

A PROJECT REPORT ON

**Funds2Raise**

Reward Based Crowd Funding

SUBMITTED IN PARTIAL

FULFILLMENT OF

DIPLOMA IN ADVANCED COMPUTING (PG-DAC)



UNDER THE GUIDANCE OF  
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CENTER FOR DEVELOPMENT OF ADVANCED COMPUTING

C-DAC, PUNE

# ACKNOWLEDGEMENT

The project “Funds2Raise” was a great learning experience for us and we are submitting this work to Advanced Computing Training School (C-DAC ACTS, Pune).

We are very glad to mention the name of Mr. Swaraj Chaudhary for his valuable guidance to work on this project.

We are highly grateful to Ms. Risha P. R., Manager of ACTS Training Centre, CDAC, for her guidance and support whenever necessary during the course of our journey to acquire PG-Diploma in Advanced Computing (PG-DAC) through CDAC ACTS, Pune.

Our heartfelt thanks go to Ms. Namrata Ailawar (Course Coordinator, PG-DAC) who gave us all the required support and kind coordination to provide all the necessities to complete the project and throughout the course up to the last day of the course.

We would like to express our sincere gratitude towards Mrs. Madhura Anturkar, our faculty for Advanced Java, who was always there for us. Her guidance and support helped us overcome various obstacles and intricacies during the course of our project work.

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# ABSTRACT

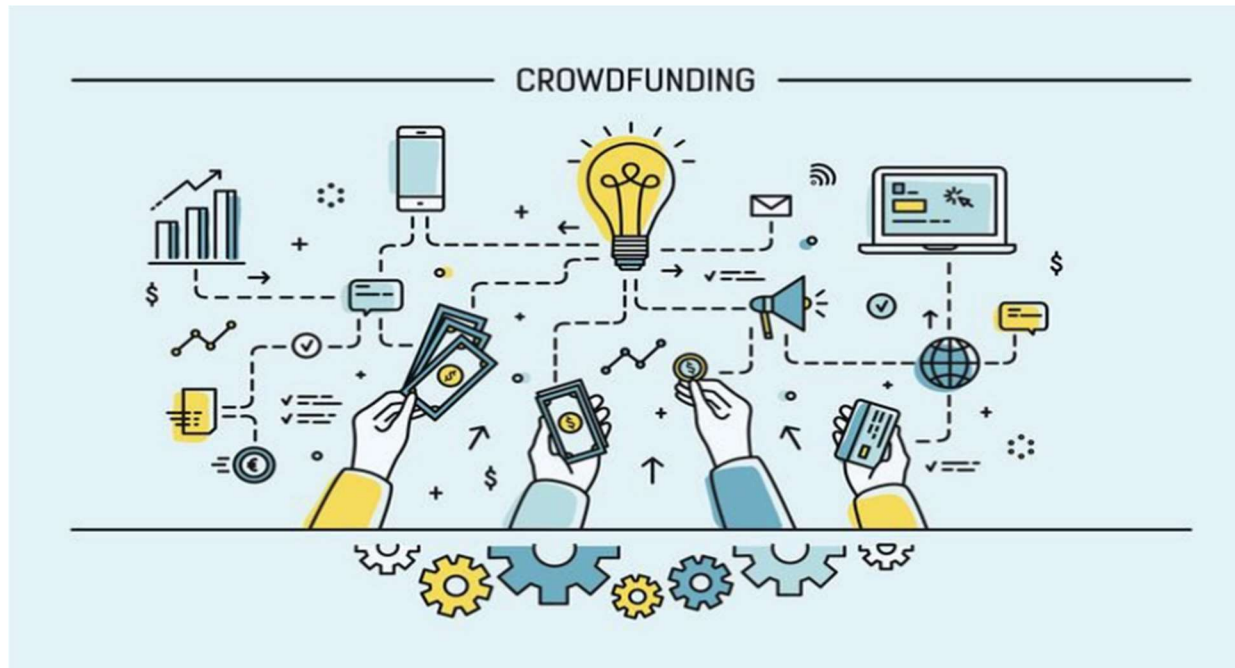
Crowdfunding is a popular method of fundraising that allows entrepreneurs and creators to raise capital for their projects or ventures. In reward-based crowdfunding, individuals, known as backers, contribute funds to a campaign in exchange for a perk offered by the project creator. This form of crowdfunding offers a unique opportunity for individuals to support projects they believe in while receiving tangible benefits in return. Researchers and practitioners have extensively studied crowdfunding, exploring its potential in various contexts such as circular business models and sustainability.

The design of reward structures in crowdfunding campaigns plays a crucial role in attracting and engaging backers. Understanding the dynamics and mechanisms of crowdfunding can provide valuable insights for entrepreneurs, backers, and platform operators. This abstract provides an overview of reward-based crowdfunding, its definition, and its implications for fundraising and project success.

## Key Points:

- Crowdfunding involves individuals contributing funds to a project in exchange for a perk.
- It offers a unique opportunity for individuals to support projects they believe in while receiving tangible benefits.

