appointment details are removed from the dashboard, indicating successful processing.

6. Results

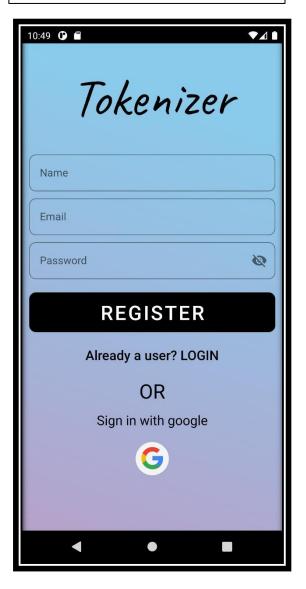
We have implemented our idea of online appointment booking system in two android applications in which one is for end users and another is for business users. Our main application which is for end user has following screens.

Screenshots: (Tokenizer)

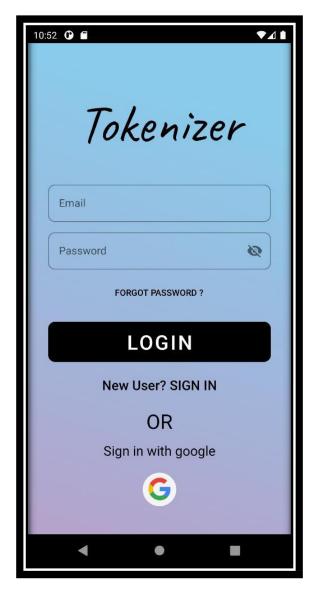


Screenshot 6.1.1

Registration Activity



Screenshot 6.1.2

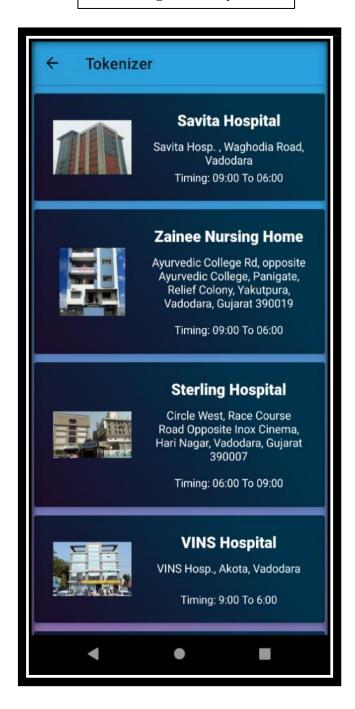


Screenshot 6.1.3

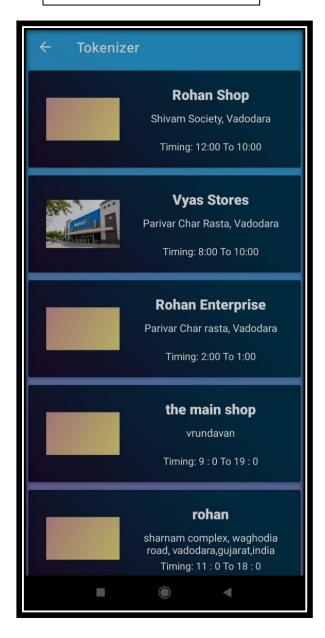
Home Activity



Screenshot 6.1.4



Screenshot 6.1.5



Screenshot 6.1.6



Screenshot 6.1.7

Logout Activity

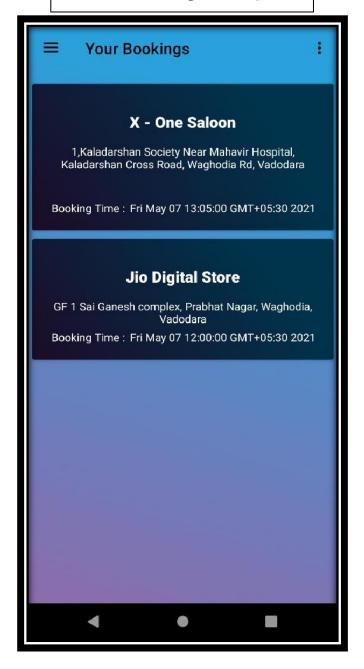


Screenshot 6.1.8

Navigation Drawer youtube premium netflixyt78@gmail.com Home Your Bookings Info CARE TES CARE

