Software engineering principles

(CSI1007)

Final report

Project:

Crowdfunding web application

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Contents:

SRS DOCUMENT

1. Introduction

1.1 – Purpose

The purpose of this Software Requirements Specifications(SRS) is to fully document the specifications and requirements for the **Crowdfunding Web Application.**

2. General Description

2.1- Product Perspective

       The CFWA is a total, complete and a standalone product, as in, it is not part of any other ecosystem. The CFWA is basically a web application. The CFWA essentially acts as a platform that connects startups that are in need of funds to investors who are willing to invest. The CFWA provides visibility to the startups in need of funding and investment opportunities to investors.

       The CFWA provides a secure environment for all the financial transactions that happen between startups and investors and for the storing and retrieving of confidential information regarding the startups, investors and all the transactions in the crowdfunding campaigns.

       There are only two main users of this system, the startups and the investors. The system will provide the facility for the startups to post their funding requirements in the website and start a fundraising campaign for the

same. Meanwhile, the system lists the investment opportunities in various startups to the investors, thus providing the investors with multiple choices from which they can choose from. The system allows the investors to choose the startup they believe in and provides a secure environment for the financial transactions involved in the process.

2.2- Product Functions

2.2.1- Startup registration

This function allows a startup looking to use the CFWA to register itself with the website. Startup accounts are different from the investor accounts (we will see about the investor accounts in the next function). A startup account will contain details such as the information about the founder, number of employees working in the startup, the nature of the startup, the industry under which the startup operates and finally a general description about the startup.

2.2.2- Investor registration

This function allows an investor looking to use the CFWA to register himself with the website. An investor account will contain essential personal details of the investor such as name, date of birth etc, the essential bank account details of the investor and finally the payment method of the investor.

2.2.3- Account login

This function allows the users to securely log into their respective accounts by using the login credentials set up by them at the registration phase.

2.2.4- Start a fundraising campaign

This function shall allow the registered startups to start a fundraising campaign on the CFWA. A startup will be required to provide multiple pieces of information during the starting of the fundraising campaign. The provided information shall include:

- The need behind the fundraising campaign.

- The purpose of the fundraising campaign.
- The amount of funds that needs to be raised during the campaign.
- Expected outcomes after a successful fundraising campaign.
- Estimated time to achieve the expected outcomes.
- Details about the financial returns and benefits to investors who will be investing in the startup's campaign.
- Details about the process of payment of investors' financial dues.
- Details about the communication regarding the progress of the work to the investors (how and when, the progress regarding the work will be communicated to the investors who have invested in the startup's campaign).

A web page will be created for each fundraising campaign and these details will be displayed in it. Investors visiting these webpages can use the information to make their investment decisions.

2.2.5- View status of fundraising campaign

This function shall allow the users to see the status of fundraising campaign such as the amount raised so far, number of investors who have invested in the fundraising campaign so far and the average amount invested by the investors.

2.2.6- Update details of fundraising campaign

This function updates the details related to the fundraising campaign on a real-time basis. For example: the amount that needs to raised is constantly updated on a real-time basis, as investors put their money into the fundraising campaign. Information such as these are crucial and must definitely be updated regularly.

2.2.7- Present all the investment opportunities

The CFWA displays all the current fundraising campaigns to the investors. The investors can explore the fundraising campaigns that interest them and learn about them in detail. The investors can then choose the ones that best suit their investment strategies.

2.2.8- View the investment portfolio

This function facilitates the investor to know about his investing journey, as in, the investor can view the fundraising campaigns he had invested in, the amount he had invested and his current interests.

2.2.9- Assist in pre-investment communication

This function facilitates communication between a potential investor and the fundraising campaign he wants to invest in. The investor can communicate with the concerned startup to request for more information regarding the fundraising campaign, clarify his doubts regarding the same etc.

2.2.10- Provide a secure environment for financial transactions

The CFWA provides a secure environment for all the financial transactions that happen between startups and investors and for the storing and retrieving of confidential information regarding the startups, investors and all the transactions in the crowdfunding campaigns.

2.2.11- Assist in post-investment communication

This function facilitates communication between an investor who has invested in a startup and the concerned startup. The investor can communicate with the concerned startup to request for reports on the progress in work, seek information about the delivery of the financial returns etc.

2.2.12- Account logout

The function shall allow account holders to log out of their account.

2.2.13- Provide resources to new and existing users of the system

This function provides various resources to the new and existing users of the system, for ease of use of the system. The resources may include articles on how to get started with the website, basic features of the website and so on.

2.2.14- Contact us

This function facilitates the communication between the users of the CFWA and the administration of the CFWA. This can be helpful for reporting any issues or errors that may occur in the system and to resolve issues between various stakeholders of the system.

2.3- User Characteristics

The three groups of CFWA users are visitors, investors and startups. A visitor is simply a user who is not registered with the website. A visitor can only browse through the list of the active crowdfunding campaigns and he can neither start a crowdfunding campaign nor can he invest in any crowdfunding campaign. There is no product training required for a visitor since the level of technical expertise and educational background is unknown. The visitor just needs to know how to browse a website.

An investor is someone who has registered with the CFWA and intends to use the system for investing on startups. Though there is no technical expertise expected from an investor with respect to using the CFWA, it is however assumed that the investor has financial expertise on matters relating to startup funding, working of a crowdfunded startup, the return of investment on a crowdfunded startup, the ability to spot a startup that has the potential to give good returns on the investment made and so on. In general, a high degree of financial literacy is expected of the investor.

When referring to a startup in this case, we refer to the founder of the startup. As with an investor, it is expected that the founder has a high degree of financial literacy. The founder is also expected to be an excellent leader who can manage the funds in an effective manner such that financial interests of the investors can be protected and maximum returns can be generated for the investors. Honesty is also an integral value that is expected not just from startups but also from the investors, since a lot of money is at stake here. But apart from that, from the perspective of using of the CFWA, the founder is not expected to have technical expertise. The founder just need to know how to navigate and handle the web application.

2.4- General Constraints

The CFWA is a web application, so it shall operate in all famous browsers. It can be accessed with ease from the leading browsers of the day including:

- Google Chrome
- Mozilla Firefox.
- Safari

- Microsoft Edge

The CFWA shall not only be just viewed in PCs and laptops but also can be viewed in smaller screens such as smartphones, tablets etc, owing to the responsive web design integrated into the CFWA.

The only requirement to use this web application is an eligible computing device with an active internet connection.

The hardware configuration include:

1. CPU with 16 GB RAM
2. Hard disk – 256 GB
3. 30-inch monitor
4. A keyboard and mouse
5. A WiFi-hotspot

The software configuration include:

1. Visual Studio Code
2. MySQL database
3. Figma tool
4. Google chrome browser

2.5- Assumptions and dependencies

The assumptions made are:

1. The code is error free and does not have any software bugs
2. The CFWA is up and running for 24 hours a day, week long.
3. The CFWA is responsive and user friendly.
4. The user interface of the CFWA is so easy to understand that the users need not be trained on using the website.
5. The database connectivity to the website's server does not go down.
6. The connection to the database is fully secure.

The dependencies are:

1. The team working on the project must have a complete understanding of the web application.

2. The required hardware and software are a dependency.
3. The code needs to be iteratively reviewed from the security standpoint.

3. Functional Requirements

3.1 Product Catalog Page

This page will give you the brief description of the functionality of the Website application been built.This page will display the How the System works(How to raise funds and use them to build what you need and about the subscription fees.

3.2 Authentication Page

The application will ask for the user to sign in with username and password given. If the user had not been signed up before,the user can sign up with Email address and password which matches the latest security compliance and also the user can sign up with Social media accounts.The client will be getting a Email confirmation regarding verification of the user.There are 2 types of users investor and startup

3.3 Home Page

The Application will have a Navigation Bar on the top .Which houses the pages like Fundraisers,starting a fundraising campaign ,contact page. The page also contains gallery view of the fundraisers done previously.

3.4 Account view

The application will allow you to view the Fundraising campaign Created for the client and details like Funds raised,goal to be completed and next milestone to be achieved and also the product delivery status.The investor will

be able to access his portofolio of investments made in this website and will be able to monitor the startup and its product delivery status.

3.5 Browse Other Fundraisers

This application will allow the user to Browse though other fundraisers.This function will display only the funds raised and product delivery status by the client who used the fund.This will be displayed in a separate webpage which can be accessed from the top navigation.It will contain the fundraiser in card format.One can hover over the card to display the details regarding the fundraiser.The content will be hidden unless hovered over it.

3.6 Starting a Fund Raiser

This function will ask the client to fill up a form and submit the form. The page will display that the client will be getting a call from the company regarding the requirement given. After the submission of the form the client will be getting a confirmation email.

3.7 Status view of fundraiser

This function will be available in the account view.It will be showing investor details, funds raised in a real time. The user will be able to utilise the funds only when a certain limit reaches and the client submits a product milestone he has made until used by previous funds.

3.8 Investment opportunites

The investor user can browse through all categories of fundraisers.the investor will be able to contact the fundraiser though email and can get some doubts clarified if there is any disparity.

3.9 Transaction function:

This service is added to provide secure bank transfers as there is potential risks in transferring large amounts of funds for the investors as well as fundraiser.

3.10 Logout:

This function allow you to log out of the application and databases securely.

3.11 Contact page:

This page will display the contact details of the customer care services of the web application and also the details of the developer team who created the interactive web page.

4. Non-functional Requirements

4.1. Performance

The performance of a web application determines how fast the application can respond to user commands. Nowadays, with increasing internet connection speed, users expect a quick response from the application. The application aims to provide quick and accurate responses. Special attention will also be given to analyzing the traffic on the CFWA regularly.

4.2. Scalability

Scalability addresses the workloads under which the system will meet the performance requirements. The application aims around 1,000 users to use the system daily. Based on the user count pattern, scalability will be kept in check once in a while.

4.3. Security

Security is a very integral part in CFWA. Payment details are very sensitive information which requires high level security in order to prevent unauthorized access. The application implements blockchain technology to enhance its security measures. Payments are done through a separate secured gateway. Passwords are encrypted and stored in the database. Every user has his/ her account which can only be accessed by them.

4.4. Portability

The application is accessible on the World Wide Web(www) using any web browser such as Google Chrome, Mozilla Firefox, Microsoft Edge, etc. The CFWA provides portability across all operating systems such as Windows, Linux, Mac OS, etc. The application can be accessed using any device with an internet connection and a web browser.

4.5. Reliability

The application should run without any failure all the time. The application shall undergo regular testing to ensure no failure during critical times.

4.6. Maintainability

The database is maintained using MySQL. In case of a failure at any time, the system should be restored with a few hours at the maximum. Regular maintenance breaks will be scheduled in accordance with the users' active pattern.

4.7. Usability

The application should be user-friendly and user interactive. Any new user should effectively learn and use the system within a few minutes. Any user can access all the features of the application by creating an account.

The system should be available at all times, meaning the user can access it using a web browser, only restricted by the down time of the server on which the system runs. In case of a hardware failure or database corruption, a replacement page will be shown. Also, in case of a hardware failure or database corruption, backups of the database should be retrieved with the MySQL server and saved by the administrator.