# 1. INTRODUCTION



In recent years, Crowdfunding has emerged as a revolutionary financing model that allows small entrepreneurs to raise funding in the early stages of their projects, particularly those that may otherwise struggle to obtain capital (Kuppuswamy and Bayus 2013, Belleflamme et al. 2014). Today, there are approximately 1250 active crowdfunding platforms across the world, which together channeled \$16.2 billion in 2014, representing a 167 % increase from \$6.1 billion in 2013 (Massolution 2015). Having their project successfully funded is crucial to project creators as it provides not only initial funds for project development but also access to valuable future resources, and eventually turn their projects into successful entrepreneurial organizations. Previous research shows that only 45 % of the projects on these platforms are successfully funded. As a result, identifying general antecedents of funding success has been of great interest to researchers because it can provide insights to project creators to maximize their funding success.

Which made Crowdfunding One of the biggest topics discussed around the business community for the past few years, the idea of crowdfunding using an online platform is a great tool for building capital for a startup, funding growth for your company, or development of services or products to further your business.

New crowdfunding platforms and websites are popping up regularly to meet the needs of the expanding market, with plenty of room to benefit from the advantages of this technology by creating a crowdfunding platform.

This report details the design and development process of the Funds2Raise web application, including the requirements gathering, design, implementation, and testing phases. We utilized HTML, CSS, Bootstrap, React.js for the frontend, Spring Boot Data JPA for the backend, and MySQL as the database. The report also discusses the challenges we faced during the development process, such as ensuring the security and scalability of the application, and how we overcame these challenges.

## 2. PROJECT OVERVIEW AND SUMMARY

### 2.1. PURPOSE

The purpose of crowdfunding is to provide an alternative way of sourcing funding for new projects, businesses, or ideas. Crowdfunding platforms are websites that enable interaction between fundraisers and the crowd, and financial pledges can be made and collected through these platforms. Crowdfunding can be used by organizations, businesses, and individuals alike for any type of project, such as charitable causes, creative projects, business startups, school tuition, or personal expenses.

### 2.2. SCOPE

The scope of crowdfunding is quite broad, and it can be used for various purposes and projects. Here are some key points about the scope of crowdfunding:

**Financing Business Ventures:** Crowdfunding can be used to raise funds for startups or growing businesses that may have difficulty accessing traditional funding sources. It provides an alternative way for entrepreneurs to secure capital for their ventures.

**Funding Specific Projects:** Crowdfunding can be used to finance specific projects, such as creative endeavors, charitable causes, school tuition, or personal expenses. It allows individuals or organizations to gather financial support for a particular initiative or goal.

**Donation-Based Crowdfunding:** In this model, individuals donate money altruistically to support a cause or project without expecting financial returns. It is commonly used for charitable purposes or community-driven initiatives.

**Investment-Based Crowdfunding:** This model involves selling ownership stakes online in the form of equity or debt. Investors who fund the project become owners or shareholders and have the potential for financial returns. This type of crowdfunding gained popularity after the implementation of Title II of the JOBS Act in 2013.



## 2.3. OVERVIEW

### A. TECHNOLOGIES USED

#### i. FRONT END

- React Js
- HTML 5
- CSS
- Bootstrap
- JavaScript

#### ii. BACK END

- Spring Boot
- Spring Data JPA
- Spring Security
- Spring REST

#### iii. DATABASE MANAGEMENT SYSTEM

- MySQL

## B. FEATURES PROVIDED

### i. FOR USER(Investor and Business)

- Browse Business – Users can browse Businesses of the city they choose.
- Login or Register– Users can register or login to access their account.

Business :

- Create or delete new campaigns : This user can create and delete campaigns.
- Update Business : User can update his business.
- Update Campaign : User can update campaign.
- All Campaigns : User can view all campaigns
- All Investor : User can view all investors.

Investor :

- All Campaigns : This user can see all campaigns.
- All Business : User can view all businesses.
- All Transactions : User can view all transactions.

Logout : User can logout and terminate an authenticate session when it's no longer needed.

### ii. FOR ADMINS

- Login & Logout : Similar to users, admins can login & logout to access their account.
- Approve Business and Campaign : Admin can approve business and campaign.
- All Businesses and Campaigns : Admin can view all the businesses and campaigns.
- Delete Business and Campaign : Admin can delete Business and campaign.

## 2.4. FEASIBILITY STUDY

Feasibility is the determination of whether a project is worth undertaking or not. Before actually recommending the new system, it is important to investigate if it is feasible to develop it.

Before developing and implementing a system, we have to make sure that the system is feasible in the following ways:

### A. TECHNICAL FEASIBILITY

In this type of feasibility study, the system analyst has to check whether it is possible or not to develop the requested system with the available manpower, software, hardware, etc.

This project makes use of cross-platform software and solutions like Java, and hence can run on any operating system. React, used in the front-end, is a swift and lightweight framework when it comes to delivering the requested page as it doesn't reload the entire page for every HTTP request. It only re-renders the components that need to fetch new data. Also, as React is modular in nature, it is easy to develop new components and scale up existing components in order to add new features to the system. The combination of Spring Boot, Spring Data JPA and Spring Security for backend makes for a fast, easy to set-up and reliable system to interact with the database, as they are secure and transactional in nature. Since the sensitive data of users and admin needs to be stored in a robust and secure database, MySQL database management system was chosen as it is an industry standard.

### B. OPERATIONAL FEASIBILITY

In this type of feasibility study, the operations of the system are considered. An analysis is performed on whether it is feasible for the users to use the application. Thus, the proposed system is said to be operationally feasible only if clients are able to understand the system clearly and correctly, and can use it with ease.

