GOVERNMENT POLYTECHNIC PUNE

(An Autonomous Institute of Government of Maharashtra)



DEPARTMENT OF COMPUTER ENGINEERING

ACADEMIC YEAR 2021-2022

PROJECT REPORT ON:

"e – DocPrint

~ A Web App For Xerox And Prints"

SUBMITTED BY:

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GOVERNMENT POLYTECHNIC PUNE

(An Autonomous Institute of Government of Maharashtra)

CERTIFICATE

This is to certify that,

Samruddhi Shrikant Bagul 1906006

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Tilak Rajendra Dave 1906020

Santrupti Ashok Golhar 1906032

have completed the necessary project work for the topic

"e – DocPrint ~ A Web App For Xerox And Prints"

in a satisfactory manner as a partial fulfilment of requirement of the third year diploma in computer engineering for the academic year 2021-22

Dr. V. S. Bandal Mr. S. B. Nikam

(Principal) (HOD)

Mrs. A. A. Shaikh

(Project Guide) (External Examiner)

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We wish to thank our parents for financing our studies and helping us throughout our life for achieving perfection and excellence. Their personal help in making this report and project worth presentation is gratefully acknowledged. Last but not the least we thank the Almighty for continuous strength we were bestowed for completion of this project.

Group Members:

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ABSTRACT

In today's world, work has taken over our lives. During the pandemic, most of our work was done through online mode. We were all relied on Word, Excel Sheets, PPTs for most of our work. But now that the pandemic has nearly ended, we are back to basics i.e. offline mode. Though we were relied on softcopies for our work for a very long time, hardcopies for documentation purpose never left our lives and now that we are back on track, we are in the need of xerox copies and prints more than ever. We all have noticed the rush that goes on in the xerox centres of all colleges and also at the local xerox centres. Through our final year project, e – DocPrint, we aim at making this process easier for the customers (client) as well the xerox person (admin) by developing a web app which would be used for user registration, user login, user authentication, uploading files, admin login and printing files. Along with the Web App for e-DocPrint, we have also developed an Android app for the same. Similar functionalities as Web App have been developed for Android app too.

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CHAPTER 1: INTRODUCTION

1.1 Overview

This project has been developed with an aim to make the process of printing documents at a xerox centre easier, for both customers and the xerox person. It consists of a user side and a store owner side. The willing users will be able to register themselves on this platform. This project aims at password less login, meaning, the user will receive a link on the provided email ID for verification purpose. After successful registration, verification and login, users will be able to upload the necessary documents for printing. On the admin side, the xerox person will be able to access these uploaded documents during the time of printing. User can set a unique secure pin after creating the account. This ensures complete security of the documents and no unauthorized access can be made.

This project has various benefits and one important benefit is security of documents. The communication between the user and admin is very transparent. By using such process for printing of documents, it would become easier for the xerox person and the user to keep a track of their respective records.

1.2 Purpose

The purpose of this project is to reduce time and rush that takes place at xerox centres when the documents are printed in the traditional way. Another important purpose is security of user's documents.

1.3 Need

The need of this project arouses so as to provide an independent web app for the process of printing documents rather than relying on third party applications such as WhatsApp, Gmail and to avoid use of storage device such as a pen drive.

CHAPTER 2: PROJECT PLAN

2.1 Software Model

Agile Model:

In the Agile model, the requirements are decomposed into many small parts that can be incrementally developed. The Agile model adopts Iterative development. Each incremental part is developed over an iteration. Each iteration is intended to be small and easily manageable and can be completed within a couple of weeks only. At a time one iteration is planned, developed and deployed to the customers. Long-term plans are not made.



2.2 Approach in Project Development

The project is developed using following SMART approach:

- Specific
- Measurable
- Achievable
- Realistic
- Time-bound

2.3 Project Goals

The goals of this project are:

- 1. To develop an independent software for Xerox centres.
- 2. To reduce the time required for printing documents by traditional method.
- 3. To improve security of user documents.
- 4. To keep a record of past payments.

2.4 Project Deliverables

- 1. Weekly Diary
- 2. Final Report
- 3. Final Website
- 4. Final Android Application

2.5 Project Risk

Risks	Probability	Impact
Equipment failure	25%	1
Technology will not meet expectations	25%	3
Changes in requirements	20%	2
Deviation from software engineering standards	10%	3
Less use than planned	30%	4

Impact level

- 1- High
- 2- High to Medium
- 3- Medium
- 4- Medium to Low
- 5- Low

2.6 Project Schedule

Month schedule	Phase	Number of days required	Work done
March	Topic searching	2 days	Topic searched
March	Topic selection	2 days	Topic selected
March	Project confirmation	1 day	Project confirmed
March	Literature survey	7 days	Literature survey done
March	Requirement analysis	7 days	Requirement analysis done
March	Requirement gathering	7 days	Requirements gathered
March	Deciding technology stack	5 days	Technology stack designed
March-April	Coding according to divided modules	25 days	Create modules
April	Integrating the modules	15 days	Integrated
April	Integrating the database	2 days	Integrated
May	Testing the system	5 days	Tested
May	Adding additional functionalities	7 days	Done
May	Testing the working of modules	2 days	Done
May	Fixing bugs	5 days	Done
June	Result analysis	2 days	Done
June	Report	2 days	Done

CHAPTER 3: REQUIREMENT ANALYSIS

This chapter will explore the system requirement analysis (Functional and non-functional requirements) and requirement specifications.

3.1 Hardware Requirements

- System: Intel i5 processor.

- Clock Speed: 3.0 GHz.

- Hard Disk: 1 GB (max).

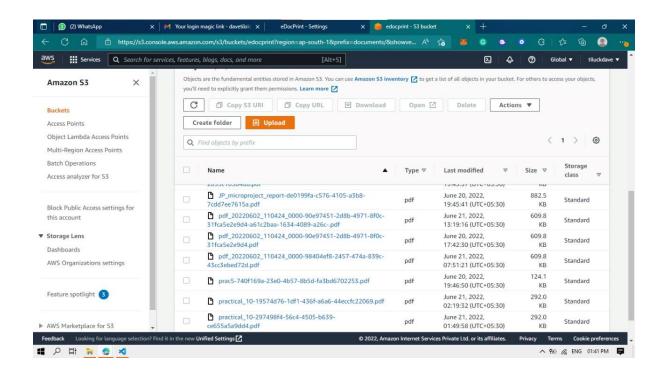
- Ram: 500 Mb (or more)