6. System model

Given below is the use case diagram of the system that gives a brief overview about the functionalities of the system.
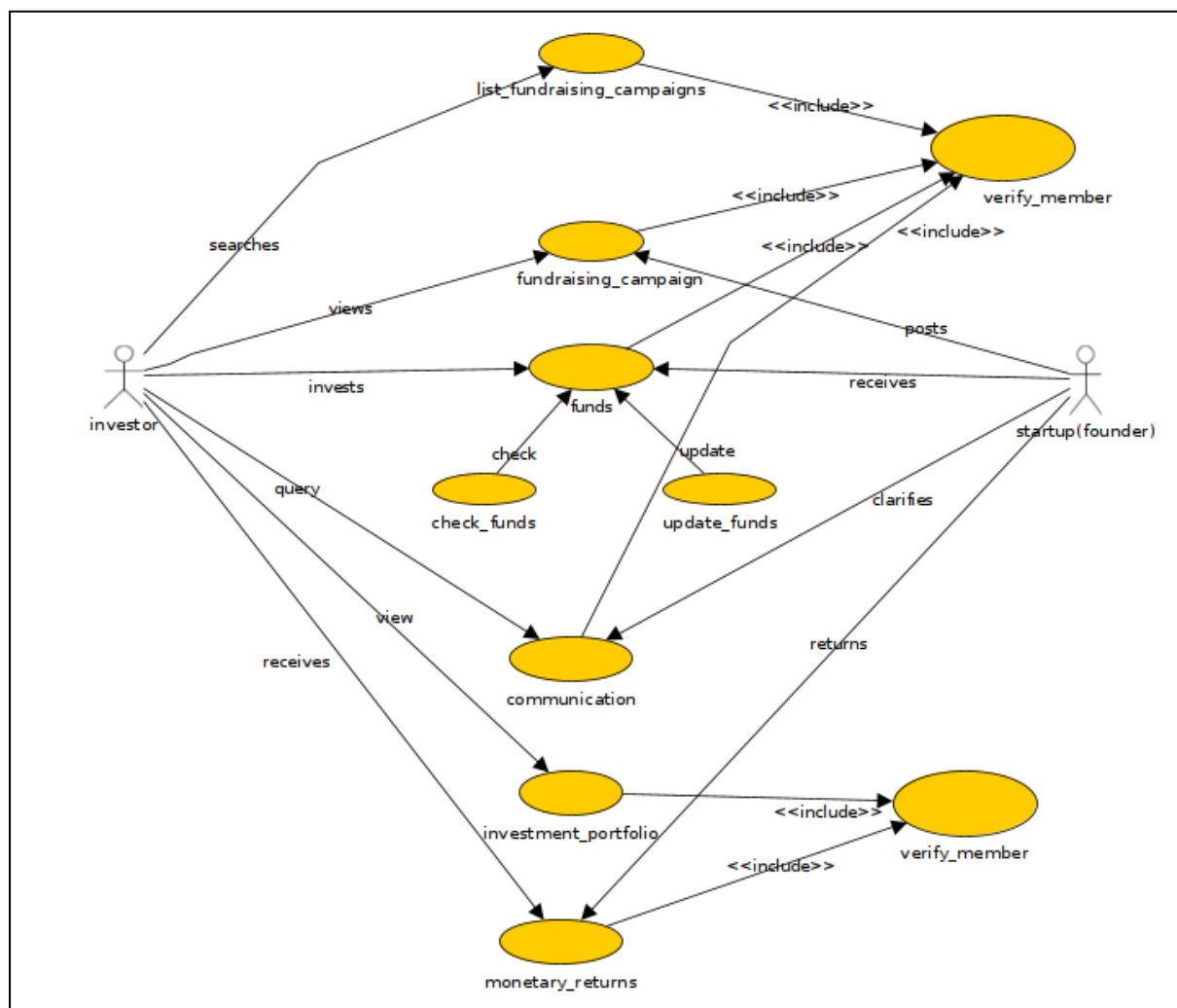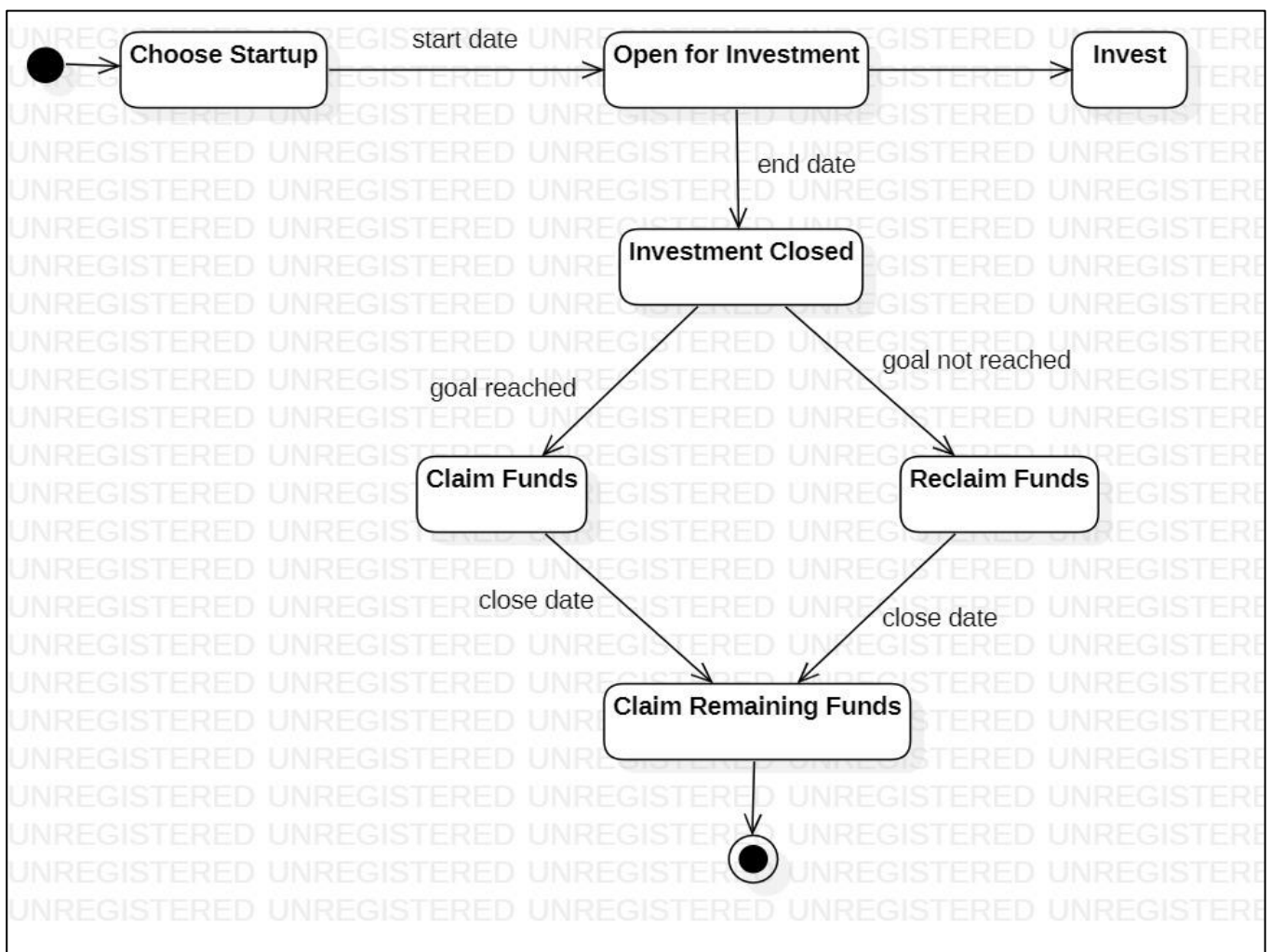
SDS DOCUMENT

Behaviour diagrams

1. Activity diagram

Activity diagram is basically a flowchart to represent the flow from one activity to another activity. The activity can be described as an operation of the system. The control flow is drawn from one operation to another. This flow can be sequential, branched, or concurrent.

2. State Machine diagram

The state machine diagram shows us how the client uses the web application from login step.
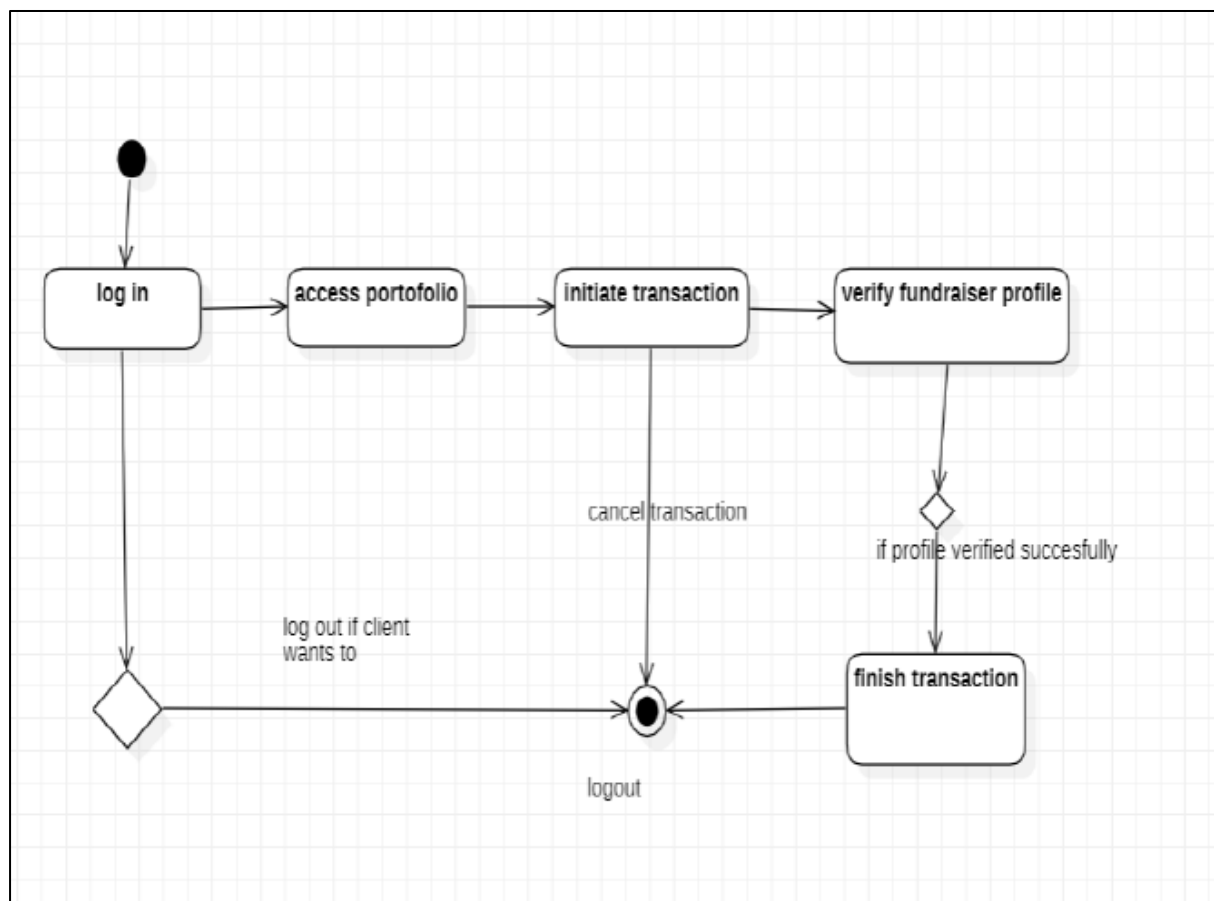
3. Use Case diagram