In the design of this project, we always kept user experience in mind. We made an effort to have a good user interface with a consistent theme and alluring design to keep the users interested and engaged. In our project, the use of universally known icons and instructions that are easy to understand makes sure that the user will not need any special technical know-how to use the application. We made sure that the information available throughout the application is arranged in a logically coherent and consistent manner, guaranteeing that the users will have a smooth and effortless experience and even enjoy using the application.

## C. ECONOMIC FEASIBILITY

In this type of feasibility study, the benefits of the system to the organization are considered by taking into consideration the cost-benefit analysis. All the software and technologies used in our project are free, open-source, and widely available, with each of the technologies having an extensive community support. This makes “Funds2Raise” an economically feasible solution to the organizations that wish to implement it.

## 3. REQUIREMENTS FULFILLED

### 3.1. FUNCTIONAL REQUIREMENTS

Following are the functional requirements fulfilled by our project:

- **User Registration:** Users can create an account and provide necessary information such as name, email, and password . Users are Admin, Investor, Business.
- **Project Creation:** Project creators can create a project by providing details such as project description, funding goal, project duration, and rewards for backers.
- **Project Search and Browse:** Users can search and browse through available projects based on different criteria such as category and location .
- **Payment Processing:** The platform should have a secure payment processing system to handle transactions between backers and project creators.
- **Trust and Security:** The platform should have measures in place to ensure the trust and security of both project creators and backers, such as verifying project authenticity and protecting user data.

### 3.2. NON-FUNCTIONAL REQUIREMENTS

Following are the non-functional requirements fulfilled by our project:

- Since the application uses lightweight and established software components that are also cross-platform, it is remarkably performant and has good support for every operating system.
- The use of JavaScript with React JS for frontend and Spring Boot, Spring Data JPA and Spring Security for back end delivers quick response times to admins and students.
- Card-style UI and well-known icons and symbols used throughout the application provides a consistent theme and user-friendly interface that anyone can grasp easily, even without a technical background.

## 4. PROJECT DESIGN

### 4.1. DATA MODEL

The following tables depict the database design used for “Funds2Raise” application.

#### A. Admin And States Table

```
mysql> desc investors;
```

Field	Type	Null	Key	Default	Extra
id	bigint	NO	PRI	NULL	auto_increment
email	varchar(255)	NO	UNI	NULL	
password	varchar(20)	YES		NULL	
first_name	varchar(20)	YES		NULL	
last_name	varchar(20)	YES		NULL	
role	varchar(20)	YES		NULL	
admin_id	bigint	YES	MUL	NULL	

7 rows in set (0.00 sec)

```
mysql> desc states;
```

Field	Type	Null	Key	Default	Extra
id	bigint	NO	PRI	NULL	auto_increment
name	varchar(255)	YES	UNI	NULL	

#### B. Campaigns And Investor\_Business Table

```
mysql> desc campaigns;
```

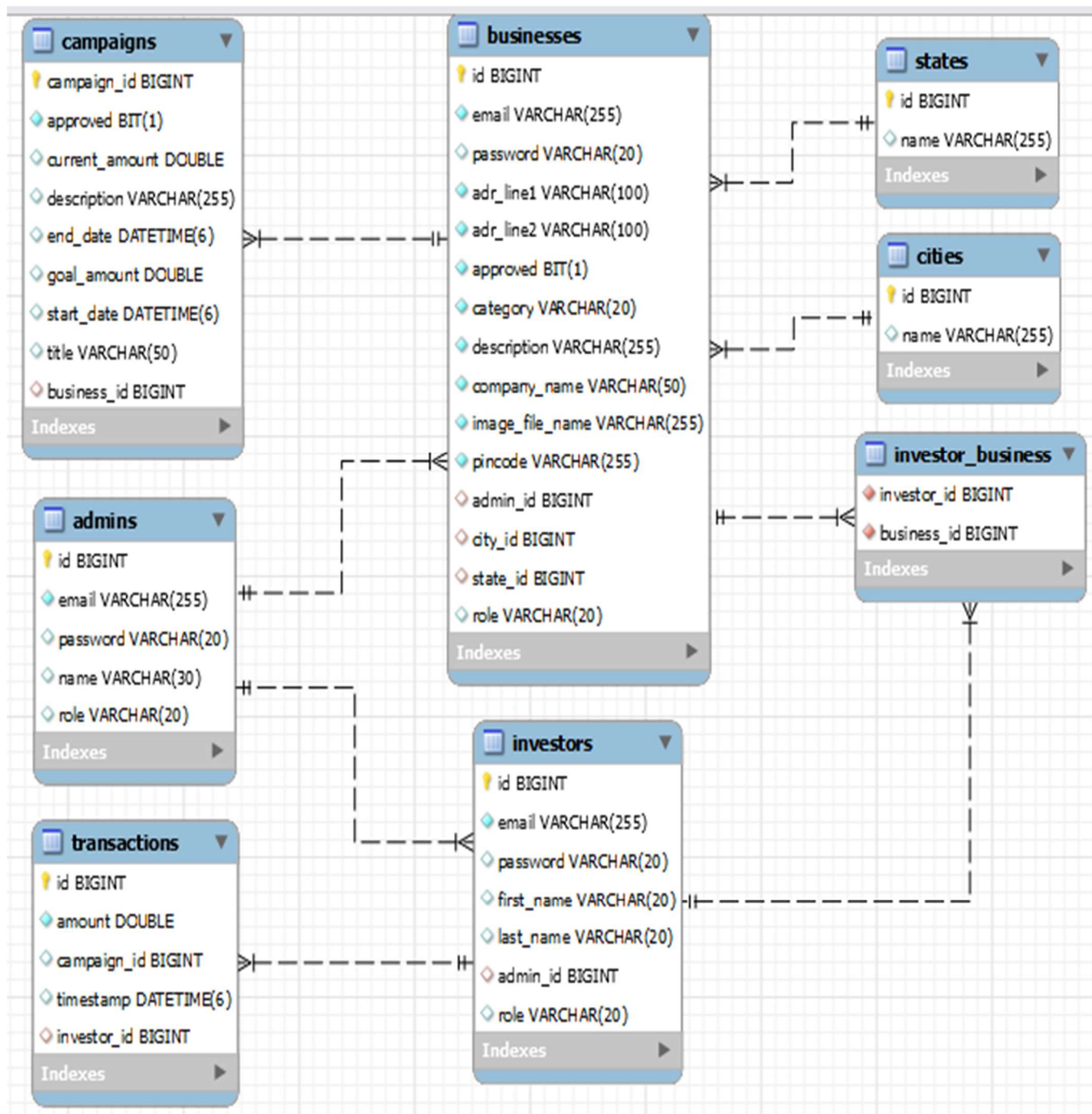
Field	Type	Null	Key	Default	Extra
campaign_id	bigint	NO	PRI	NULL	auto_increment
approved	bit(1)	NO		NULL	
current_amount	double	YES		NULL	
description	varchar(255)	YES		NULL	
end_date	date	YES		NULL	
goal_amount	double	NO		NULL	
start_date	date	YES		NULL	
title	varchar(50)	YES		NULL	
business_id	bigint	YES	MUL	NULL	