3.2 Software Requirements:

- **Operating system:** Windows 10

- **Frontend -** HTML, CSS, JavaScript, CSS Frameworks (Bootstrap, Tailwind), JavaScript Libraries (jQuery), chart.js
- **Backend** Python, Django, Rest Framework (APIs)
- **Database** PostGreSQL
- **Storage** Amazon RDS- S3

AWS S3 STORAGE



Specifications:

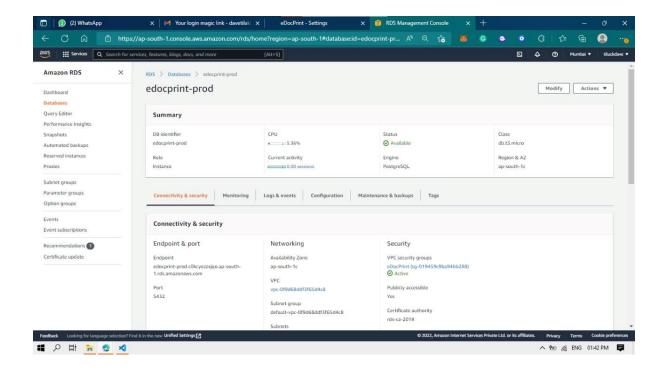
Free tier

1GB space

5GB Bandwidth

750 hours per month

AWS RDS POSTGRESQL



Specifications:

High speed secure database on the cloud

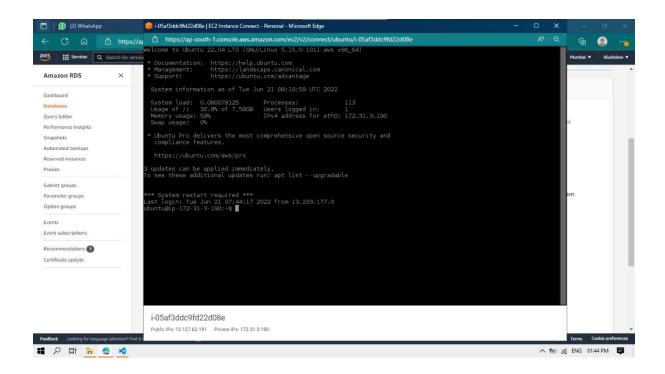
Free tier

1GB RAM

20GB Storage

1000GB bandwidth

AWS EC2 INSTANCE



Specifications:

Server

OS - Ubuntu server 22.0.4 LTS

CPU - 1

RAM - 1GB

Storage - 20GB SSD

CHAPTER 4: SYSTEM DESIGN

4.1 Sections

The proposed system is divided into 3 different sections as follows:

1. Store Owner side:

In this section, side navigation bar is provided with various sub sections related to Owner.

It includes:

- a. Dashboard
- b. Received Orders
- c. Settings

2. Client side:

In this section, side navigation bar is provided with various sub sections related to User.

It includes:

- a. Instant Prints
- b. Your Documents
- c. Your Orders
- d. Settings

3. Admin Side

In this section, super user access is provided to manage the platform.

It includes:

- a) Create, manage, delete user
- b) Create, manage, delete store
- c) Create, manage, delete documents
- d) Create, manage, delete orders

4.2 Database

PostgreSQL

PostgreSQL is an advanced, enterprise class open-source relational database that supports both SQL (relational) and JSON (non-relational) querying. It is a highly stable database management system, backed by more than 20 years of community development which has contributed to its high levels of resilience, integrity, and correctness. PostgreSQL is used as the primary data store or data warehouse for many web, mobile, geospatial, and analytics applications. The latest major version is PostgreSQL 12.

PostgreSQL has a rich history for support of advanced data types, and supports a level of performance optimization that is common across its commercial database counterparts, like Oracle and SQL Server. AWS supports PostgreSQL through a fully managed database service with Amazon Relational Database Service (RDS). Amazon Aurora with PostgreSQL compatibility is also built using PostgreSQL.



Amazon Relational Database Service (RDS)

Amazon Relational Database Service (RDS) is a managed SQL database service provided by Amazon Web Services (AWS). Amazon RDS supports an array of database engines to store and organize data. It also helps with relational database management tasks, such as data migration, backup, recovery and patching.

Amazon RDS facilitates the deployment and maintenance of relational databases in the cloud. A cloud administrator uses Amazon RDS to set up, operate, manage and scale a relational instance of a cloud database. Amazon RDS is not itself a database; it is a service used to manage relational databases.



Amazon S3

Amazon Simple Storage Service (Amazon S3) is a scalable, high-speed, web-based cloud storage service. The service is designed for online backup and archiving of data and applications on Amazon Web Services (AWS). Amazon S3 was designed with a minimal feature set and created to make web-scale computing easier for developers.

Amazon S3 use cases

Amazon S3 can be used by organizations ranging in size from small businesses to large enterprises. S3's scalability, availability, security and performance capabilities make it suitable for a variety of data storage use cases. Common use cases for S3 include the following:

- a. data storage;
- b. data archiving;
- c. application hosting for deployment, installation and management of web apps;
- d. software delivery;
- e. data backup;
- f. disaster recovery (DR);
- g. running big data analytics tools on stored data;
- h. data lakes;
- i. mobile applications;
- j. internet of things (IoT) devices;
- k. media hosting for images, videos and music files; and
- 1. website hosting -- particularly well suited to work with Amazon CloudFront for content delivery.



