Project: **BizNotio**

Team No.: Team 2

Class: CSE 3310.001 - Summer 2020

Module: System Requirements Analysis (SRA)

Deliverable: SRA Document

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Revision History

Version number	Date	Originator	Reason for change	High level description of changes
1.0	07/17/2020	Sushant Gupta Lamia Chowdhury Sindhu Parajuli Jonathan Padilla	Initial draft	
1.1	07/20/2020	Sushant Gupta Lamia Chowdhury Sindhu Parajuli Jonathan Padilla	Revision	Section-5 updated

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1. Introduction and Project Overview

Team-2 has been employed to design and implement an android application to connect investors and investees. This will be a platform where people with ideas/business can reach out to investors and vice-versa to find funding. In case of funding received, the application would get a certain commission from the receiving party. This application will be up by the first week of August and will have the features listed below initially. More features will be added per feedback and ideas received in future.

Using the android platform, our application can register users, create profiles for users, share ideas and proposals, chat/call other users, make minimum business goals, upload images/videos and even handle transactions. Our application will serve users to find the project they want to invest and be invested.

2. Objectives

2.1 BUSINESS OBJECTIVES

The following is a list of business objectives:

Objective 1: Member Registration: All members must provide the following information prior to using the system:

- > First Name, last Name
- Home and mailing addresses
- E-mail address
- Username
- Password

Objective 2: Login functionality: All members must login to the system with a user/password that was established during Member registration stage.

Objective 3: "Account Maintenance" functionality must be supported that allows user to close and edit personal information and includes the following:

- > E-mail address
- Password
- Delete Account

Objective 4: "Account Setup": The user will be able to create a profile with the following features:

- Provide personal information
- Upload picture/video
- Upload a proposal as a word file or pdf
- Provide a minimum business case: goals, cost, schedule, restrictions, assumptions and constraints.

Objective 5: "Search": The user will be able to search for other profiles registered in the application.

Objective 6: "Notification": The user will be able to send and receive messages.

Objective 7: "Appointment": The user will be able to call/video call other users.

Objective 8: "Account Maintenance": The user will be able to recover their password or username in the event of authorized access or loss of credentials.

Objective 9: "Payments": The user will be able to send and receive payments to another user via the following methods:

- Card
- Cash
- Check

Objective 10: "Rate and Review": The user will be able to rate/review other users according to their experience.

2.2 SYSTEM OBJECTIVES

The following is a list of system objectives:

- Objective 1: System will be an Android application
- Objective 2: Kotlin will be used for UI.
- **Objective 3**: Firebase will be used for authentication and database.
- Objective 4: Material design theme will be used for interactive UI

3. Project Context Diagram

sd context diagram

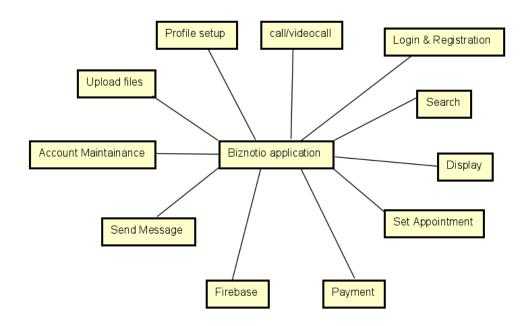


Figure 3.1: Project Context Diagram

4. Systems Requirements

4.1 "HOME SCREEN" REQUIREMENTS

Requirement Title	Home Screen
Sequence No:	001
Short description:	Main page seen right after creating account/login which displays the functionalities to the user on the application.
Description:	The home-screen will serve as a roadmap of the application where the user can navigate subsections such as the following: Profile Settings Search Create Post For a new user, the home-screen suggests creating a profile to begin with the application. Returning users can view other users who are already on the application.
Pre-Conditions:	Logging in the application successfully.
Post Conditions:	N/A
Other attributes:	N/A

4.2 "LOGIN" REQUIREMENTS

Requirement Title	Login
Sequence No:	001
Short description:	Allow to register a new user as a new account
Description:	New users after clicking 'Register' button enter the following information to create an account: • Name (First and Last) • Email Address • Username

	Password	
	The registration process is completed when clicking the 'submit' button. The user can also cancel with the 'cancel' button.	
Pre-Conditions:	Application must be downloaded.	
Post Conditions:	Confirmation email will be sent to the User and can login in the application.	
Other attributes:	The system will check for errors if invalid fields are entered such as invalid email, or invalid passwords.	