9 rows in set (0.00 sec)

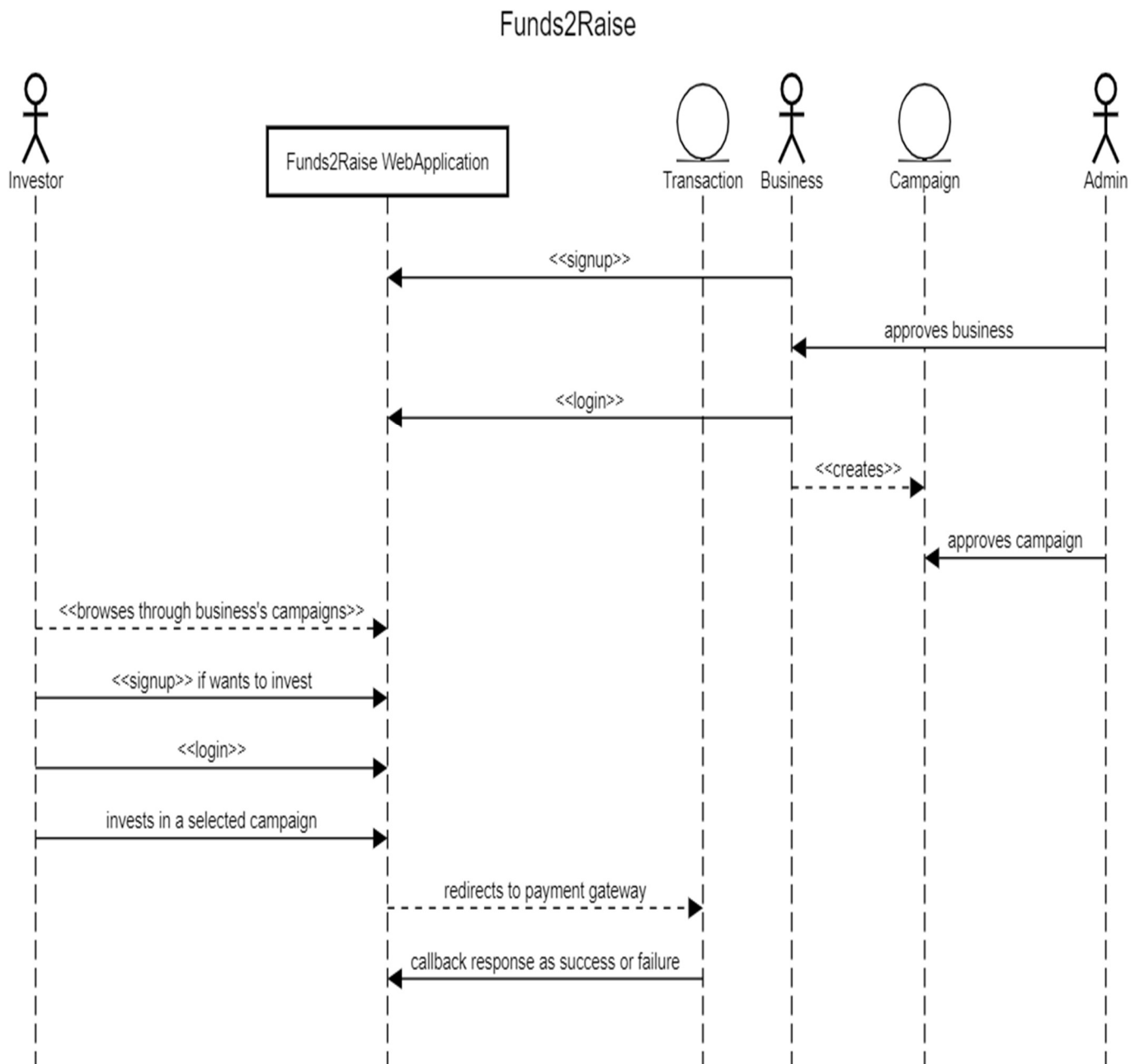
```
mysql> desc investor_business;
```

Field	Type	Null	Key	Default	Extra
investor_id	bigint	NO	MUL	NULL	
business_id	bigint	NO	MUL	NULL	