4.3 External Dependencies

1. Payment – Stripe



2. API for pin code and address - postalpincode.in



3. Storage - Aws S3

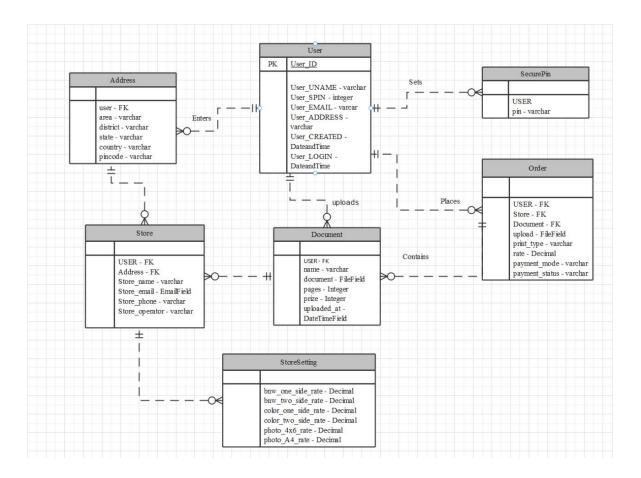


4. Database - Aws RDS



4.4 Diagrams

ER Diagram



1. USE CASE DIAGRAM:

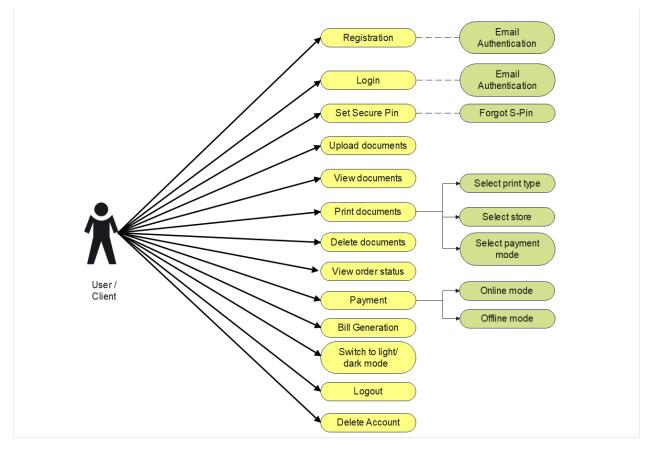
Objective Of UML Use Case Diagrams

The main purpose is to present all functional requirements of the system diagrammatically with all the users who can access the functionality. The presentation is from the perspective of all users giving a high-level design and basic flow of events of the system.

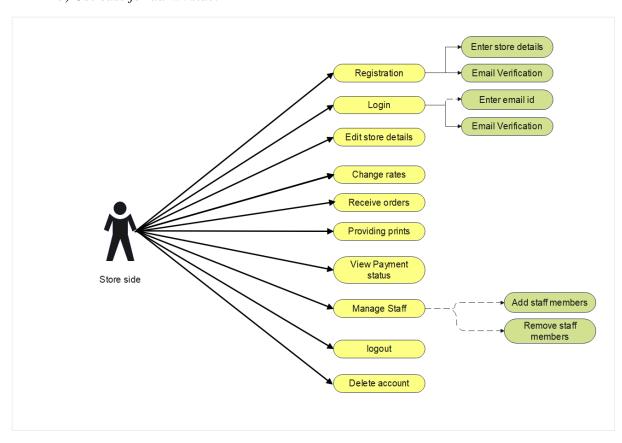
It represented the collaboration and interdependence of the functionality and users in a very easy and understandable manner. The observable outcome of the functionality to the actor and other stakeholders of the system is shown with clarity.

It also presents the functionality's exceptions, pre-condition, and post-condition. The diagrams do not give the details of deployment, trigger of the event, etc.

a) Use case for client/user side:

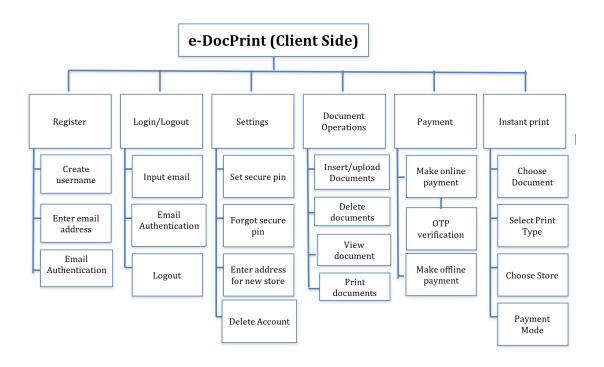


b) Use case for admin side:

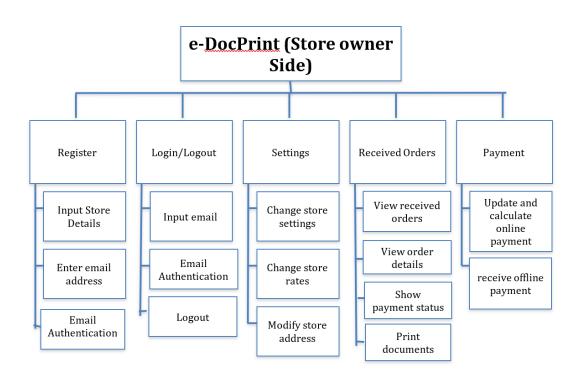


2. Structure Chart:

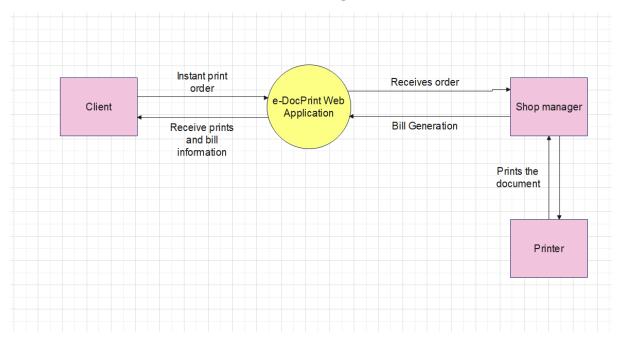
a) For User side:



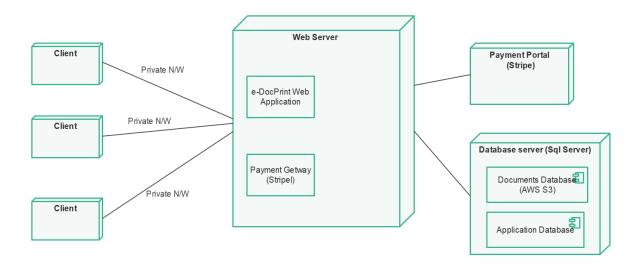
b) For Admin side:



Data flow Diagram



Deployment Diagram for e-DocPrint



CHAPTER 5: TESTING

Software testing can be stated as the process of verifying and validating that a software or application is bug free, meets the technical requirements as guided by its design and development and meets the user requirements effectively and efficiently with handling all the exceptional and boundary cases.

5.1 Manual testing:

Test Cases:

Registration and login test cases:

	Testcas e_ID	Testcase Objective	Step	Input	Expected Result	Actual Result	Status
1.	TC_1	Check whether the user registration is done successfully	Enter the necessary details and register	Registratio n details	Registration should be done successfully	Registration done successfully	Pass
2	TC_2	Check whether the email is sent for authentication	Enter the email address	Email address		Email authentication done successfully	Pass
3	TC_3	Check whether the user login is done successfully	Enter the email and password	Email and password	User should be logged in	User logged in successfully	Pass
4.	TC_4	Check whether Store owner is able to log in	Click on Login after filling necessary details	email	Store owner logs in	Admin logged in successfully	Pass
5.	IIC: 5	Is the user able to logout	Click on the logout button	N/A	User should be able to log out	User logged out successfully	Pass

Client side test cases:

	Testcas e_ID	Testcase Objective	Step	Input	Expected Result	Actual Result	Status
6.		home page is	Click on the website link	N/A	Home page should be displayed	Home screen is displaying properly	Pass
7.		Check whether the different buttons are included or not.	View the home page	N/A	All the navigation buttons should be included	All the navigation buttons are included	Pass
8.		respective page or not.	Click on the buttons available on registration page	N/A	Respective page should be displayed	Particular page is displaying	Pass
9.	TC_9	whether it navigate	Click on the Back to top button.	N/A	Top Section should be displayed	Top section is displaying	Pass
10.	TC_10	-	Click on Upload document Button.	Document	Document Should Get Uploaded	It is Uploading the document.	Pass
11.	TC_11	Delete Account	Click on Delete Account in settings	N/A	Account should be deleted	Account deleted	Pass
12.	TC_12	Is the client able to request for instant prints	enter necessary details and	along with	Client should be able to request for the prints	Prints are requested	Pass

Store side test cases:

Sr. No.	Testcas e_ID	Testcase Objective	Step	Input	Expected Result	Actual Result	Status
13	TC_13	Is the store owner able to receive the requests for prints	Click on Received Orders	N/A	Received orders will be displayed	Received orders are displayed	Pass
14		User is able to register for store	Enter address details	Address Contact	User will be registered as a store owner	User is registered as a store owner	Pass
15		Owner is able to receive orders from client	Open received orders	N/A	Received orders will be displayed	Received orders are displayed	Pass
16	117 16	Owner can change the rates for prints	Change rates in settings	Enter new rates and submit	Changes will be displayed	Rate changes are displayed	Pass
17	HC 17	Is owner able to change the address	Change the address	Enter new address	Address will be updated	Address is updated	Pass
18	TC_18	Owner is able to view the payment status	Open received orders	N/A	Pending status will be displayed	Pending status will be displayed	Pass
19	TC_19	Delete Account	Click on delete account in settings	N/A	Account will be deleted	Account is deleted	Pass

Payment test cases:

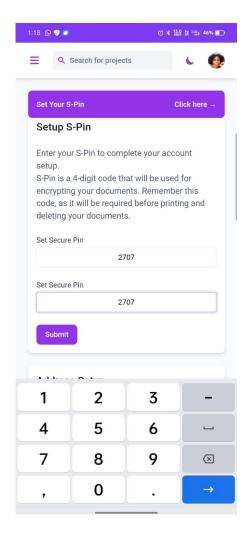
Sr. No.	Testcas e_ID	Testcase Objective	Step	Input	Expected Result	Actual Result	Status
20	TC_20	Check whether Payment system is working.	Click Payment button	Amount	Payment should be done	Payment done successfully	Pass
21	TC_21	OTP will be sent to user while doing payment	Enter Mobile number.	Text	User will get OTP on entered mobile number.	OTP sent successfully	Pass
22		Entered OTP will be verified by system.	Enter OTP sent on entered mobile number.	Text	OTP will be verified if it is correct.	OTP verified successfully	Pass
23	TC_23	TUCLALIS	Enter the card details	Valid card number	Payment processing is continued	Payment processing is continued	Pass
				Invalid card number	Displays error about invalid number	Invalid card number	Pass

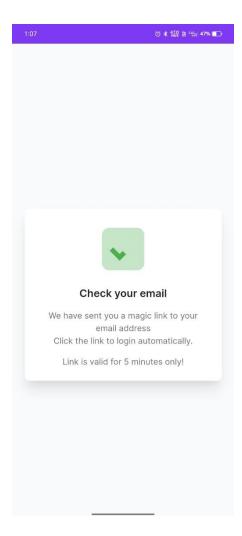
Admin test cases:

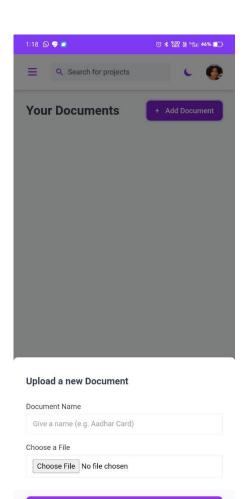
Sr. No.	Testcas e_ID	Testcase Objective	Step	Input	Expected Result	Actual Result	Status
24	TC_24	Check whether admin can access the database	Try to access the database of available registered users	N/A	Able to access the database	Accessed successfully	Pass
25	TC_25	create undate delete	Create, update, delete users	User details	User created, updated or deletes	User is successfully created, updated or deleted	Pass
26	TC_26	create lindate delete	Create, update, delete documents	Upload documents	Documents created, updated or deleted	Document is successfully created, updated or deleted	Pass
27	TC_27	create, update delete stores	Create, update, delete stores	Store details	Store created, updated or deletes	Store is successfully created, updated or deleted	Pass

CHAPTER 6: OUTPUT

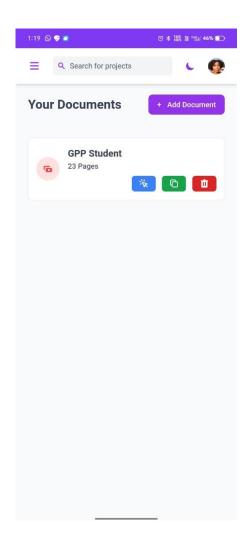
For Android Application:

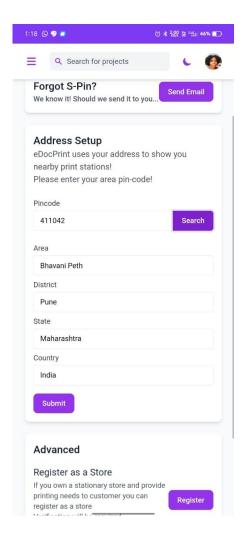


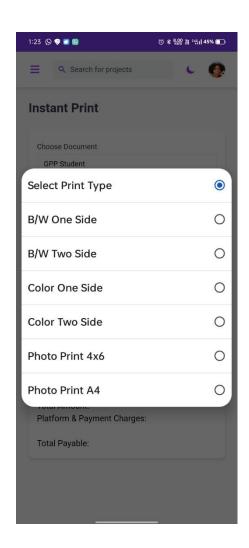


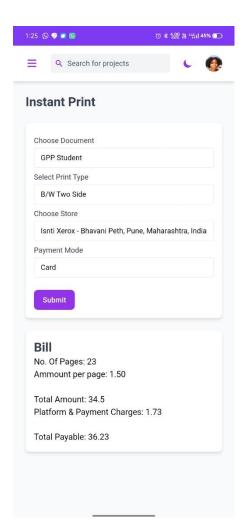


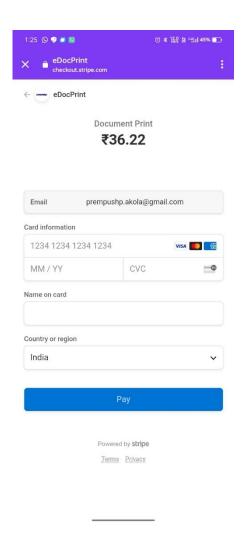
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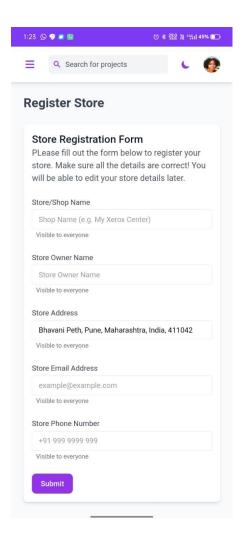