Given below is the use case diagram of the CFWA
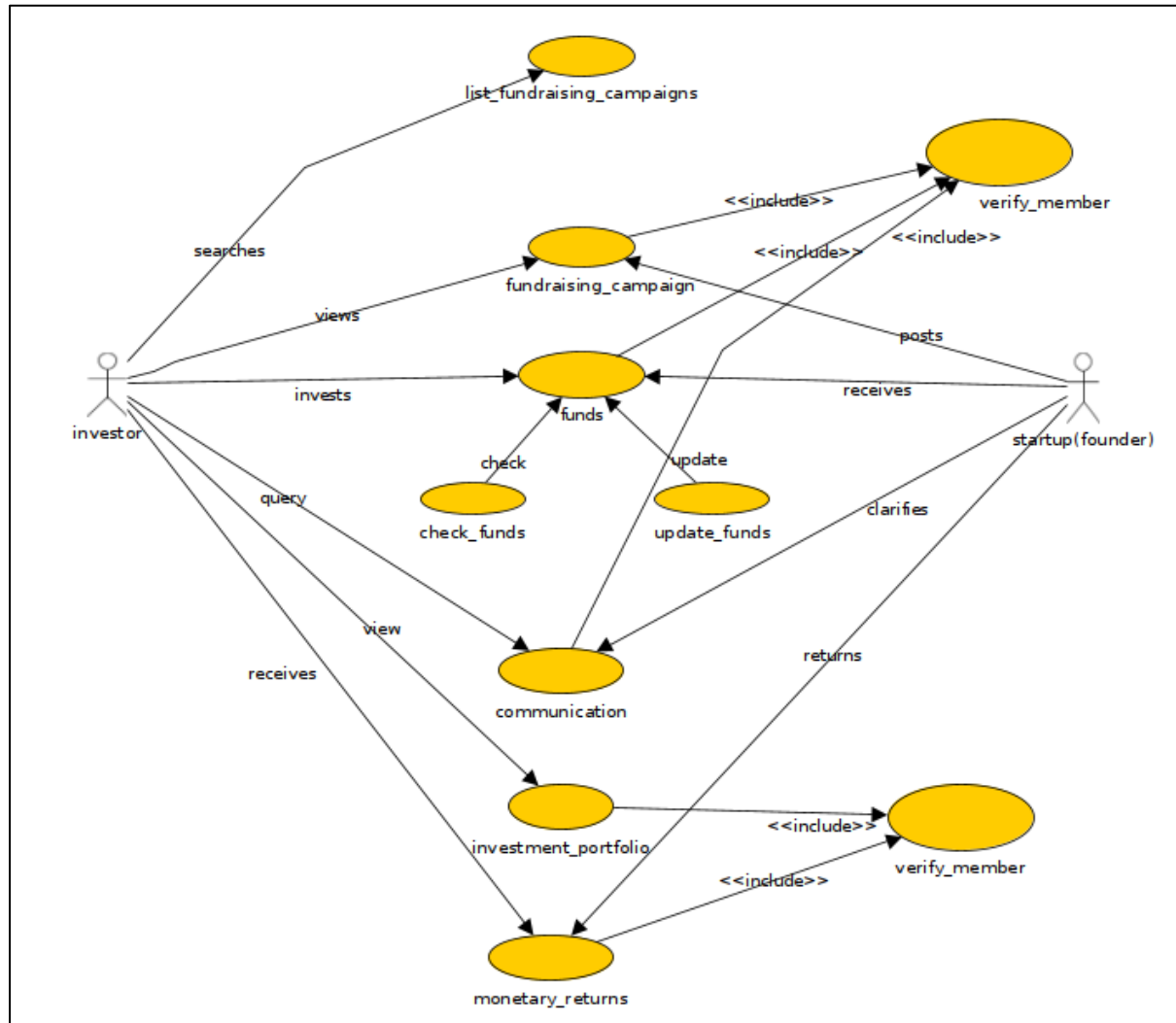
4. Communication diagram

This communication diagram illustrates the process of deposit of investment money by the investor.

sd CommunicationDiagram1

2 : Update funding requirements of the startup

| Investor | 1 : Deposit investment money | CFWA |

3 : Transfer investment money

Funds account

4 : Release the funds requested by the startup

Startup
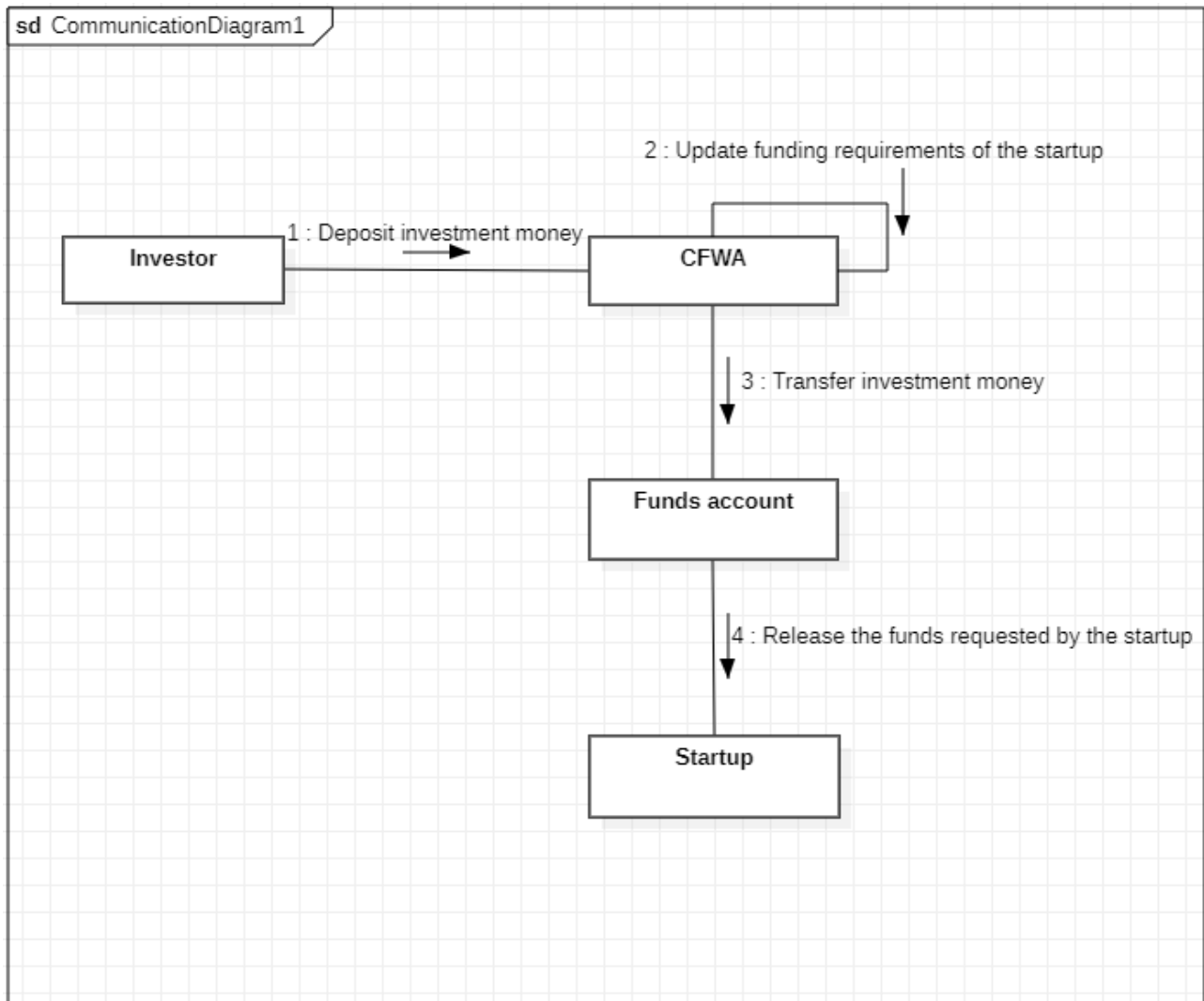
5. Interaction overview diagram

This interaction overview diagram illustrates the process of validating (happening in the CFWA) an investor's investment decision.
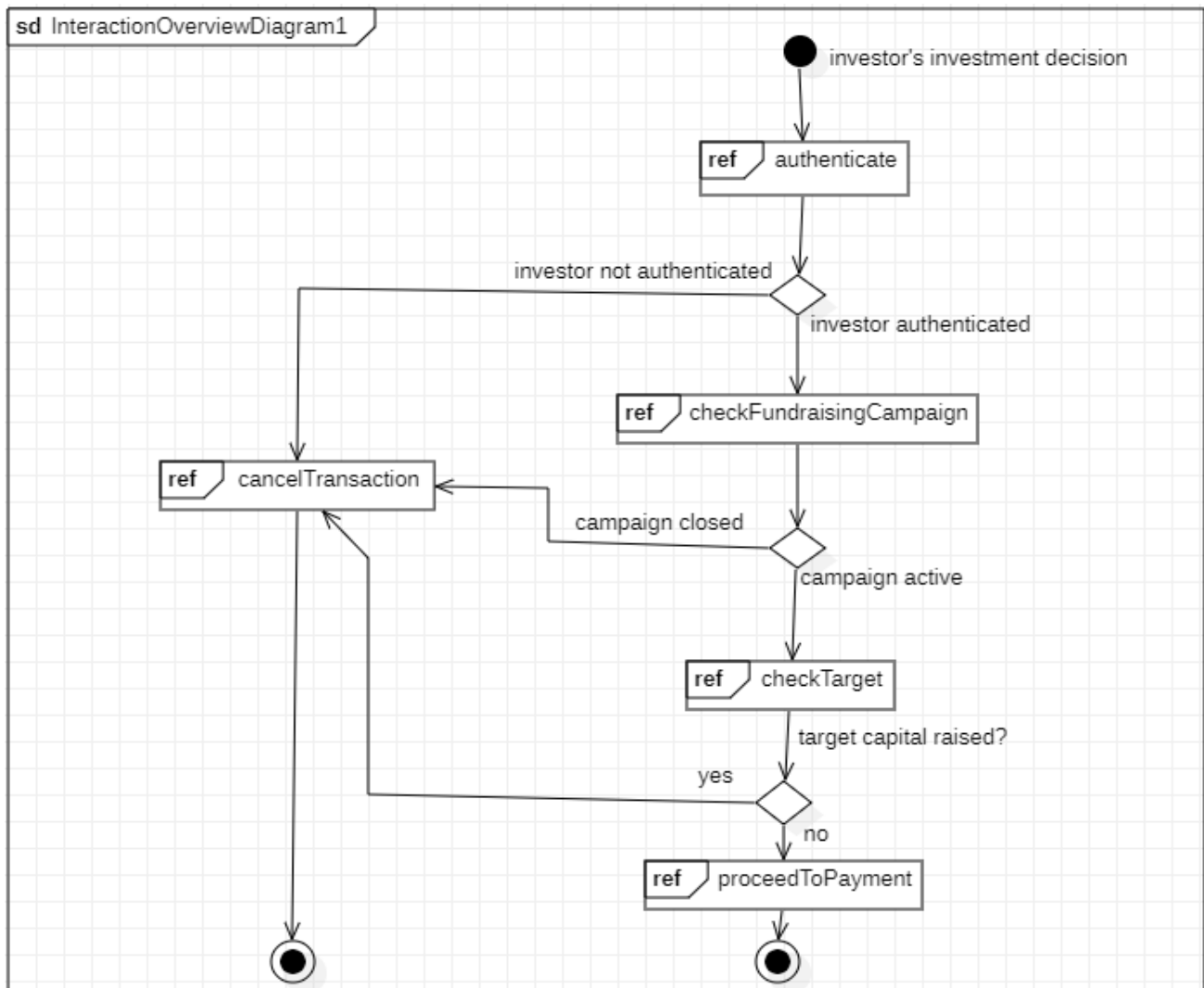
6. Sequence diagram

This sequence diagram illustrates the sequence of events that happen during the flow of investment from the investor to the startup through the CFWA.

Investor	CFWA	Funds account	Startup

1: request all investment opportunities()

2: show all investment opportunities()

3: select startup to invest()

4: request login credentials()

5: supply login credentials()

6: verification successful()