## 4.2. ER Diagram

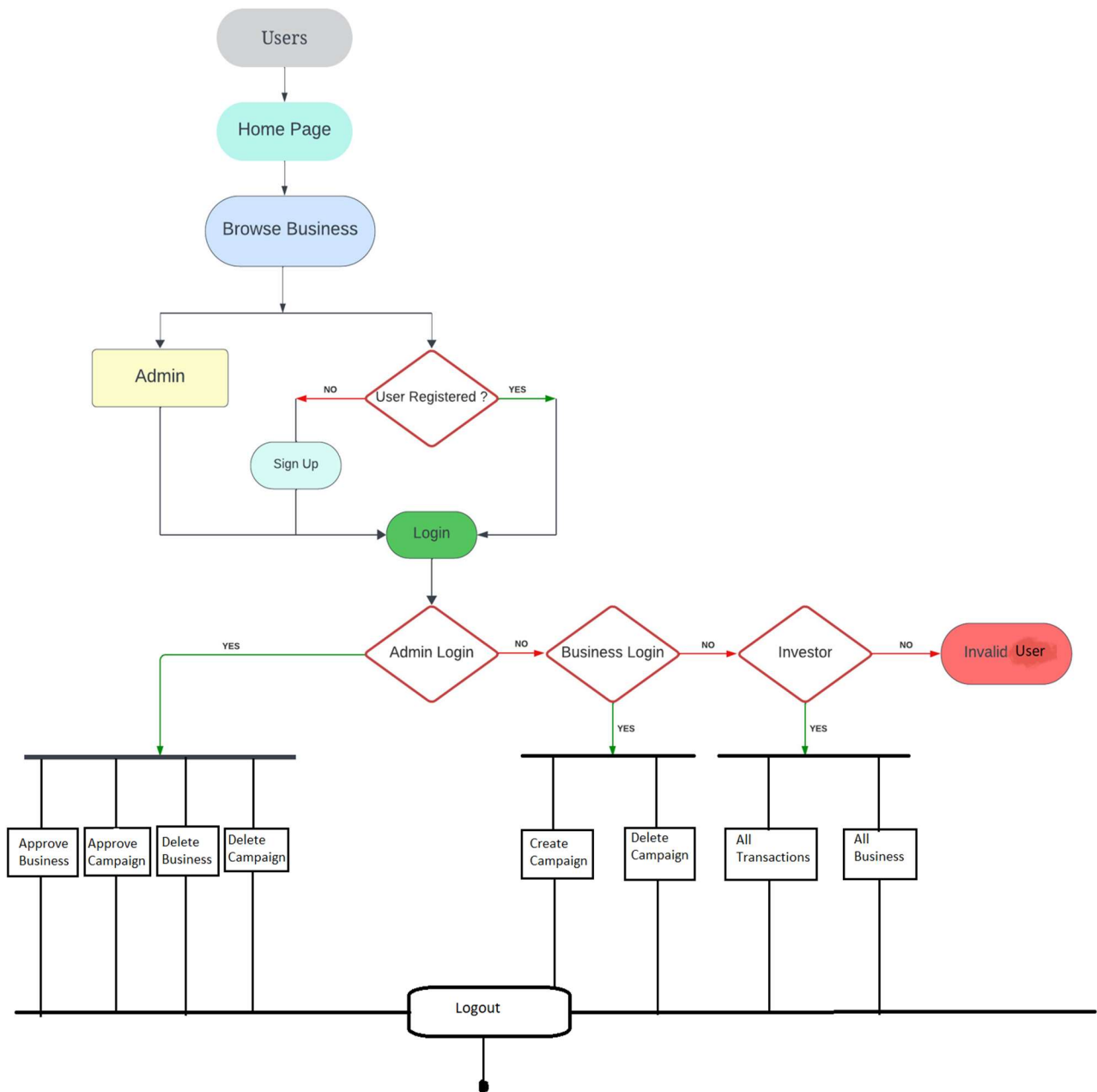


### 4.3. Sequence Diagram

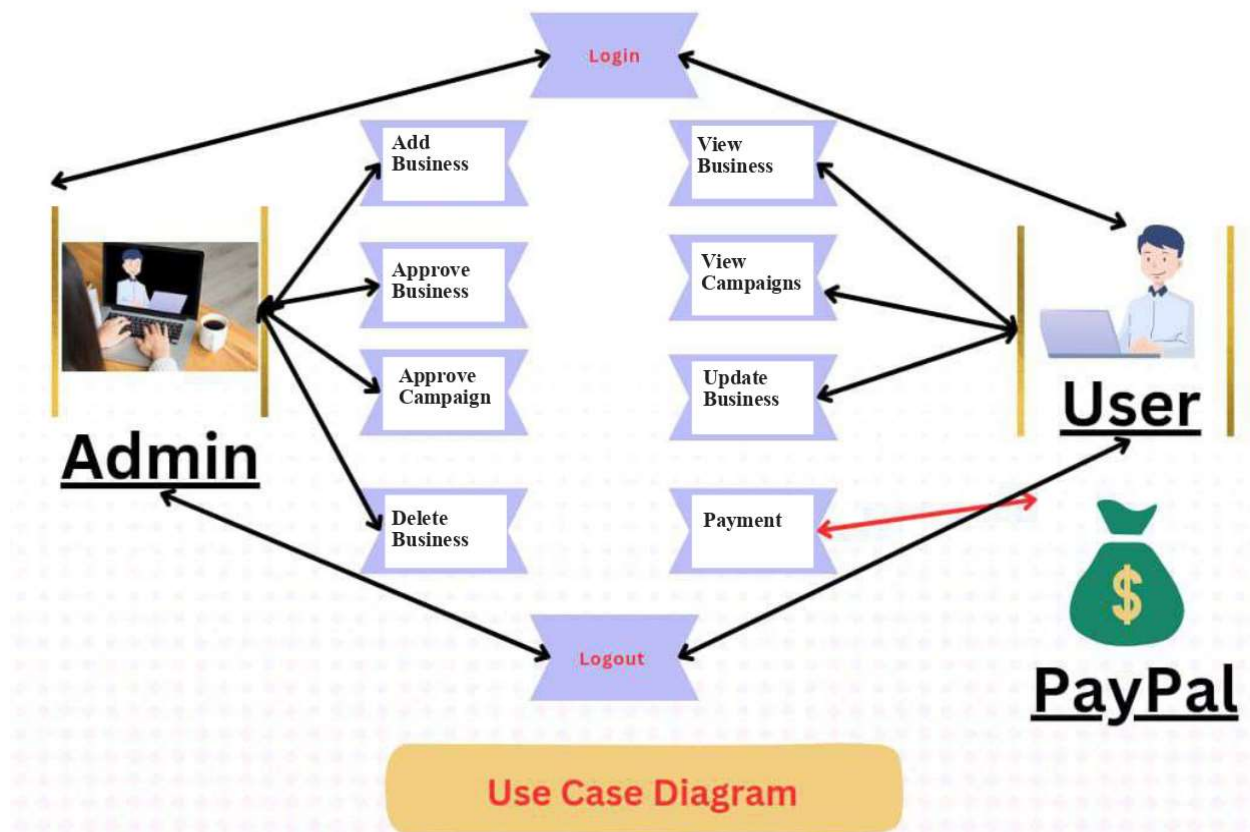




## 4.4. Activity Diagram

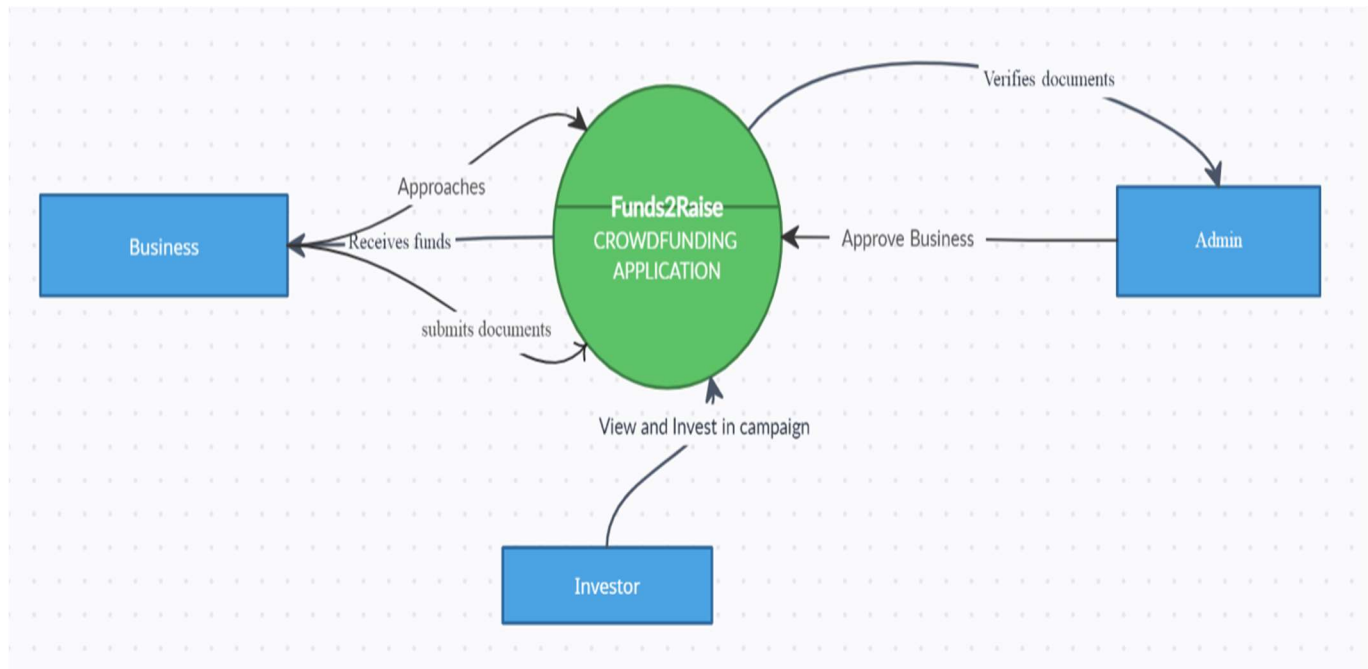


## 4.5. Use Case Diagram



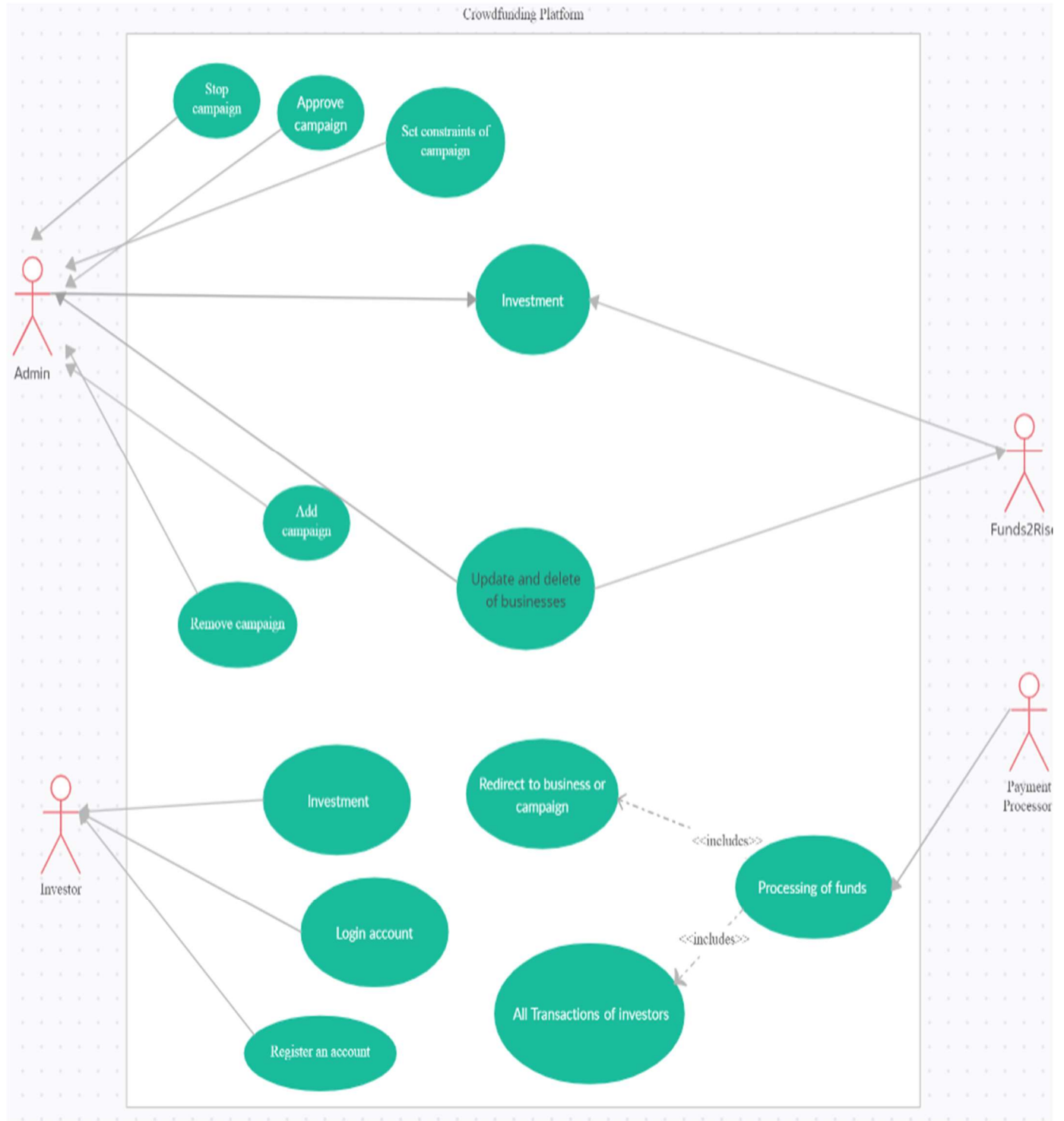
## 4.6. Data Flow Diagram

### Level-1



## 4.6 Data Flow Diagram

### Level-2



# 5. PROJECT SCREENSHOTS

## User Pages



The screenshot shows the login page of Funds2Raise. It features a teal header with the logo and navigation links: Funds2Raise, Home, Browse Business, Contact, Register, and Login. Below the header is a white login form with the following fields: "email" (with a person icon), "Password" (with a lock icon), and "Select your Role" (with a dropdown arrow and a group of people icon). A teal "Login" button is positioned at the bottom of the form.



### Business

We welcome businesses to sign-up and create campaigns in order to raise funds.

[Register](#)

### Investor

We welcome investors to sign-up and invest into the businesses which are to their liking, for providing support to let them grow.