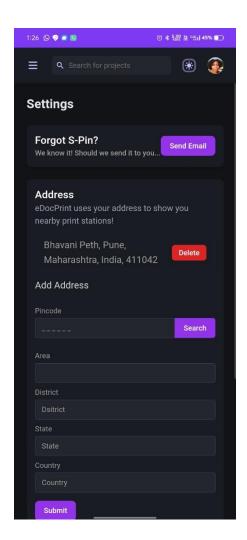


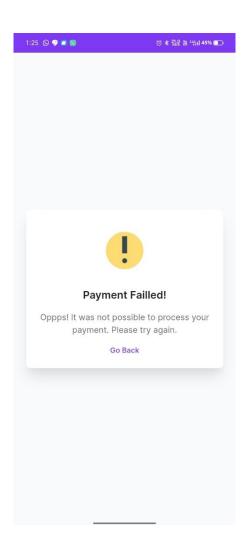


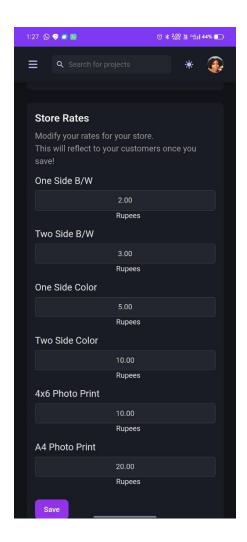


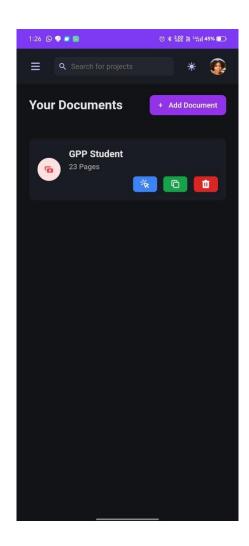


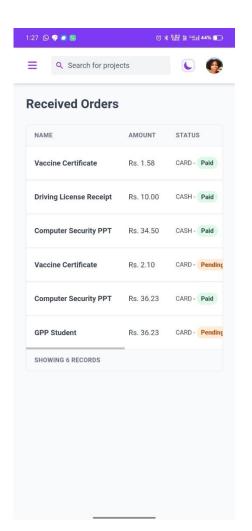


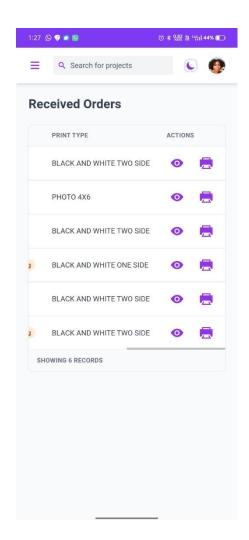


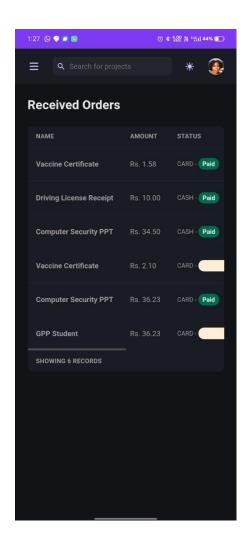


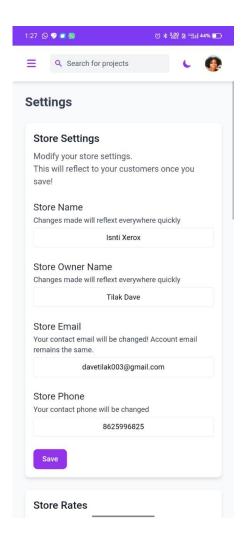


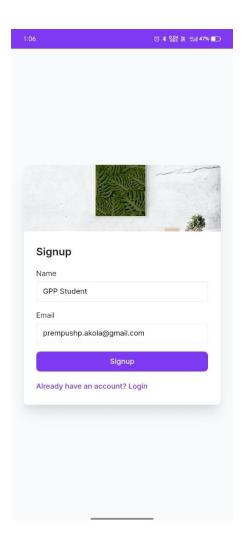


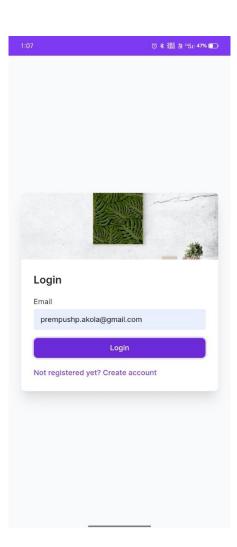


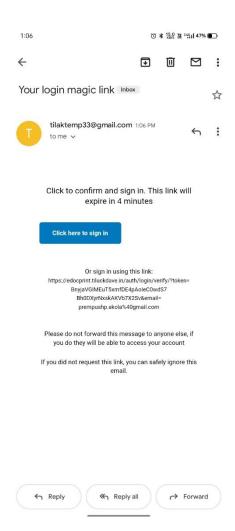


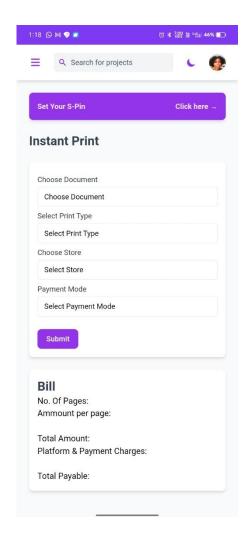






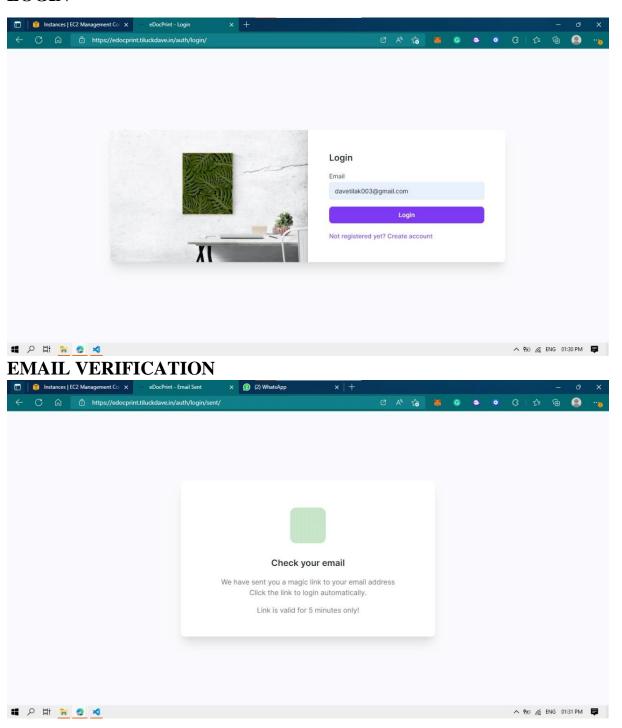




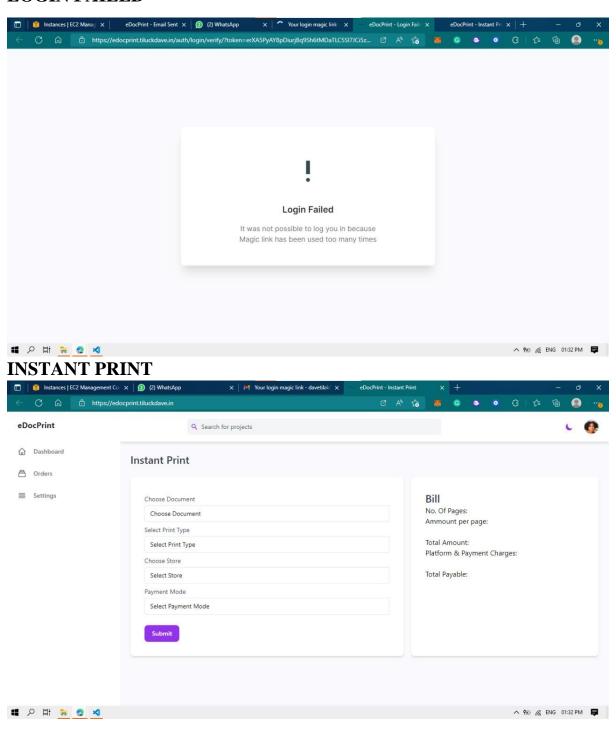


For Desktop:

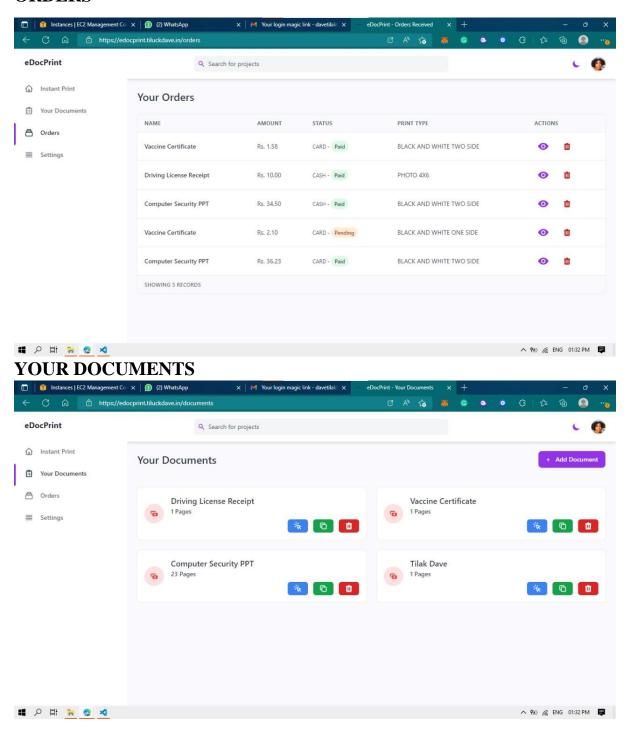
LOGIN



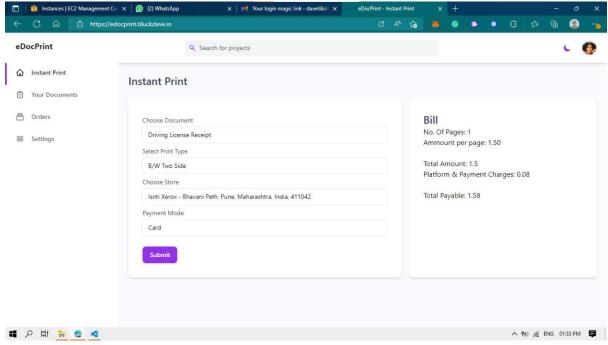
LOGIN FAILED



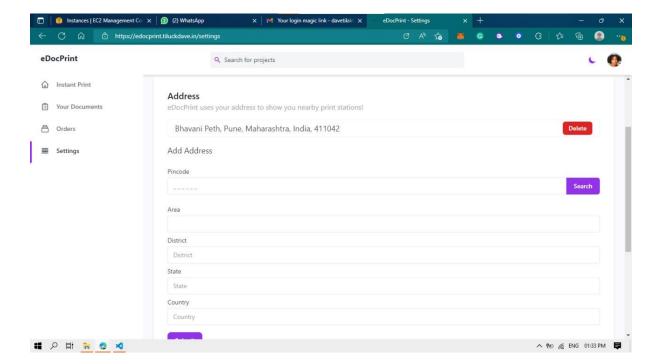
ORDERS



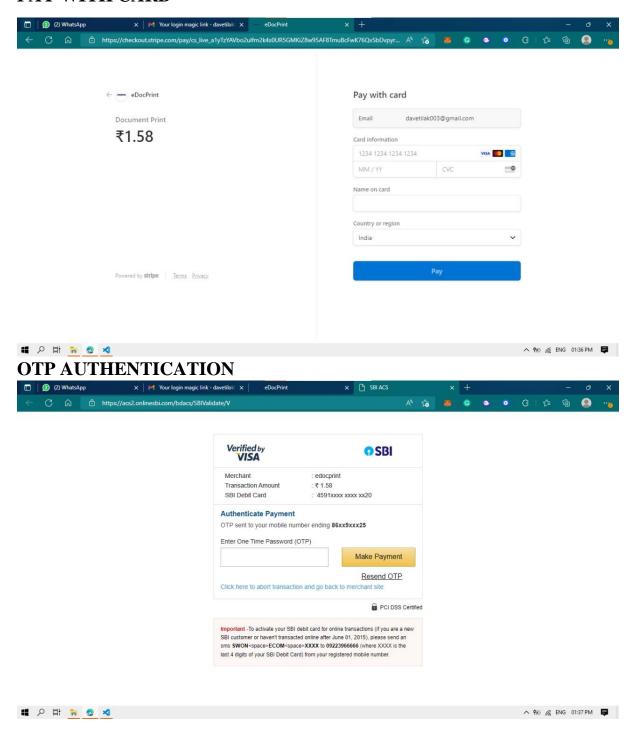
BILL AMOUNT CALCULATION



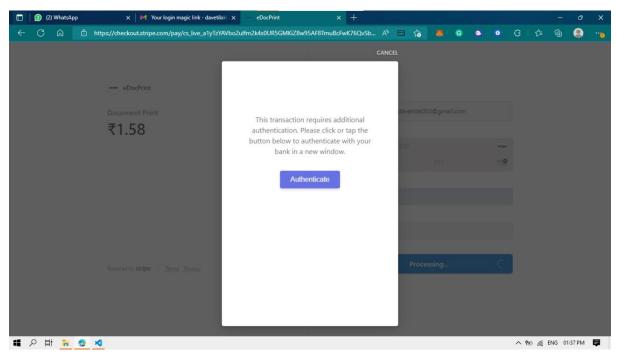
ADDRESS



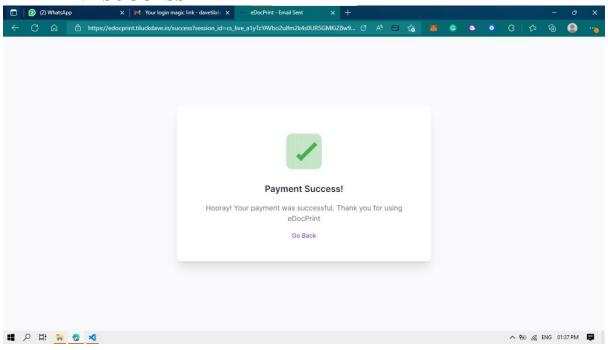
PAY WITH CARD