7: deposit investment money()
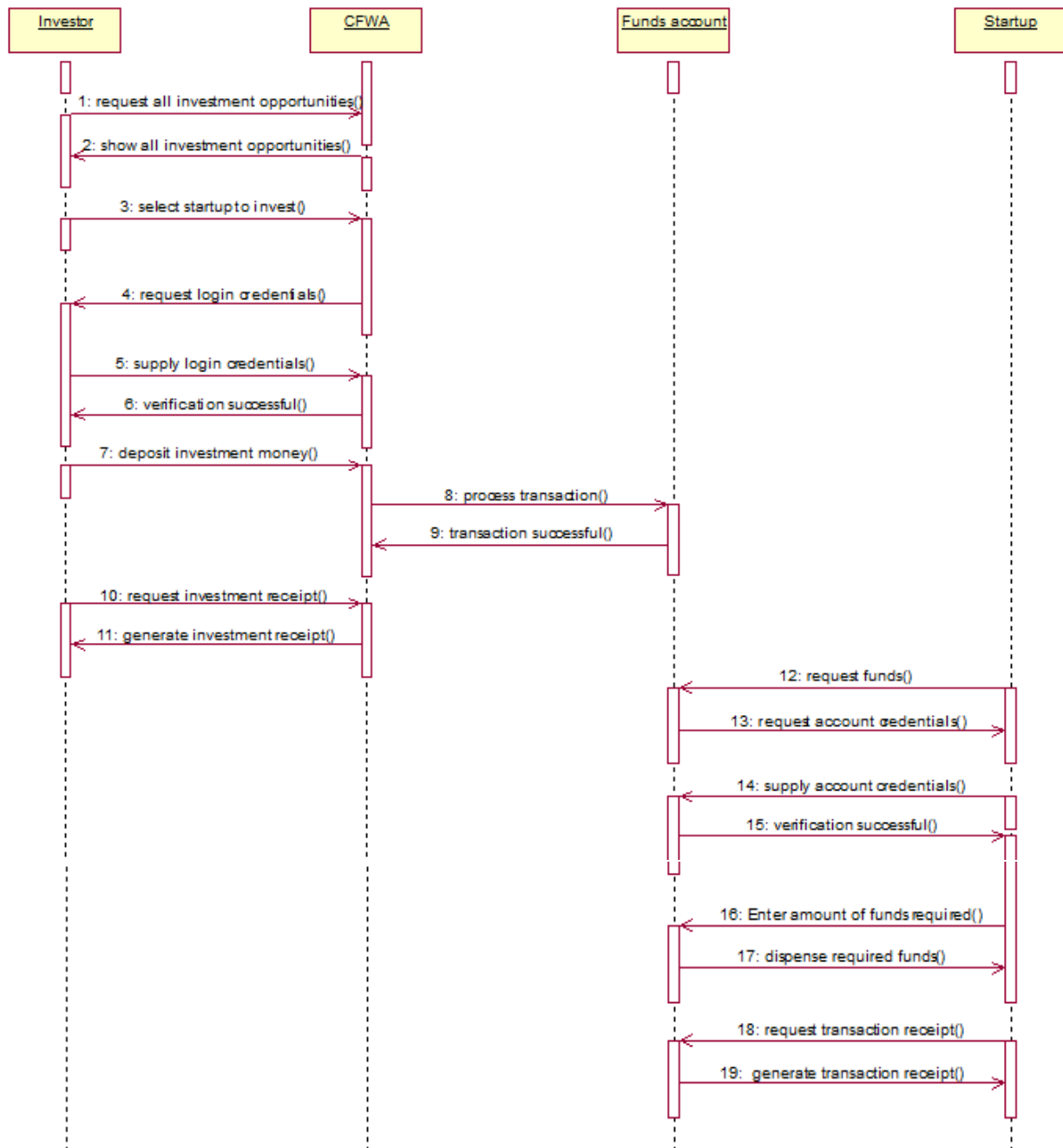
8: process transaction()

9: transaction successful()

10: request investment receipt()

11: generate investment receipt()

12: request funds()

13: request account credentials()

14: supply account credentials()

15: verification successful()

16: Enter amount of funds required()

17: dispense required funds()

18: request transaction receipt()

19: generate transaction receipt()

Structure diagrams

1. Class diagram

Class diagram is a static diagram. It represents the static view of an application. Class diagram is not only used for visualizing, describing, and documenting different aspects of a system but also for constructing executable code of the software application. Class diagram describes the attributes and operations of a class and also the constraints imposed on the system.
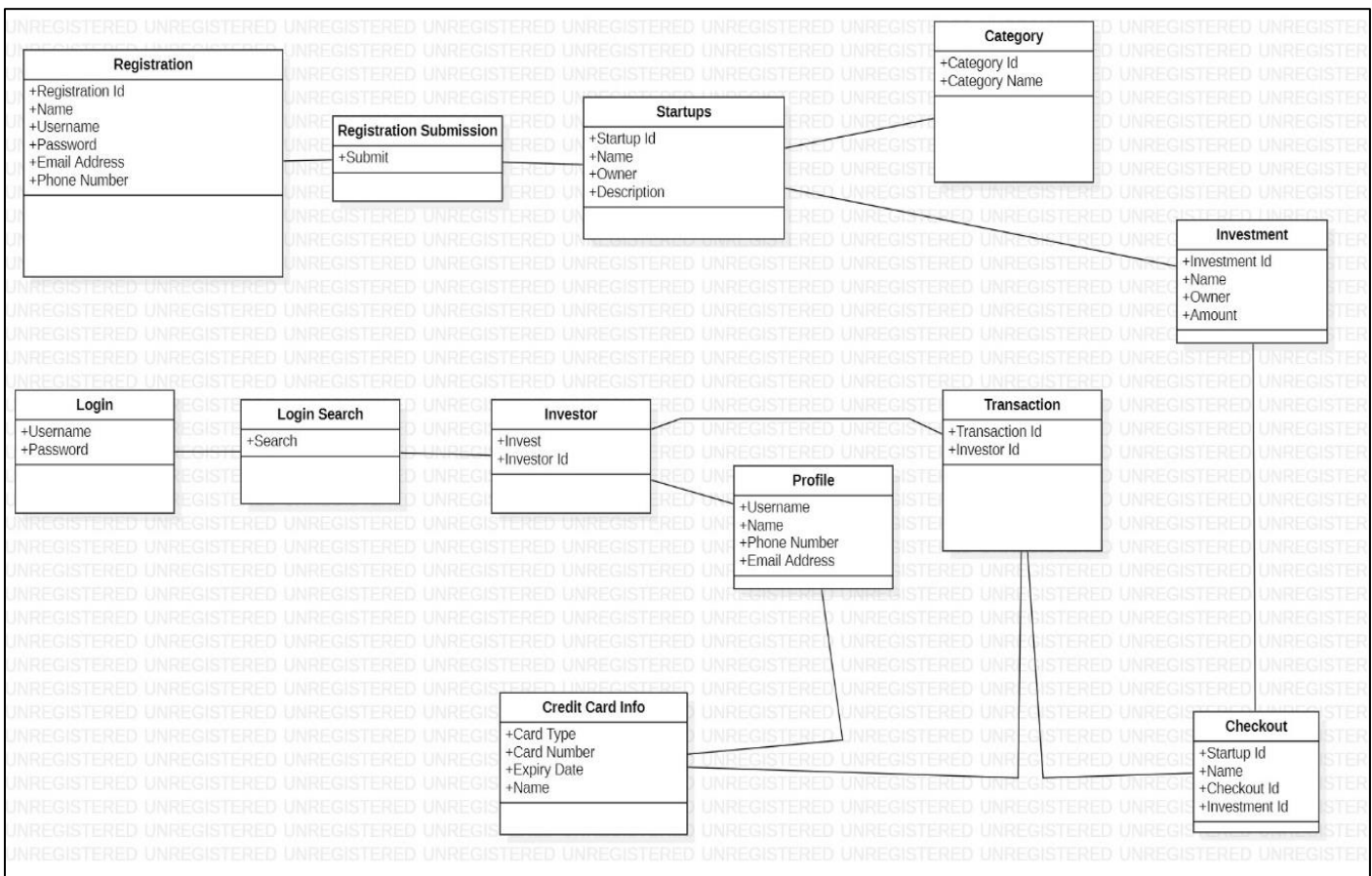
2. Composite structure diagram

The following composite structure diagram shows the abstract internal structure of the CFWA.
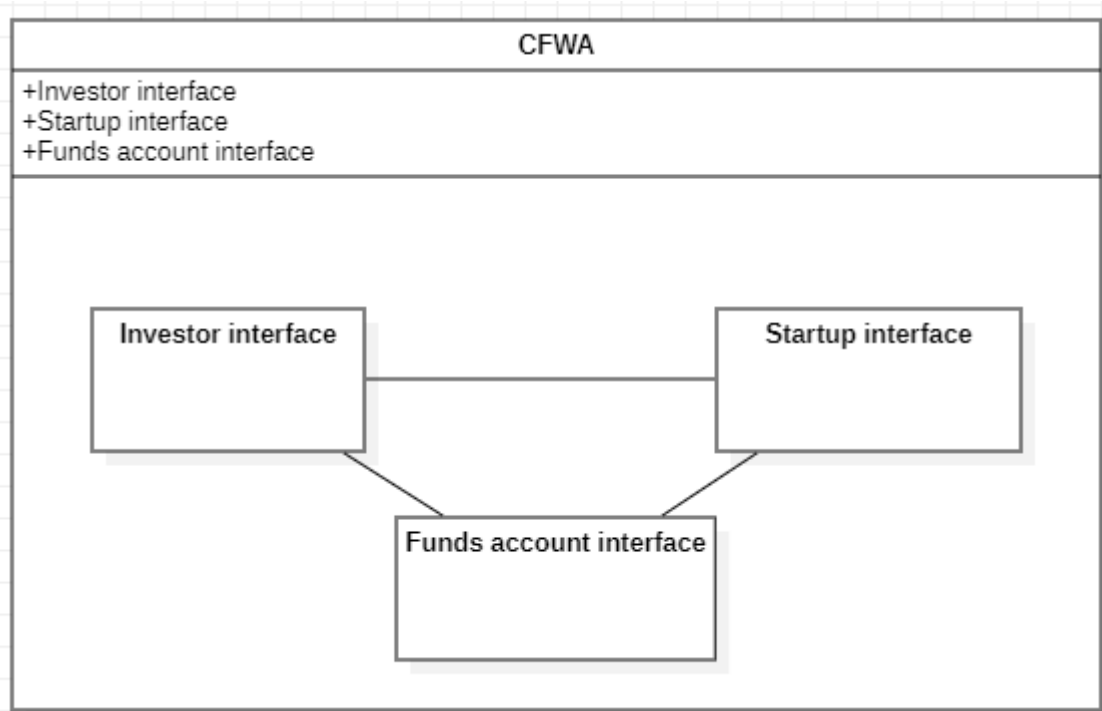
3. Component diagram

Component diagrams are used to model the physical aspects of a system. Component diagrams are used to visualize the organization and relationships among components in a system. These diagrams are also used to make executable systems.
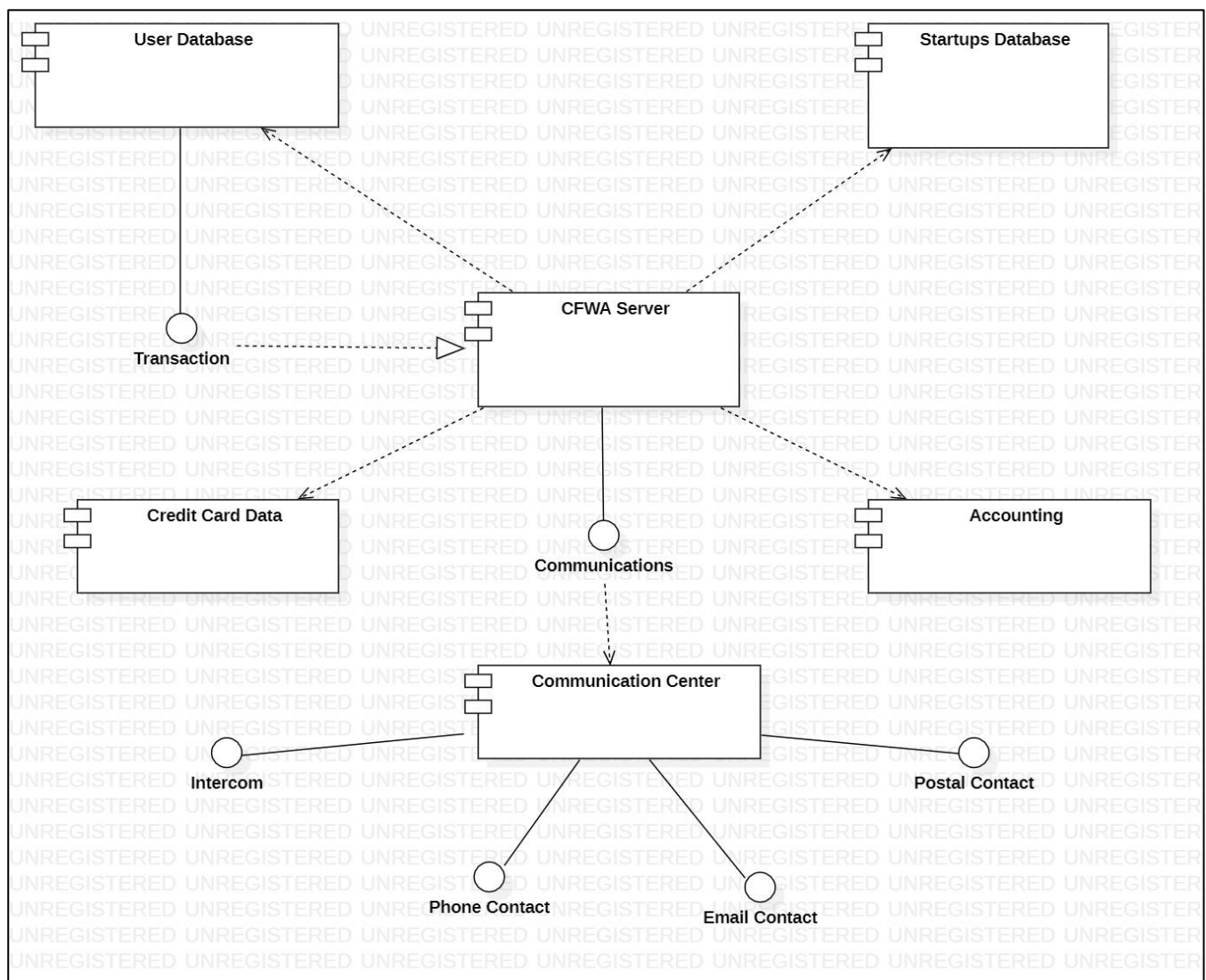
4. Deployment diagram