Requirement Title	Login
Sequence No:	002
Short description:	Allow the returning user to log into the application.
Description:	On entering 'Username' and 'Password' and clicking the 'Login' button the user can login to their existing accounts in the application.
Pre- Conditions:	 The application must be already installed. The user must already have an account.
Post Conditions:	Upon successful login, the home page is displayed.
Other attributes:	The system will verify if the entered information matches the database and send error messages if it doesn't.

Requirement Title	Login
Sequence No:	003
Short description:	Cancel the changes made.
Description:	At any time while either making a new account or submitting the login information, the new or existing user may press the "cancel" button. The user may do this if they do not want to provide any other information or do not want to access the application at the moment.
Pre- Conditions:	The application must be already installed.
Post	Cancels and fields are empty.

Conditions:	
Other attributes:	N/A

Requirement Title	Login
Sequence No:	004
Short description:	Allows to set a new password incase forgotten
Description:	In events of a forgotten password, an existing user can simply click the 'forgot password' button and get a link in their email to set a new password for their account. The link can be used to log into the system.
Pre- Conditions:	 The application must be already installed. The user must be registered.
Post Conditions:	The system accepts the new password and the homepage is displayed.
Other attributes:	The system will send an email with a link to reset the password.

Requirement Title	Login
Sequence No:	005
Short description:	Displaying the application logo on the login screen.
Description:	A logo of the application is displayed on the top of the page above the login fields.
Pre-Conditions:	The application must be already installed.
Post Conditions:	N/A
Other attributes:	N/A

4.3 "ACCOUNT SETUP" REQUIREMENTS

Requirement Title	Account Setup
Sequence No:	001

Short description:	Create profile
Description:	The registered user will be able to create a profile and input all of their personal information they want to include.
	This will be visible to other registered users.
	The user will have the option to provide the following information:
Pre-Conditions:	The user must be registered.
Post Conditions:	Profile is created and saved to the database.
Other attributes:	N/A

Requirement Title	Account Setup
Sequence No:	002
Short description:	Upload Profile Picture
Description:	The registered user will be able to create a profile by uploading the profile picture of the user.
	This will be visible to other registered users.
Pre-Conditions:	The user must be registered.
Post Conditions:	Profile picture is saved to the database.
Other attributes:	N/A

Requirement Title	Account Setup
Sequence No:	003
Short description:	Upload Minimum Business Case Information
Description:	The registered user will be able to create a minimum business case.

	The user will have the option to provide the following information: Goals Costs Schedule Restriction Assumption Additional Information
Pre-Conditions:	The user must be registered.
Post Conditions:	Business goal is saved to the database.
Other attributes:	N/A

4.4 "ACCOUNT MAINTENANCE" REQUIREMENTS

Requirement Title	Account maintenance
Sequence No:	001
Short description:	Edit user profile
Description:	A registered user will be able to update or edit information on their profile at any time. The user will have the option to edit the following fields: Email Phone number Profile picture Bio Location Inimum business case After updating the desired fields, the user will have the option to confirm or cancel the updates. If the user confirms, the profile would be updated, and the changes will be saved to the database. The updates will be visible to other registered users. If the user cancels, their profile will not be updated, and the user will be redirected to the home page.
Pre-Conditions:	 The user must be successfully registered. The user must click the "edit" button on the profile page.
Post Conditions:	 The user must confirm the changes for the update to be successful. The changes will be saved to the database.

Other attributes:

Requirement Title	Account maintenance
Sequence No:	002
Short description:	Close/ deactivate existing account
Description:	The user will be able to temporarily deactivate or permanently delete their account at any time. They will have the option to provide feedback for taking this action. If the user chooses to deactivate their account, the account will not be visible to
	anyone else while it is deactivated. The user may reactivate the account at any time. If the user chooses to delete the account, it will be permanently deleted. This action cannot be reversed.
	The user will need to open a new account if they wish to participate in the app in the future.
	The user must confirm the deletion/ deactivation for it to be successful.
Pre- Conditions:	 The user must be successfully registered. The user must click the "edit" button on the profile page. The user must confirm for this action to be successful.
Post Conditions:	Confirmation email will be sent to the user upon successful deletion/ deactivation.
Other attributes:	N/A

4.5 "MANAGE APPOINTMENTS" REQUIREMENTS

Requirement Title	Manage appointments
Sequence No:	001
Short description:	Approve appointment
Description:	The investee will be able to view the appointment summary and choose to approve the appointment. Appointment summary will have the following information: • Date of appointment

	 Time of appointment Project name and details Name of investee and investor Email of investee and investor Additional notes Upon approving the appointment, a confirmation email will be sent to both the investor and investee with the appointment details included.
Pre- Conditions:	 The investor will have sent an appointment request to the investee. The investee will need to review the request.
Post Conditions:	Email confirmation with appointment summary will be sent to both the investor and investee.
Other attributes:	N/A