ADDITIONAL AUTHENTICATION

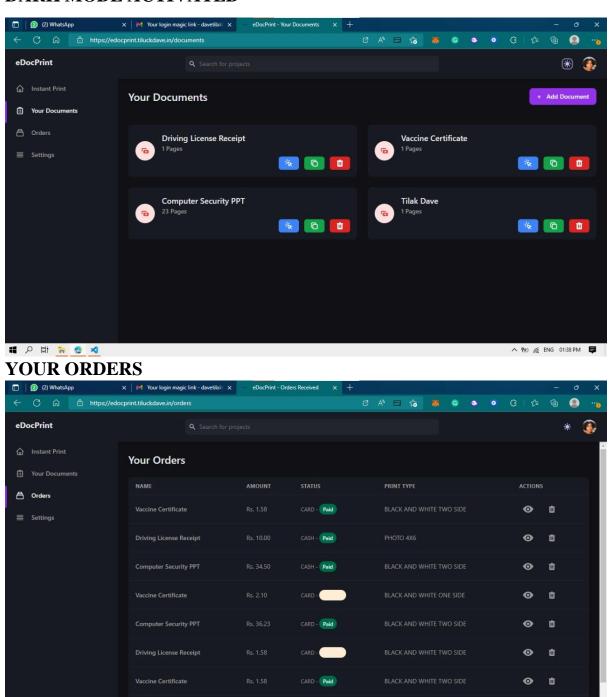


PAYMENT SUCCESS



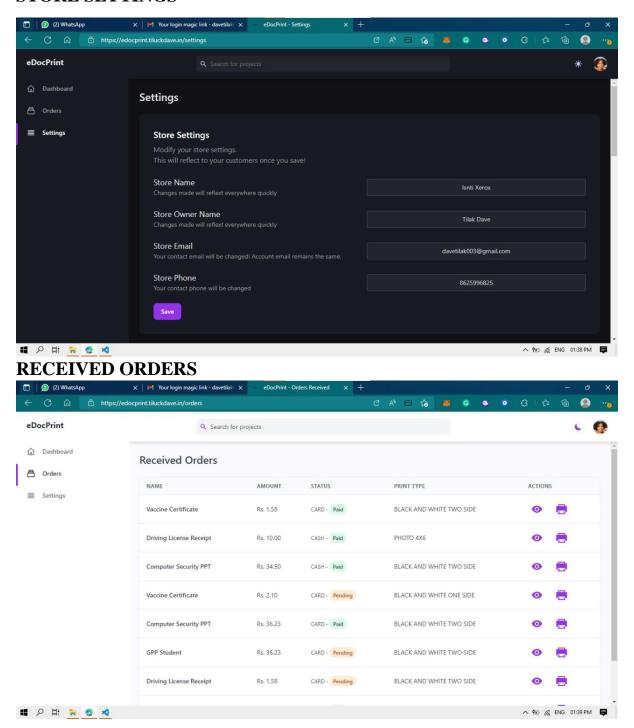
DARK MODE ACTIVATED

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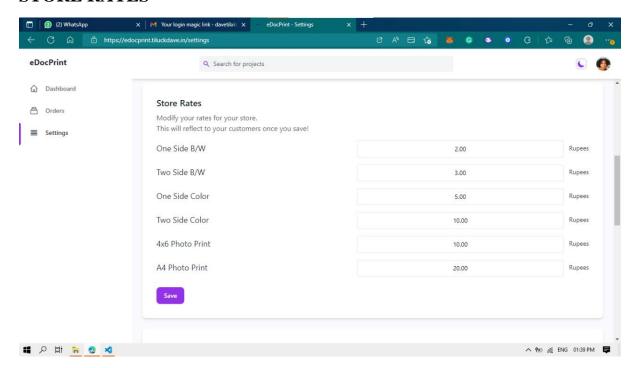


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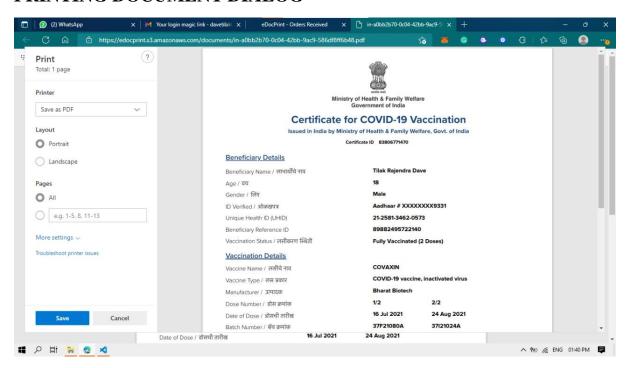
STORE SETTINGS