Screenshot 6.1.9

Your Booking's Activity



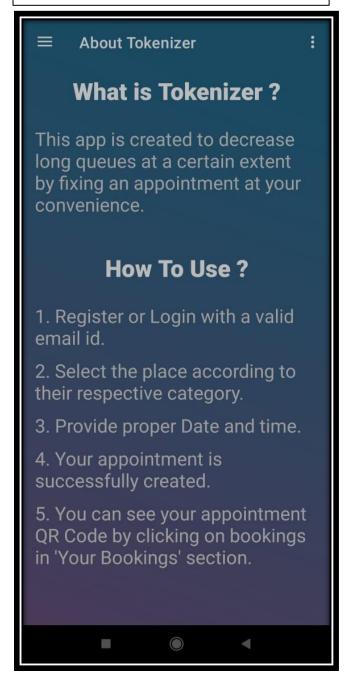
Screenshot 6.1.10

Scan QR Code Dialog



Screenshot 6.1.11

About Activity



Screenshot 6.1.12

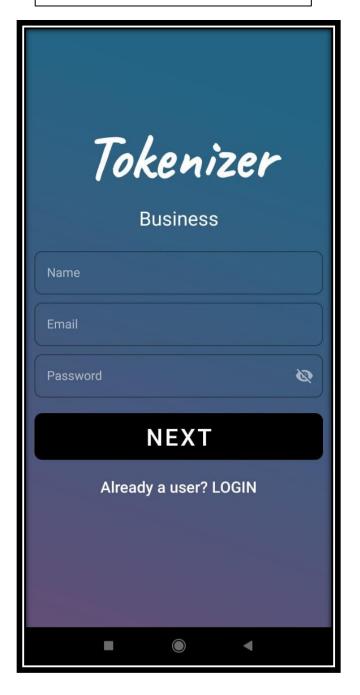
Our second application which is for business user has following screens.

Screenshots (Tokenizer Business)