[Register](#)

First Name	<input type="text"/>
Last Name	<input type="text"/>
Email	<input type="text"/>
Password	<input type="password"/>
Re-Type Password	<input type="password"/>

[Sign Up](#)



### Business

We welcome businesses to sign-up and create campaigns in order to raise funds.

[Register](#)

### Investor

We welcome investors to sign-up and invest into the businesses which are to their liking, for providing support to let them grow.

[Register](#)

Email	<input type="text"/>
Password	<input type="password"/>
Re-Type Password	<input type="password"/>
Company Name	<input type="text" value="Company name"/>
Company Description	<input type="text" value="Write about your company"/>
Upload your Image	<input type="button" value="Choose File"/> No file chosen
Select Category	<input type="text" value="Select a Category"/>
<input type="text" value="Address"/>	
<input type="text" value="Address 2"/>	
1234 Main St	Apartment, studio, or floor
City	State
<input type="text"/>	<input type="text" value="Select a state"/>
Pincode	
<input type="text"/>	

[Sign Up](#)



**Location:**

17/3, Madhukunj Society  
Pune, Maharashtra



**Email:**

funds2raise.support@gmail.com  
funds2raise.admin@gmail.com



**Call:**

+91 9315093424  
+91 6304221439

Your Name

Your Email

Subject

Message

Send Mail

## 6. TESTING

One of the main purposes of testing is to validate and verify that the system works as intended. No program or system design is perfect. However, if we implement the system without proper testing, then it may cause problems and lead to a bad user experience.

Testing and checking outcomes of each test gives us the best chance to detect and correct errors before the system is implemented in a production environment.

In the course of our project, we made an effort to manually test each component. In all cases, we obtained the desired results as demonstrated below.



## USER FEATURES TEST

#	Description	Outcome	Result
1.	Sign Up as User	Users having valid email id and password only are allowed to register.	Passed
2.	Login as User	Email id and password of user are fetched from database, otherwise login failure message will be printed accordingly.	Passed
3.	Choose State	States are fetched from the database.	Passed
4.	Browse Business	Business based on the chosen state are fetched from the database.	Passed
5.	Create Business	User can create a business and data is updated in the database.	Passed
6.	Create Campaign	Users can create Campaign and data is inserted in the database.	Passed
7.	Delete Created Business	Business deleted from database and all users who had registered for the business are removed from user business table.	Passed
8.	Delete Created Campaign	User can delete created campaign.	Passed
9.	Update Business	User can update Business and it is updated in database.	Passed
10.	Update Campaign	User can update campaign and it is updated in database.	Passed
11.	View All Businesses	Business and Campaign details fetched from database.	Passed
12.	Logout	The session was cleared.	Passed

# ADMIN FEATURES TEST

#	Description	Outcome	Result
1.	Login as Admin	Fetchd authenticated admin details saved in the database.	Passed
2.	Add Business	Business added to the database.	Passed
3.	Approve Business	Business Approved	Passed
4.	View All Businesses	Businesses fetched from database.	Passed

## 7. CONCLUSION

“Funds2Raise”, a Crowdfunding platform is a new financing model that is developing gradually and offers a diverse range of opportunities for individuals, organizations, and businesses to raise funds and engage with potential supporters or investors. Crowdfunding can be used to finance business ventures, specific projects, and charitable causes. It can take the form of donation-based crowdfunding or investment-based crowdfunding, and it primarily occurs through online platforms that facilitate interaction between fundraisers and the crowd.

We tried using the latest technologies that are cross-platform and robust. Each and every software we used was open-source in nature, which keeps the cost of production at a minimum.

We were also meticulous about the user experience aspect of our application so that navigating our website is an easy and seamless experience.

In the end Funds2Raise was a great learning experience. We faced many challenges and worked on them as a team. We learnt how to do things but more importantly how to not do things. That in our opinion is a precious experience.

## 8. FUTURE SCOPE

The future scope of Crowdfunding appears promising, with significant growth expected in the global market. Here are some key points about the future scope of Crowdfunding:

- **Increasing Popularity:** Crowdfunding is the most popular type of crowdfunding. It is a popular option for startups and entrepreneurs as it provides a way to fund the launch of new companies or products .
- **Validation of Products:** Crowdfunding is a great way to validate a product with future customers and build a customer base as funds are raised .
- **Alternative Financing Option:** Crowdfunding provides an alternative financing option for entrepreneurs and businesses that do not want to pay back a loan .
- **Fees:** Crowdfunding platforms charge a percentage of funds raised, which can range from 0-5% . There may also be additional processing fees .

## 9. REFERENCES

Following is the list of websites we referred during the course of our project:

1. Mohamed Amine Korchi, Driss Daoui, and Hafid Barka. “Crowdfunding in Morocco”. In: 27 (Nov. 2019), pp. 1037–1057.
2. Venkat Kuppuswamy and Barry Bayus. “Crowdfunding Creative Ideas: The Dynamics of Project Backers in Kickstarter”. In: SSRN Electronic Journal 2013 (Mar. 2013). DOI: 10.2139/ssrn.2234765.
3. Elizabeth Gerber, Julie Hui, and Pei-Yi (Patricia) Kuo. “Crowdfunding: Why People are Motivated to Post and Fund Projects on Crowdfunding Platforms.” In: vol. 10. Feb. 2012.