This Object diagram explains how the CFWA application is deployed. It shows the hardware and software application used in deployment process
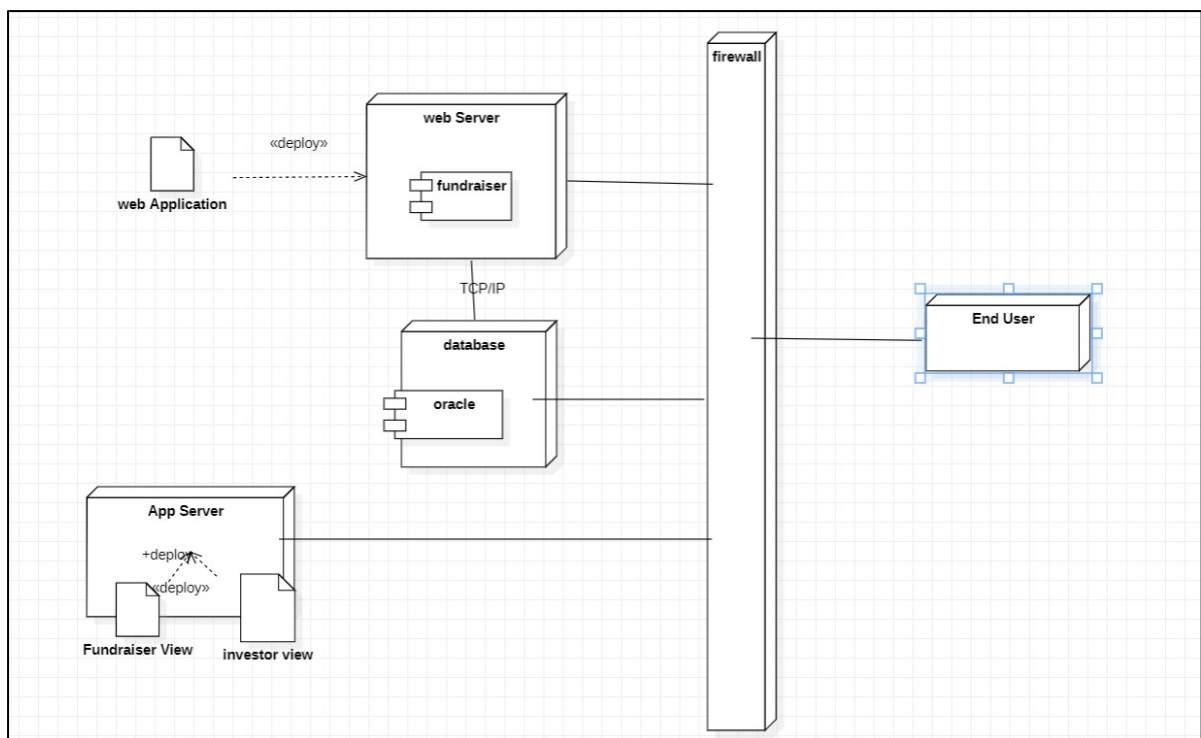
5. Object diagram

It represents a specific instance of a class diagram at certain moment of time.
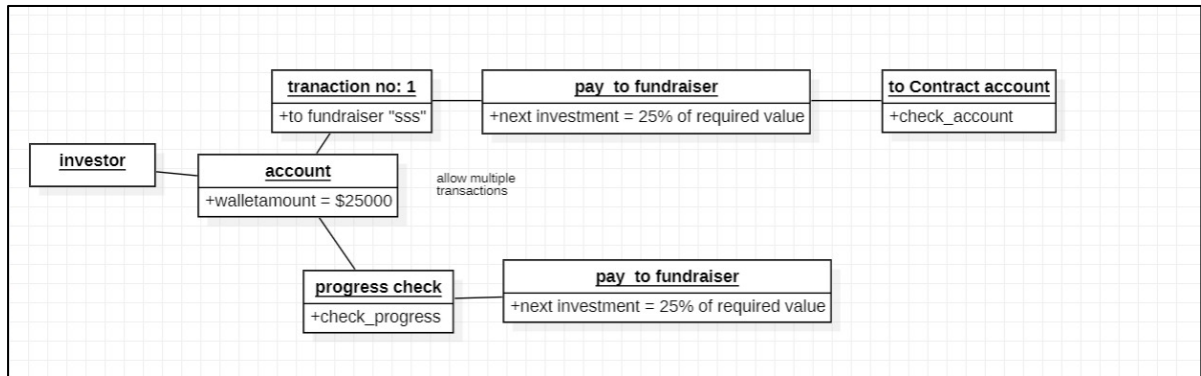
6. Package diagram

Package diagram shows the arrangement and organization of model elements in middle to large scale project that can be used to show both structure and dependencies between sub-systems or modules.
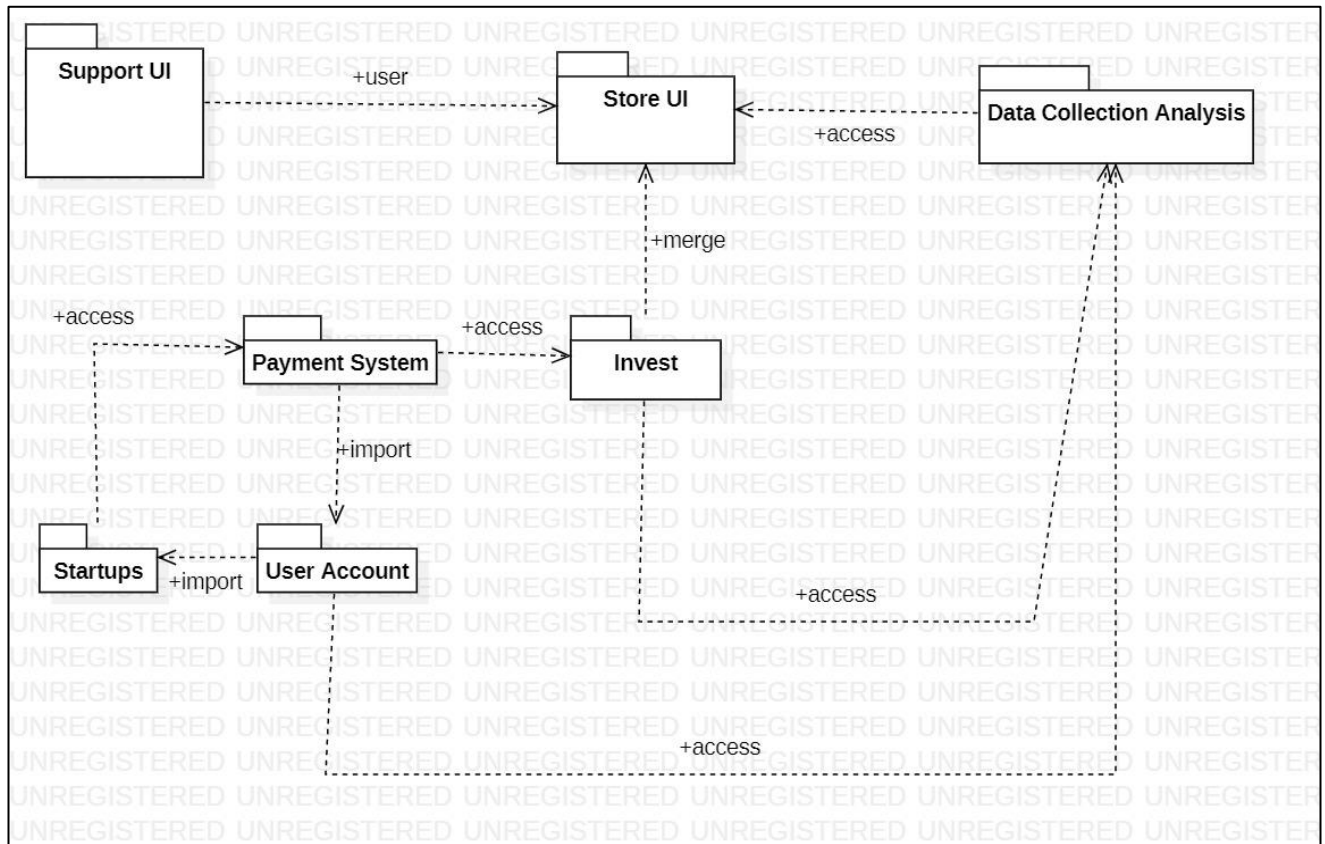
IMPLEMENTATION (source code)

We have attached the source code of only the important HTML files, because adding all the files (such as CSS and JS files) would make this file very big and make it harder to follow along.

The tech stack used for this implementation are given below:

➔ **Frontend** – HTML, CSS, JavaScript and Bootstrap

➔ **Backend** – PHP

➔ **Database** – MySQL

startup.html

```
<!DOCTYPE html>

<html lang="en">

 <head>

  <meta charset="UTF-8">

  <meta http-equiv="X-UA-Compatible"
content="IE=edge">

  <meta            name="viewport"
content="width=device-width,   initial-
scale=1.0">

  <title>Dashboard</title>

  <link              rel="stylesheet"
href="dist/css/bootstrap.min.css">

  <link              rel="stylesheet"
href="dist/css/bootstrap.min.css.map"
>

  <link              rel="stylesheet"
href="dist/css/bootstrap.rtl.min.css">
```

```
  <link              rel="stylesheet"
href="dist/css/bootstrap.rtl.min.css.m
ap">

  <link              rel="stylesheet"
href="pricing.css">

  <style>

   .footer_area {

   position: relative;

   z-index: 1;

   overflow: hidden;

   /* webkit-box-shadow: 0 8px 48px
8px rgba(47, 91, 234, 0.175); */

   box-shadow: 0 8px 48px 8px rgba(47,
91, 234, 0.175);

    padding: 60px;

   }
```

```css
.footer_area .row {

 margin-left: -25px;

 margin-right: -25px;

}

.footer_area .row .col,

.footer_area .row .col-1,

.footer_area .row .col-10,

.footer_area .row .col-11,

.footer_area .row .col-12,

.footer_area .row .col-2,

.footer_area .row .col-3,

.footer_area .row .col-4,

.footer_area .row .col-5,

.footer_area .row .col-6,

.footer_area .row .col-7,

.footer_area .row .col-8,

.footer_area .row .col-9,

.footer_area .row .col-auto,

.footer_area .row .col-lg,

.footer_area .row .col-lg-1,

.footer_area .row .col-lg-10,

.footer_area .row .col-lg-11,

.footer_area .row .col-lg-12,

.footer_area .row .col-lg-2,

.footer_area .row .col-lg-3,

.footer_area .row .col-lg-4,

.footer_area .row .col-lg-5,

.footer_area .row .col-lg-6,

.footer_area .row .col-lg-7,

.footer_area .row .col-lg-8,

.footer_area .row .col-lg-9,

.footer_area .row .col-lg-auto,

.footer_area .row .col-md,

.footer_area .row .col-md-1,

.footer_area .row .col-md-10,

.footer_area .row .col-md-11,

.footer_area .row .col-md-12,

.footer_area .row .col-md-2,

.footer_area .row .col-md-3,

.footer_area .row .col-md-4,

.footer_area .row .col-md-5,

.footer_area .row .col-md-6,

.footer_area .row .col-md-7,

.footer_area .row .col-md-8,

.footer_area .row .col-md-9,

.footer_area .row .col-md-auto,

.footer_area .row .col-sm,
```

```css
.footer_area .row .col-sm-1,

.footer_area .row .col-sm-10,

.footer_area .row .col-sm-11,

.footer_area .row .col-sm-12,

.footer_area .row .col-sm-2,

.footer_area .row .col-sm-3,

.footer_area .row .col-sm-4,

.footer_area .row .col-sm-5,

.footer_area .row .col-sm-6,

.footer_area .row .col-sm-7,

.footer_area .row .col-sm-8,

.footer_area .row .col-sm-9,

.footer_area .row .col-sm-auto,

.footer_area .row .col-xl,

.footer_area .row .col-xl-1,

.footer_area .row .col-xl-10,

.footer_area .row .col-xl-11,

.footer_area .row .col-xl-12,

.footer_area .row .col-xl-2,

.footer_area .row .col-xl-3,

.footer_area .row .col-xl-4,

.footer_area .row .col-xl-5,

.footer_area .row .col-xl-6,

.footer_area .row .col-xl-7,

.footer_area .row .col-xl-8,

.footer_area .row .col-xl-9,

.footer_area .row .col-xl-auto {

 padding-right: 25px;

 padding-left: 25px;

 }


.single-footer-widget {

 position: relative;

 z-index: 1;

 }


 .single-footer-widget .copywrite-text
a {

  color: #747794;

  font-size: 1rem;

 }


 .single-footer-widget .copywrite-text
a:hover,

 .single-footer-widget .copywrite-text
a:focus {

  color: #3f43fd;

 }


.single-footer-widget .widget-title {
```

```css
    margin-bottom: 1.5rem;

  }


  .single-footer-widget .footer_menu li
a {

    color: #747794;

    margin-bottom: 1rem;

    display: block;

    font-size: 1rem;

  }


  .single-footer-widget .footer_menu li
a:hover,

  .single-footer-widget .footer_menu li
a:focus {

    color: #3f43fd;

  }


  .single-footer-widget    .footer_menu
li:last-child a {

    margin-bottom: 0;

  }


  .footer_social_area {

    position: relative;

    z-index: 1;

  }

.footer_social_area a {

  border-radius: 50%;

  height: 40px;

  text-align: center;

  width: 40px;

  display: inline-block;

  background-color: #f5f5ff;

  line-height: 40px;

  -webkit-box-shadow: none;

  box-shadow: none;

  margin-right: 10px;

}


.footer_social_area a i {

  line-height: 36px;

}


.footer_social_area a:hover,

.footer_social_area a:focus {

  color: #ffffff;

}
```

```css
@-webkit-keyframes bi-cycle {

  0% {

    left: 0;

  }

  100% {

    left: 100%;

  }

}


@keyframes bi-cycle {

  0% {

    left: 0;

  }

  100% {

    left: 100%;

  }

}


ol li,

ul li {

  list-style: none;

}
```

```html
    ol,

    ul {

      margin: 0;

      padding: 0;

    }

   </style>

 </head>

 <body>

  <div class="container">

   <header class="d-flex flex-wrap align-items-center justify-content-center justify-content-md-between py-3 mb-4 border-bottom">

    <a href="/" class="d-flex align-items-center col-md-3 mb-2 mb-md-0 text-dark text-decoration-none">

     <svg class="bi me-2" width="40" height="32" role="img" aria-label="Bootstrap">

      <use xlink:href="#bootstrap"></use>

     </svg>

    </a>

    <ul class="nav col-12 col-md-auto mb-2 justify-content-center mb-md-0">

     <li>

      <a href="#" class="nav-link px-2 link-dark">View Status</a>
```

```html
          </li>

          <li>

          <a        href="startFundraiser.html"
class="nav-link px-2 link-dark">Start a
project</a>

          </li>

          <li>

          <a  href="#"  class="nav-link  px-2
link-dark">Fundraisers</a>

          </li>

          <li>

          <a   href="#"   class="nav-link   px-2
link-dark">FAQs</a>

          </li>

          </ul>

          <div class="col-md-3 text-end">

          <button   type="button"   class="btn
btn-outline-primary               me-
2">Logout</button>

          </div>

        </header>

      </div>

      <div class="py-5 text-center">

       <h2>View status of your fundraising
campaign</h2>

      </div>

      <div style="margin: 10px;" class="row
row-cols-2 row-cols-md-3 mb-2 text-
center">

        <div class="col">

        <div  class="card  mb-4  rounded-3
shadow-sm">

         <div class="card-header py-3">

          <h4          class="my-0          fw-
normal">Capital needed</h4>

         </div>

         <div class="card-body">

          <h1  class="card-title  pricing-card-
title">₹0</h1>

         </div>

        </div>

       </div>

       <div class="col">

        <div  class="card  mb-4  rounded-3
shadow-sm">

         <div class="card-header py-3">

          <h4          class="my-0          fw-
normal">Capital raised</h4>

         </div>

         <div class="card-body">

          <h1  class="card-title  pricing-card-
title">₹0</h1>

         </div>

        </div>

       </div>

       <div class="col">
```

```html
    <div class="card mb-4 rounded-3 shadow-sm">

    <div class="card-header py-3">

    <h4 class="my-0 fw-normal">Number of investors</h4>

    </div>

    <div class="card-body">

    <h1 class="card-title pricing-card-title">0</h1>

    </div>

    </div>

    </div>

    </div>
    <footer class="footer_area section_padding_130_0">

    <div class="container">

    <div class="row">

    <!-- Single Widget-->

    <div class="col-12 col-sm-6 col-lg-4">

    <div class="single-footer-widget section_padding_0_130">

    <!-- Footer Logo-->

    <div class="footer-logo mb-3"></div>

    <p>CFWA is completely free Web application. Transform Your Passoin to Money$$$</p>

    <!-- Copywrite Text-->

    <div class="copywrite-text mb-5">

    <p class="mb-0">Made with love from <i class="lni-heart mr-1"></i>

    <p class="ml-1" href="https://wrapbootstrap.com/user/DesigningWorld">

    <BR>ARUN <BR>RAHUL <BR>VIKRAMAN

    </p>

    </p>

    </div>

    <!-- Footer Social Area-->

    <div class="footer_social_area">

    <a href="#" data-toggle="tooltip" data-placement="top" title="" data-original-title="Facebook">

    <i class="fa fa-facebook"></i>

    </a>

    <a href="#" data-toggle="tooltip" data-placement="top" title="" data-original-title="Pinterest">

    <i class="fa fa-pinterest"></i>

    </a>

    <a href="#" data-toggle="tooltip" data-placement="top" title="" data-original-title="Skype">

    <i class="fa fa-skype"></i>

    </a>
```

```html
        <a href="#" data-toggle="tooltip"
data-placement="top" title="" data-
original-title="Twitter">

        <i class="fa fa-twitter"></i>

      </a>

     </div>

    </div>

   </div>

   <!-- Single Widget-->

   <div class="col-12 col-sm-6 col-lg">

    <div    class="single-footer-widget
section_padding_0_130">

     <!-- Widget Title-->

     <h5              class="widget-
title">About</h5>

     <!-- Footer Menu-->

     <div class="footer_menu">

      <ul>

       <li>

        <a href="#">About Us</a>

       </li>

       <li>

        <a href="#">Corporate Sale</a>

       </li>

       <li>

        <a    href="#">Terms    &amp;
Policy</a>
```

```html
     </li>

     <li>

      <a href="#">Community</a>

     </li>

    </ul>

   </div>

  </div>

 </div>

 <!-- Single Widget-->

 <div class="col-12 col-sm-6 col-lg">

  <div     class="single-footer-widget
section_padding_0_130">

   <!-- Widget Title-->

   <h5               class="widget-
title">Support</h5>

   <!-- Footer Menu-->

   <div class="footer_menu">

    <ul>

     <li>

      <a href="#">Help</a>

     </li>

     <li>

      <a href="#">Support</a>

     </li>

     <li>
```

```html
                    <a href="#">Privacy Policy</a>                          <li>

                </li>                                                            <a href="#">Call Centre</a>

                <li>                                                        </li>

                <a     href="#">Term     &amp;                             <li>
Conditions</a>
                                                                            <a href="#">Email Us</a>
                </li>
                                                                        </li>
                <li>
                                                                        <li>
                <a     href="#">Help     &amp;
Support</a>                                                                <a     href="#">Term     &amp;
                                                                    Conditions</a>
                </li>
                                                                        </li>
                </ul>
                                                                        <li>
            </div>
                                                                        <a href="#">Help Center</a>
        </div>
                                                                        </li>
        </div>
                                                                        </ul>
        <!-- Single Widget-->
                                                                        </div>
        <div class="col-12 col-sm-6 col-lg">
                                                                    </div>
        <div     class="single-footer-widget
section_padding_0_130">                                              </div>

        <!-- Widget Title-->                                        </div>

        <h5                  class="widget-                          </div>
title">Contact</h5>
                                                                </footer>
        <!-- Footer Menu-->
                                                                </body>
        <div class="footer_menu">
                                                                </html>
        <ul>
```
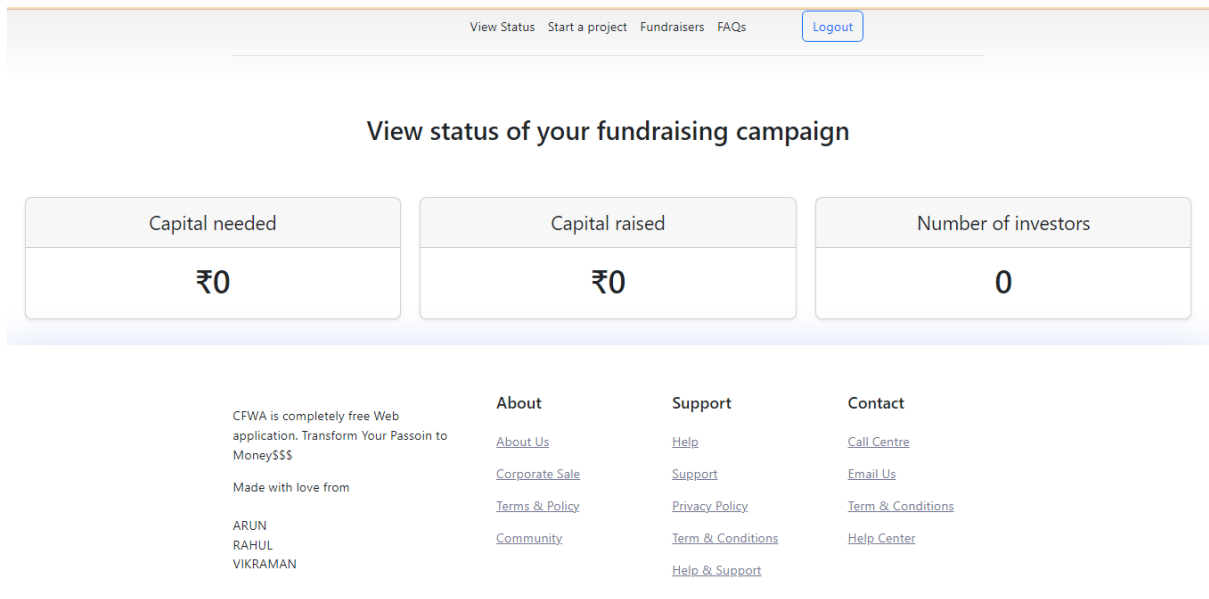
View status of your fundraising campaign