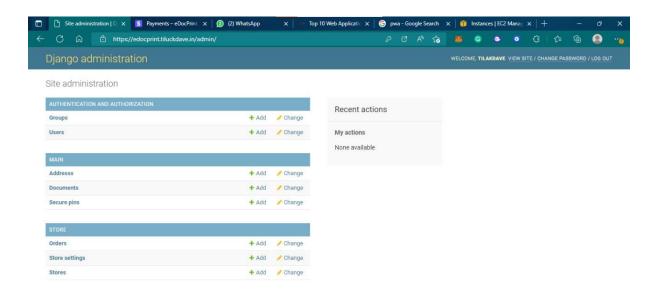
STORE RATES

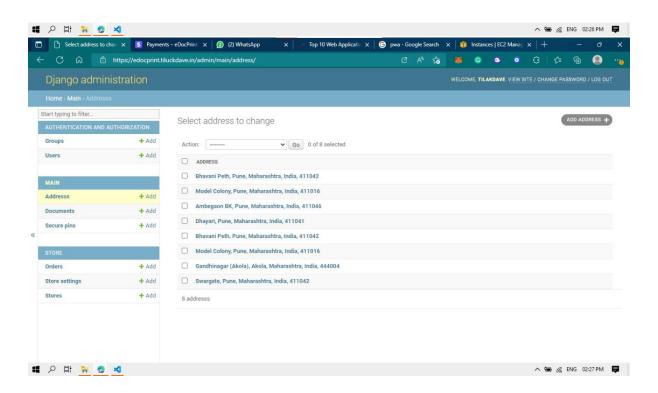


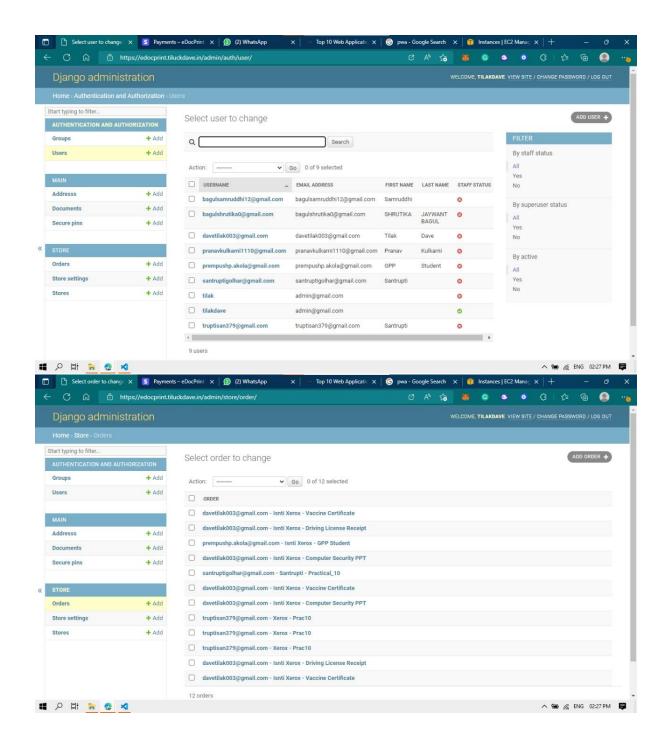
PRINTING DOCUMENT DIALOG

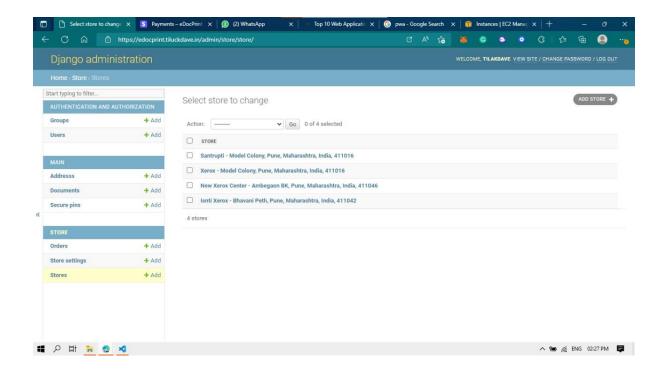


Admin Side:









CHAPTER 7: STRENGTH AND LIMITATION

7.1 Strengths:

- 1. The work has been automated with this system.
- 2. This system provides user friendly interface so that user can interact with the system easily.
- 3. It provides real-time information from open API's.
- 4. This system saves a lot of time and provides accurate outputs.
- 5. Promotes digital India.
- 6. Easy to use and understand.
- 7. This software can be accessed from desktop as well as mobile.

7.2 Limitations:

- 1. Slow internet connectivity may cause interruption.
- 2. Lack of digital literacy in users may create some limitations for system acceptance.
- 3. System does not contain any special module for blind people to access information.
- 4. System requires active internet connection all time in order to use the system.
- 5. System does not support any other native language.

CHAPTER 8: FUTURE SCOPE

The project has a very vast scope in future. This project has the capability to be implemented in real-world. This project can be used in college xerox centres as well as local xerox centres. Various native languages support can be added in the future so that people with less knowledge of English can also access the application. The project can be implemented on cross platforms in future. Project can be updated in near future as and when requirement for the same arises, as it is very flexible in terms of expansion. With the proposed system of database ready and fully functional the user is now able to manage and hence run the entire work in a much better, accurate and error free.

The future scope of this project is:

- Providing cross platform support
- Implementing multiple language support
- Implementing the updates as and when there is a requirement
- Adding support for multiple file types
- Adding support for different payment methods

CHAPTER 9: CONCLUSION AND REFERENCES

9.1 Conclusion:

Thus, the system provides a comprehensive solution for Printing Documents. This system, is easy to understand, easy to use and offers the simplicity of fast point-and-click service. It provides more advance options for both Owner and Users which can be very time saving. In order to achieve this a comprehensive solution that provides a way to get resources is what the project aims. Because of this project, an independent Web App and Android App for printing documents has been developed. From developing the web application in a local environment using a basic user interface we progressed in this project in the last three months having experience in creating professional and responsive user interfaces, a highly scalable backend, configuring servers, deployment of the application, using cloud storage and cloud database to provide maximum uptime and efficiency, creating and configuring android application and hence creating a production-ready project.

9.2 References:

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- 3. https://stackoverflow.com/questions/2673647/enforce-unique-upload-file-names-using-django
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