Requirement Title	Manage appointments
Sequence No:	002
Short description:	Deny appointment
Description:	The investee will be able to view the appointment summary and choose to deny the appointment. Appointment summary will have the following information: Date of appointment Time of appointment Project name and details Name of investee and investor Email of investee and investor Additional notes Upon denying the appointment, the investee may choose to provide feedback which will be sent along with a cancellation email to the investor.
Pre- Conditions:	 The investor will have sent an appointment request to the investee. The investee will need to review the request.
Post Conditions:	Cancellation email with optional feedback will be sent to the investor.
Other attributes:	N/A

Requirement Title	Manage appointments
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Sequence No:	003
Short description:	Reschedule appointment
Description:	The user may choose to reschedule an appointment. They will need to select the "reschedule" button and fill out a reschedule form which will then be sent to the investor/ investee to review.
	The user will need to review the changes and confirm to be able to submit the form.
	Users will have to provide the following information to reschedule an appointment: • New date • New time • Reason (optional)
Pre- Conditions:	 The user must have an appointment scheduled. The form must be filled out before the scheduled appointment. The user must select the "reschedule" button.
Post Conditions:	 The original appointment will be cancelled. A new request will be sent to the investor/ investee to be reviewed.
Other attributes:	N/A

4.6 "MANAGE PROPOSALS" REQUIREMENTS

Requirement Title	Manage proposals
Sequence No:	001
Short description:	Post new proposal
Description:	The investee will be able to post a new project proposal at any time. They will be able to upload files or media along with additional texts they wish to provide on the proposal. Once the investee has finished uploading all the information, they will need to review the proposal. They will have the option to confirm, save draft, or cancel. If the investee chooses to confirm the proposal, they will need to click the "submit" button which will post the proposal for others to view.
	If the investee chooses to save it as a draft, the proposal will be saved to their account. They may choose to finish uploading the proposal at a later time. The draft will not be visible to others. If the investee chooses to cancel the proposal, the app will ask the user to

	confirm the cancellation and nothing will be uploaded. The proposal will not be saved to their account. The user will be directed back to the home page.
Pre- Conditions:	 The investee must be registered. Files/ media must be successfully uploaded. The investee must click the "new proposal" button on the proposal page.
Post Conditions:	 The proposal will be displayed on the investees page if the proposal has been successfully uploaded. The proposal will be visible to other registered users.
Other attributes:	N/A

Requirement Title	Manage proposals
Sequence No:	002
Short description:	Edit proposal
Description:	The investee will have the option to edit an existing proposal that has been previously posted or choose to finish completing a saved draft.
	If the investee chooses to edit a previously posted proposal, they must make changes to the fields they wish to edit and review the proposal. After reviewing the proposal, they will need to confirm the changes and resubmit the proposal for the updated proposal to be posted.
	If the investee chooses to complete a saved draft, they will need to complete uploading the information. Once the investee has uploaded all the information, they will need to review and confirm the proposal and click "submit" which will post the proposal.
Pre- Conditions:	 The investee must be registered. The investee must have previously uploaded projects or saved drafts. The investee must click the "edit" button on the proposal page.
Post Conditions:	 The updated proposal will be displayed on the investees page if the proposal has been successfully uploaded. The proposal will be visible to other registered users.
Other attributes:	N/A

Requirement Title	Manage proposals
Sequence No:	003
Short	Delete proposal

description:	
Description:	The investee will have the option to delete a proposal they have previously posted. They will need to confirm the deletion for it to be successful.
Pre- Conditions:	 The investee must be registered The investee must have at least one previously posted proposal. The investee must click the "edit" button on the proposal page.
Post Conditions:	The app will display a confirmation deletion message.
Other attributes:	N/A

4.7 "REVIEW AND RATINGS" REQUIREMENTS

Requirement Title	Review and ratings
Sequence No:	001
Short description:	Review investors/ investees
Description:	The user will be able to leave reviews if they have previously communicated with an investor/ investee. They may give helpful feedback, constructive criticism, or express appreciation depending on their experience. Reviews will be visible to others. Review sections will have a word limit of 1000.
Pre- Conditions:	The user will only be able to review investors/ investees they have previously communicated with.
Post Conditions:	 The review will be posted and visible to others Others may reply or comment to the review.
Other attributes:	N/A

Requirement Title	Review and ratings
Sequence No:	002
Short description:	Rate investors/ investees (stars)
Description:	The user will be able to give ratings if they have previously communicated with an investor/ investee. This is to express their experience. Ratings will be visible to others. They will have the option to rate them on a scale from one star to five stars depending on their satisfactory level.