Capital needed	Capital raised	Number of investors
₹0	₹0	0

CFWA is completely free Web application. Transform Your Passoin to Money$$$

Made with love from

ARUN
RAHUL
VIKRAMAN

About

About Us

Corporate Sale

Terms & Policy

Community

Support

Help

Support

Privacy Policy

Term & Conditions

Help & Support

Contact

Call Centre

Email Us

Term & Conditions

Help Center

startFundraiser.html

```html
<!doctype html>

<html lang="en">

  <head>

    <meta charset="utf-8">

    <meta name="viewport" content="width=device-width, initial-scale=1">

    <meta name="description" content="">

    <meta name="author" content="Mark Otto, Jacob Thornton, and Bootstrap contributors">

    <meta name="generator" content="Hugo 0.101.0">

    <title>Start a fundraiser</title>

    <link rel="stylesheet" href="dist/css/bootstrap.min.css">

    <style>

      .bd-placeholder-img {

        font-size: 1.125rem;

        text-anchor: middle;

        -webkit-user-select: none;

        -moz-user-select: none;

        user-select: none;

      }

      @media (min-width: 768px) {

        .bd-placeholder-img-lg {
```

```css
      font-size: 3.5rem;

    }

  }


  .b-example-divider {

    height: 3rem;

    background-color: rgba(0, 0, 0,
.1);

    border: solid rgba(0, 0, 0, .15);

    border-width: 1px 0;

    box-shadow: inset 0 .5em 1.5em
rgba(0, 0, 0, .1), inset 0 .125em .5em
rgba(0, 0, 0, .15);

  }


  .b-example-vr {

    flex-shrink: 0;

    width: 1.5rem;

    height: 100vh;

  }


  .bi {

    vertical-align: -.125em;

    fill: currentColor;

  }


.nav-scroller {

  position: relative;

  z-index: 2;

  height: 2.75rem;

  overflow-y: hidden;

}


.nav-scroller .nav {

  display: flex;

  flex-wrap: nowrap;

  padding-bottom: 1rem;

  margin-top: -1px;

  overflow-x: auto;

  text-align: center;

  white-space: nowrap;

  -webkit-overflow-scrolling:
touch;

  }

</style>
```

```html
    <!-- Custom styles for this
template -->

    <link href="form-validation.css"
rel="stylesheet">

  </head>

  <body class="bg-light">

    <div class="container">

      <header class="d-flex flex-wrap
align-items-center justify-content-
center justify-content-md-between
py-3 mb-4 border-bottom">

        <a href="/" class="d-flex align-
items-center col-md-3 mb-2 mb-md-
0 text-dark text-decoration-none">

          <svg class="bi me-2"
width="40" height="32" role="img"
aria-label="Bootstrap"><use
xlink:href="#bootstrap"></use></sv
g>

        </a>

        <ul class="nav col-12 col-md-
auto mb-2 justify-content-center
mb-md-0">

          <li><a href="index.html"
class="nav-link px-2 link-dark">View
Status</a></li>

          <li><a href="#" class="nav-link
px-2 link-dark">Start a
project</a></li>

          <li><a href="#" class="nav-link
px-2 link-dark">Fundraisers</a></li>

          <li><a href="#" class="nav-link
px-2 link-dark">FAQs</a></li>

        </ul>

        <div class="col-md-3 text-end">

          <button type="button"
class="btn btn-outline-primary me-
2">Logout</button>

        </div>

      </header>

    </div>


<div class="container">

 <main>

  <div class="py-5 text-center">

   <h2>Start a fundraiser</h2>

   <p class="lead">Enter the details
of your fundraising campaign and
after due validation,

    your fundraising campaign will
go live immediately

   </p>

  </div>
```

```html
<div class="row g-5">

  <div class="col-md-7 col-lg-8">

    <form class="needs-validation" novalidate>

      <div class="row g-3">

        <div class="col-sm-6">

          <label for="firstName" class="form-label">Campaign title</label>

          <input type="text" class="form-control" id="firstName" placeholder="" value="" required>

          <div class="invalid-feedback">

            Valid Campaign title is required.

          </div>

        </div>



        <div class="col-12">

          <label for="desc" class="form-label">Add description</label>

          <div class="input-group has-validation">
```
```html
          <textarea class="form-control" rows=8 cols=50></textarea>

        </div>

      </div>



      <div class="col-12">

        <label for="capital" class="form-label">Capital to be raised <span class="text-muted">(in Rupees)</span></label>

        <input type="number" class="form-control" id="capital">

        <div class="invalid-feedback">

          Please enter a valid amount.

        </div>

      </div>



      <div class="col-12">

        <label for="mininv" class="form-label">Minimum investment per investor</label>

        <input type="number" class="form-control" id="mininv" required>
```

```html
            <div              class="invalid-
feedback">

              Please    enter    a    valid
amount.

          </div>

        </div>


      <div class="col-md-5">

        <label      for="returnType"
class="form-label">Returns
option</label>

        <select   class="form-select"
id="returnType" required>

          <option
value="">Choose...</option>

          <option
value="shares">Shares</option>

          <option
value="interest">Interest</option>

        </select>

        <div              class="invalid-
feedback">

          Please select a valid return
type.

        </div>

      </div>
```

```html
      <br>

      <div class="col-md-3">

        <label         for="contact"
class="form-label">Contact
mail</label>

        <input          type="email"
style="width:350px;"    class="form-
control"             id="contact"
placeholder="" required>

        <div              class="invalid-
feedback">

          Contact mail required

        </div>

      </div>

    </div>



    <hr class="my-4">


    <div class="form-check">

      <input        type="checkbox"
class="form-check-input"
id="notify">

      <label       class="form-check-
label"    for="same-address">Send
notification every time an investor
invests in this campaign</label>

    </div>
```

```html
        <div class="form-check">

          <input        type="checkbox"
class="form-check-input"  id="save-
info">

          <label       class="form-check-
label"   for="save-info">Save      this
information for next time</label>

        </div>


        <hr class="my-4">


        <button class="w-100 btn btn-
primary btn-lg" type="submit">Post
this fundraising campaign</button>

      </form>

    </div>

   </div>

  </main>


  <footer   class="my-5   pt-5   text-
muted text-center text-small">

      <p   class="mb-1">&copy;  2020–
2025 WeFund</p>

    <ul class="list-inline">

      <li      class="list-inline-item"><a
href="#">Privacy</a></li>

      <li      class="list-inline-item"><a
href="#">Terms</a></li>

      <li      class="list-inline-item"><a
href="#">Support</a></li>

    </ul>

  </footer>

</div>


    <script
src="../assets/dist/js/bootstrap.bun
dle.min.js"></script>


    <script                   src="form-
validation.js"></script>

  </body>

</html>
```

Start a fundraiser

Enter the details of your fundraising campaign and after due validation, your fundraising campaign will go live immediately

Campaign title

Add description

Capital to be raised (in Rupees)

Capital to be raised (in Rupees)

Minimum investment per investor

Returns option

Choose...

Contact mail

☐ Send notification every time an investor invests in this campaign
☐ Save this information for next time

Post this fundraising campaign

InvestorHomePage.html

```html
<!doctype html>

<html lang="en">

  <head>

    <meta charset="utf-8">

    <meta name="viewport"
content="width=device-width,
initial-scale=1, shrink-to-fit=no">

    <link rel="stylesheet"
href="https://stackpath.bootstrapc
dn.com/bootstrap/4.4.1/css/bootstr
ap.min.css"
crossorigin="anonymous">

    <link rel="stylesheet"
href="styles.css">

    <link rel="stylesheet"
href="https://cdnjs.cloudflare.com/
ajax/libs/font-
awesome/4.7.0/css/font-
awesome.min.css">

    <link
href="//maxcdn.bootstrapcdn.com/
bootstrap/4.0.0/css/bootstrap.min.
css" rel="stylesheet" id="bootstrap-
css">

<script
src="//maxcdn.bootstrapcdn.com/b
ootstrap/4.0.0/js/bootstrap.min.js"
></script>

<script
src="//cdnjs.cloudflare.com/ajax/lib
s/jquery/3.2.1/jquery.min.js"></scri
pt>

    <title>Hello, world!</title>

  </head>

  <body>

  <div class="text-center text-dark
pad" style="height:50px;padding-
top:10px;background-color:"> We
Fund</div>


    <div class="container ">

        <div class="container">

  <header class="d-flex flex-wrap
align-items-center justify-content-
center justify-content-md-between
py-3 mb-4 border-bottom">

    <a href="/" class="d-flex align-
items-center col-md-3 mb-2 mb-md-
0 text-dark text-decoration-none">

      <svg class="bi me-2" width="40"
height="32" role="img" aria-
label="Bootstrap"><use
xlink:href="#bootstrap"></use></sv
g>

    </a>
```

```html
    <ul class="nav col-12 col-md-
auto mb-2 justify-content-center
mb-md-0">

        <li><a href="#" class="nav-link
px-2 link-dark">View Status</a></li>

        <li><a href="#" class="nav-link
px-2         link-dark">Start        a
project</a></li>

        <li><a href="#" class="nav-link
px-2 link-dark">Fundraisers</a></li>

        <li><a href="#" class="nav-link
px-2 link-dark">FAQs</a></li>

      </ul>


      <div class="col-md-3 text-end">

        <button         type="button"
class="btn btn-outline-primary me-
2">Logout</button>

      </div>

    </header>

  </div>

          <div class="card">

          <div    class="card-header
text-uppercase      font-weight-bold
font-italic"> Investor1 </div>

      <div              class="card-body"
style="background-color:#f2f2f2">>
```

This contains the Description of
the Investor Prodcut or service
details

```html
    </div>

    <a href="#" class="btn btn-light
"style="background-
color:#007BFF">Invest Now</a>


    </div>

    <br>

    <div class="card">

          <div    class="card-header
text-uppercase      font-weight-bold
font-italic"> Investor2</div>

        <div              class="card-body"
style="background-color:#f2f2f2">>
```