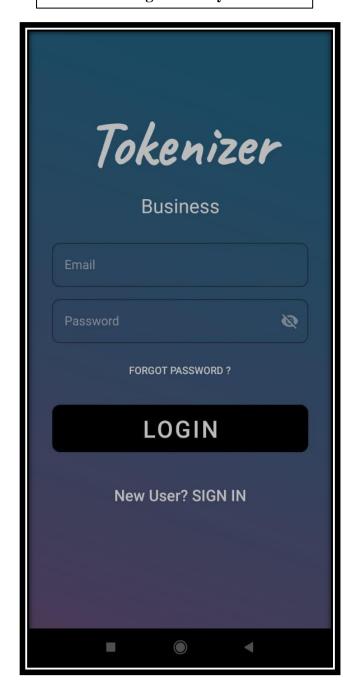
Screenshot 6.2.1

Business Activity



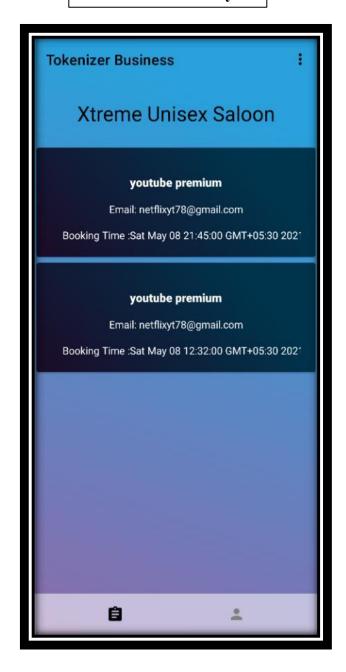
Screenshot 6.2.2

Login Activity



Screenshot 6.2.3

Dashboard Activity

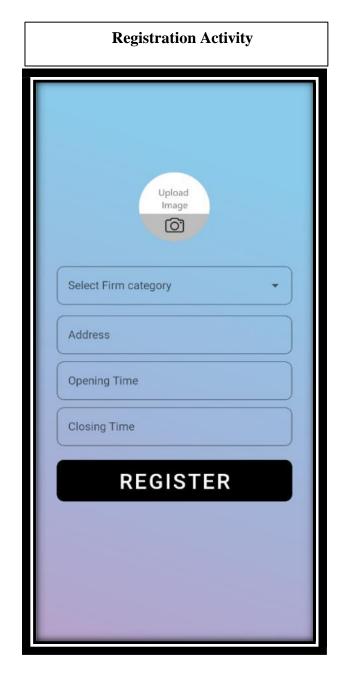


Screenshot 6.2.3

Update Details

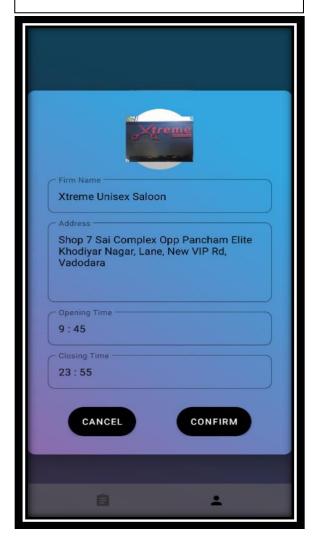


Screenshot 6.2.4



Screenshot 6.2.5

Update Dialog



Screenshot 6.2.6

6. Conclusions

6.1. Salient conclusions from the work

From this project we have learned about android application programming through java as we have developed this application with the use of java. Also now we have a deep understanding of working of android application as in this project we have developed real life android application which may be used by many users. Also, as a conclusion we can also say that we have given a proper crowd management system for end users as well as business users who found difficulties in managing crowd. As a result of developing this application we have came to solution for crowd management which also helps to maintain social distancing in this covid pandemic.

6.2. Scope for future work

For future work one should note down following points:

- GPS based sorting of nearby places should be implemented in future for more convenience of end users.
- May be some User interface changes will be appreciated in both application tokenizer and tokenizer business.
- Slot wise booking may be implemented to get more precise results.
- Same application for ios users should also be implemented.
- Web based portal is also appreciated as PC users can also able to book appointment.

References: Websites: https://firebase.google.com/docs/firestore https://firebase.google.com/docs/auth https://developer.android.com/studio https://developer.android.com/docs https://github.com/Karumi/Dexter

https://github.com/yuriy-budiyev/code-scanner

Blogs: -

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 $\underline{https://medium.com/@abhiappmobiledeveloper/android-app-development-tutorials-for-beginners-}\\ \underline{67c98517c438}$

https://medium.com/androiddevelopers/getting-to-know-recyclerview-ea14f8514e6

Project Review Card: 1

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Semester:	Subject Name & Code:	7	PR 1			
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Student's Enrollment:	VAD201813. TECHI - CSE4 FOO	5 CSELFORG				
Name of Student:	Shah Labdhi, Prayapati	Bhami				
Branch	INT. B. TECH. CSE. CTZS					
Specialization	CTIS					
Date of Exam		**				
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Name:	Internal	Extern	al			
Mobile No.:	Mohammed Harren Bublik					
Signature:	7502996822					

Project Review Card: 2

THE PART OF THE PA			ITM Vocational University, Vadodara Project Review Card			
Semeste	r:		Subject Name & Code:			PR 2
Faculty			FET / FVPIS / FLHAS / FMEC			
Student's En	rollment:		VAD2018B.TECHI-CSE4F005,VAD2018	вв.тесні	-CSE4F009	
Name of Stu	dent:		Shah Labdhi, Prajapati Bhumi			
Branch			nt.B.Tech.CSE.CTIS			
Specializatio	n		CTIS			
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Project Review Card: 3

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