This contains the Description of
the Investor Prodcut or service
details

```html
    </div>

    <a href="#" class="btn btn-light"
style="background-
color:#007BFF">Invest Now</a>


    </div>

    <br>

    <div class="card">
```

```html
        <div class="card-header
text-uppercase   font-weight-bold
font-italic"> Investor3</div>

    <div          class="card-body"
style="background-color:#f2f2f2">

    This contains the Description of
the Investor Prodcut or service
details

    </div>

    <a href="#" class="btn btn-light"
style="background-
color:#007BFF">Invest Now</a>


  </div>

  <br>

   <div class="card">

        <div    class="card-header
text-uppercase   font-weight-bold
font-italic"> Investor 4</div>

    <div          class="card-body"
style="background-color:#f2f2f2">

    This contains the Description of
the Investor Prodcut or service
details

    </div>

    <a href="#" class="btn btn-light"
style="background-
color:#007BFF">Invest Now</a>
```

```html
   </div>

  </div>

  <br>


 <footer          class="footer_area
section_padding_130_0">

   <div class="container">

    <div class="row">

     <!-- Single Widget-->

     <div class="col-12 col-sm-6 col-
lg-4">

      <div     class="single-footer-
widget section_padding_0_130">

       <!-- Footer Logo-->

       <div  class="footer-logo mb-
3"></div>

       <p>CFWD is completely free
Web application. Transform Your
Passoin to Money$$$</p>

       <!-- Copywrite Text-->

       <div    class="copywrite-text
mb-5">

       <p      class="mb-0">Made
with love from <i class="lni-heart mr-
1"></i><p             class="ml-1"
href="https://wrapbootstrap.com/u
ser/DesigningWorld"><BR>ARUN
```

```html
<BR>RAHUL<BR>
VIKRAMAN</p></p>

        </div>

        <!-- Footer Social Area-->

        <div
class="footer_social_area"><a
href="#" data-toggle="tooltip" data-
placement="top"   title=""   data-
original-title="Facebook"><i
class="fa   fa-facebook"></i></a><a
href="#" data-toggle="tooltip" data-
placement="top"   title=""   data-
original-title="Pinterest"><i
class="fa   fa-pinterest"></i></a><a
href="#" data-toggle="tooltip" data-
placement="top"   title=""   data-
original-title="Skype"><i   class="fa
fa-skype"></i></a><a href="#" data-
toggle="tooltip"              data-
placement="top"   title=""   data-
original-title="Twitter"><i   class="fa
fa-twitter"></i></a></div>

        </div>

        </div>

        <!-- Single Widget-->

        <div class="col-12 col-sm-6 col-
lg">

        <div       class="single-footer-
widget section_padding_0_130">

        <!-- Widget Title-->

        <h5              class="widget-
title">About</h5>

        <!-- Footer Menu-->

        <div class="footer_menu">

        <ul>

        <li><a       href="#">About
Us</a></li>

        <li><a href="#">Corporate
Sale</a></li>

        <li><a       href="#">Terms
&amp; Policy</a></li>

        <li><a
href="#">Community</a></li>

        </ul>

        </div>

        </div>

        </div>

        <!-- Single Widget-->

        <div class="col-12 col-sm-6 col-
lg">

        <div       class="single-footer-
widget section_padding_0_130">

        <!-- Widget Title-->

        <h5              class="widget-
title">Support</h5>

        <!-- Footer Menu-->

        <div class="footer_menu">

        <ul>
```

```html
        <li><a href="#">Help</a></li>

        <li><a href="#">Support</a></li>

        <li><a href="#">Privacy Policy</a></li>

        <li><a href="#">Term &amp; Conditions</a></li>

        <li><a href="#">Help &amp; Support</a></li>

      </ul>

    </div>

   </div>

  </div>

  <!-- Single Widget-->

  <div class="col-12 col-sm-6 col-lg">

    <div class="single-footer-widget section_padding_0_130">

      <!-- Widget Title-->

      <h5 class="widget-title">Contact</h5>

      <!-- Footer Menu-->

      <div class="footer_menu">

       <ul>

        <li><a href="#">Call Centre</a></li>

        <li><a href="#">Email Us</a></li>

        <li><a href="#">Term &amp; Conditions</a></li>

        <li><a href="#">Help Center</a></li>

      </ul>

    </div>

   </div>

  </div>

 </div>

</footer>

<!-- Footer -->

<!-- Optional JavaScript -->

<!-- jQuery first, then Popper.js, then Bootstrap JS -->

<!--<script src="https://cdnjs.cloudflare.com/ajax/libs/jquery/3.4.1/jquery.slim.min.js" crossorigin="anonymous"></script>-->

<!--<script src="https://cdn.jsdelivr.net/npm/popper.js@1.16.0/dist/umd/popper.
```

```
min.js"
crossorigin="anonymous"></script>
-->

    <!--<script
src="https://stackpath.bootstrapcd
n.com/bootstrap/4.4.1/js/bootstrap
.min.js"
```

```
crossorigin="anonymous"></script>
-->

    <!--<script
src="script.js"></script>-->

  </body>

</html>
```
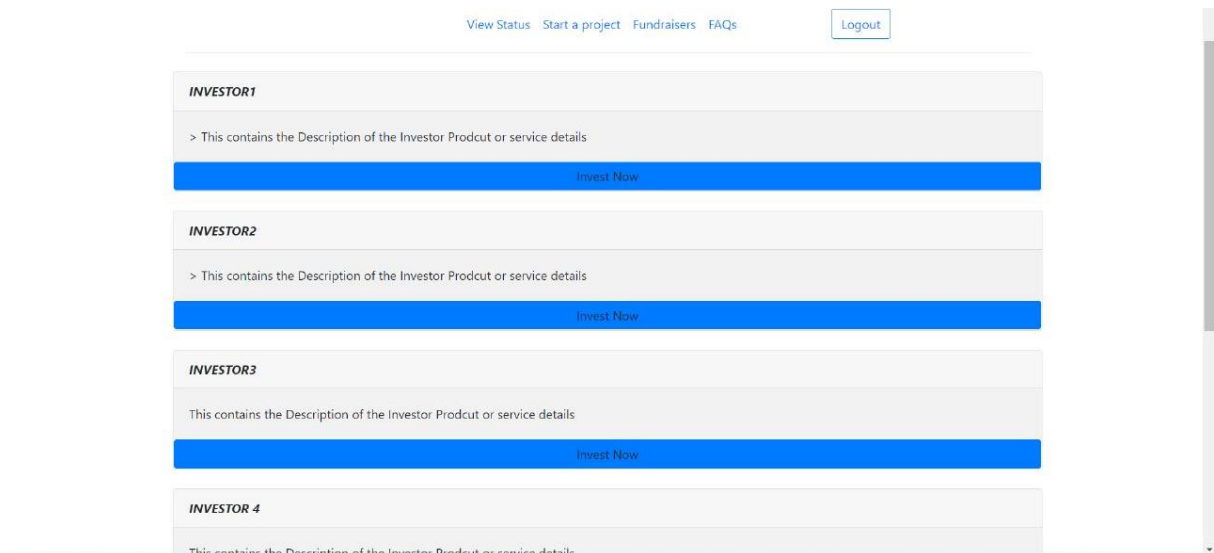
TESTING
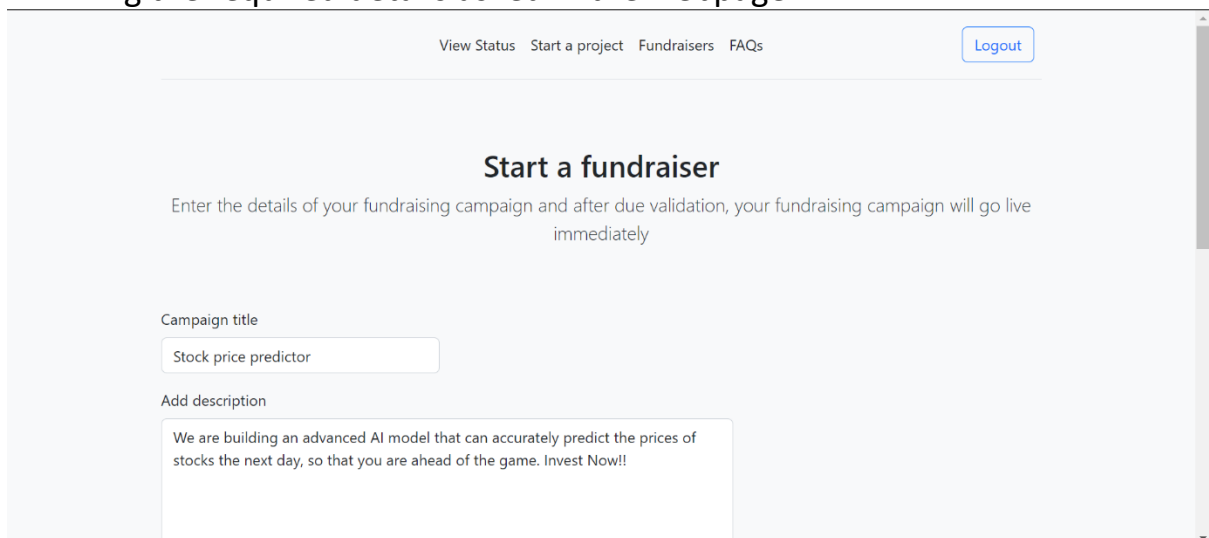
We have used the black box testing methodology to test our application.

Black box testing is a technique of software testing which examines the functionality of software without peering into its internal structure or coding. The primary source of black box testing is a specification of requirements that is stated by the customer.
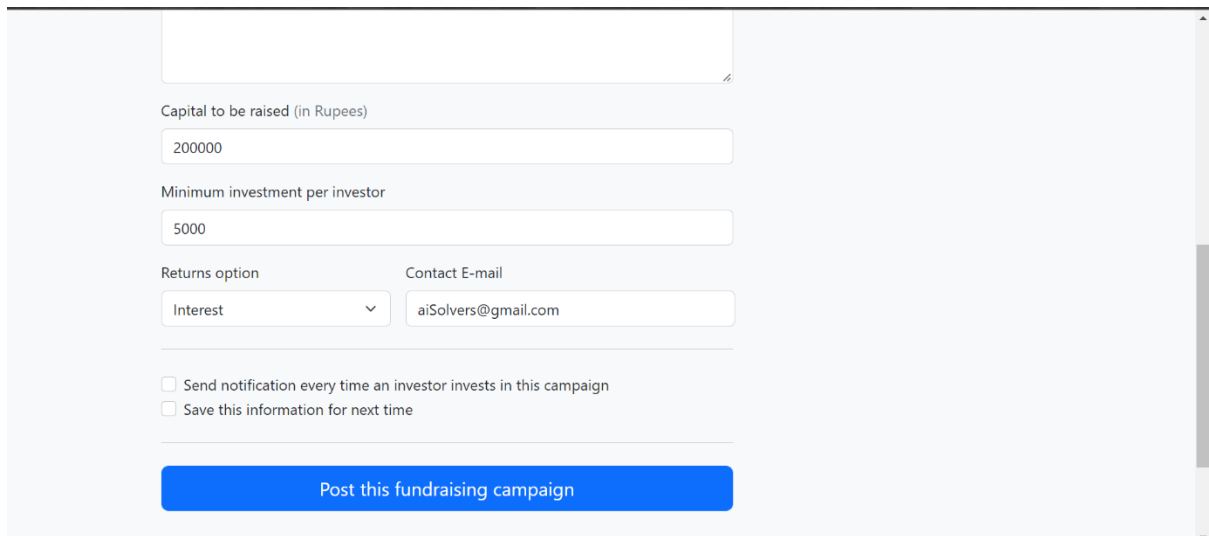
Let us test this application by giving it some inputs, if it produces the expected output, then the application has passed the test.

Testing the posting of a fundraising campaign functionality (used by startup):

1. Filling the required details asked in the webpage

2. After filling all the details the 'post' button is clicked

Capital to be raised (in Rupees)

200000

Minimum investment per investor

5000

Returns option   Contact E-mail

Interest   ⌄   aiSolvers@gmail.com

☐ Send notification every time an investor invests in this campaign
☐ Save this information for next time

Post this fundraising campaign

3. The application says that the fundraiser has been added

localhost says

Fundraiser Added!

OK
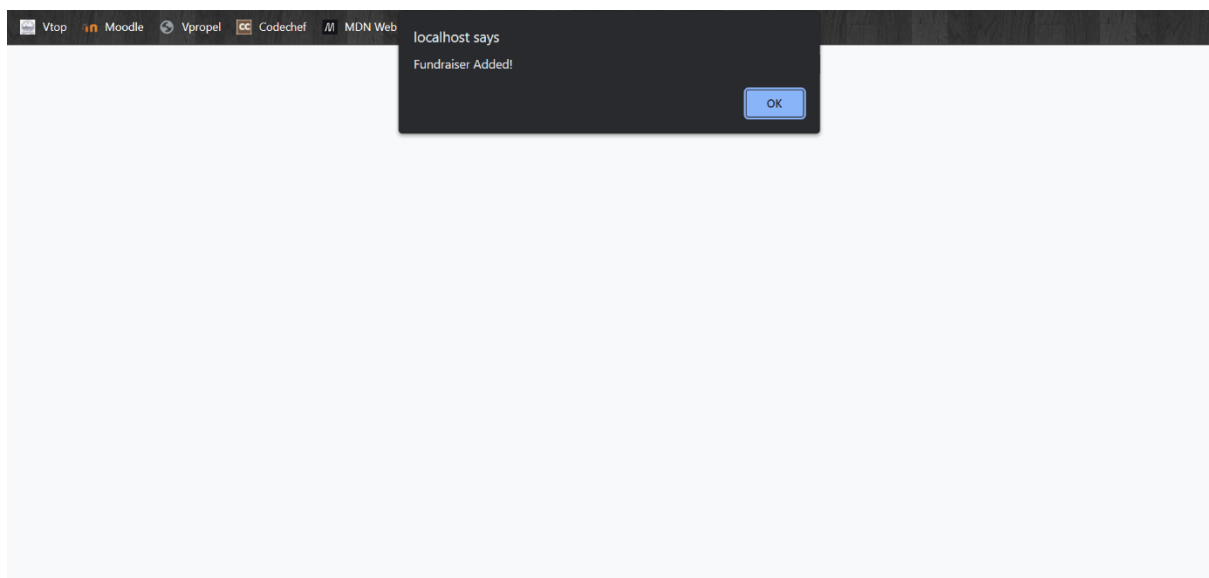
4. We check the database for the corresponding entry and we find it there as well.

So our 'Posting fundraisers' campaign has passed the given test case.

5. Now let us give incorrect inputs to the application.

But on clicking the 'post' button, the application does not allow to post the details. But it shows the errors in the inputs given.

Similarly, other functionalities were also tested using the black box testing methodology.

CONCLUSION

We have successfully built a prototype of a crowdfunding web application. For this prototype, we had used HTML, CSS, JavaScript and Bootstrap for the frontend. We had used PHP for the backend.

We looked at the qualities of a quality software system and thought about the steps that would go into creating such software. You noticed that different user needs call for different development processes. But when it comes to software development, discipline is essential.

We made the case for why it's a good idea to break a project up into smaller, easier-to-manage operations. Consider the demands of the users while creating effective software systems, and employ replaceable and reusable modules and components whenever possible. The requirements of the users should guide the design of the entire software architecture.

Next, we understood the importance of modelling in the creation of software.

The role of modelling in the creation of software was then covered. The ideas behind object orientation in particular enable us to communicate user requirements in a way that corresponds to our innate propensity to think of the world around us in terms of things. The relationship between the various software development activities and the related artefacts (including models) was then described.