	The user will be able to select the rating from the following options:
Pre- Conditions:	The user will only be able to review an investor/ investee they have previously communicated with.
Post Conditions:	The rating will be posted and visible to others.
Other attributes:	N/A

4.8 "PAYMENT" REQUIREMENTS

Requirement Title	Payment
Sequence No:	001
Short description:	Payments methods
Description:	An investor who has had meetings with an investee regarding a project may decide to invest in the project. If they choose to invest in a project, they will have several payment methods available to them. Payment methods: • Card • Credit card • Debit Card • Gift Card • Cash • Check
Pre- Conditions:	 The investor and investee have conducted a meeting regarding the project the investor wants to invest in. The investor must decide to invest.
Post Conditions:	The investor will be directed to a specific payment method page depending on the payment method they choose.
Other attributes:	N/A

Requirement Title	Payment
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Sequence No:	002
Short description:	Pay with Credit, Debit, or Gift Card
Description:	Once the investor has selected to pay with either a credit, debit, or gift card, they will be directed to a page where they will need to provide their card information. They will need to provide the following information: Name on card card number Expiration date Security code
Pre- Conditions:	 The investor must decide to invest. The investor must choose to pay with a credit card. The investor will receive a confirmation email.
Post Conditions:	The investor will be emailed a receipt if payment has been successfully made.
Other attributes:	The application gets a certain percentage of the commission on the money invested.

Requirement Title	Payment
Sequence No:	003
Short description:	Cash payment
Description:	Once the investor has selected to pay with cash, they will need to set up a meeting time with the investee to make the transaction.
Pre- Conditions:	 The investor must decide to invest. The investor must choose to pay with cash. The investor will receive a confirmation email.
Post Conditions:	The investor will be emailed a receipt if payment has been successfully made.
Other attributes:	The application gets a certain percentage of the commission on the money invested.

Sequence No:	003
Short description:	Check payment
Description:	Once the investor has selected to pay with a check, they will be directed to a page where they will need to provide their check information.

	They will need to provide the following information: Routing number Account number First and last name Amount Payee First and Last name			
Pre- Conditions:	 The investor must decide to invest. The investor must choose to pay with a check. The investor will receive a confirmation email. 			
Post Conditions:	The investor will be emailed a receipt if payment has been successfully made.			
Other attributes:	The application gets a certain percentage of the commission on the money invested.			

Requirement Title	Payment						
Sequence No:	004						
Short description:	Email receipt						
Description:	Once the investor has made the payment, they will receive an email with the receipt.						
Pre-Conditions:	 Payment must have been successfully made using one of the methods available. The investor must provide a valid email address. The investor will receive a confirmation email. 						
Post Conditions:	The investor will receive an email of the receipt.						
Other attributes:	N/A						

4.7 "SEARCH" REQUIREMENTS

Requirement Title	Search
Sequence No:	001
Short description:	Search by username/ name
Description:	A registered user will be able to search for anyone with a BizNotio account. They will have the option to search by name or username. If the user chooses to search by name, they will need to either enter the first

	name, last name, or both.						
	If the user chooses to search by username, they will need to enter the username of the user.						
	After entering the name or username, the app will display users with the matches or similar matches.						
Pre- Conditions:	 The user must enter a username or name. The user they wish to search for must have a BizNotio account. 						
Post Conditions:	The user will be able to view the search results.						
Other attributes:	N/A						

Requirement Title	Search								
Sequence No:	002								
Short description:	Search by projects								
Description:	A registered user will be able to search for anyone with a BizNotio account. They will have the option to search by project name. If the user chooses to search by project name, they will need to either enter the name of the project or similar names. After entering the name of the project, the app will display users with matching								
	project names or similar matches.								
Pre-Conditions:	 The user must enter a project name. The user they wish to search for must have a BizNotio account. 								
Post Conditions:	The user will be able to view the search results.								
Other attributes:	N/A								

Requirement Title	Search
Sequence No:	003
Short description:	Search Failed
Description:	After searching for a user by project name or username, the search may fail because of the following reasons:

	 The person the user wishes to search for is not registered. There are no matches found with the username or project name entered by the user. 					
Pre-Conditions:	The user must enter a project name or username.					
Post Conditions:	The screen will display a message saying, "Search failed".					
Other attributes:	N/A					

5. Software Processes and Infrastructure

5.1 HARDWARE AND INFRASTRUCTURE

Hardware:

Android phone with OS version 8.0 and above

Phone with internet connection

Phone with camera, microphone, and touch screen

Infrastructure:

Android studio / IntelliJ Idea

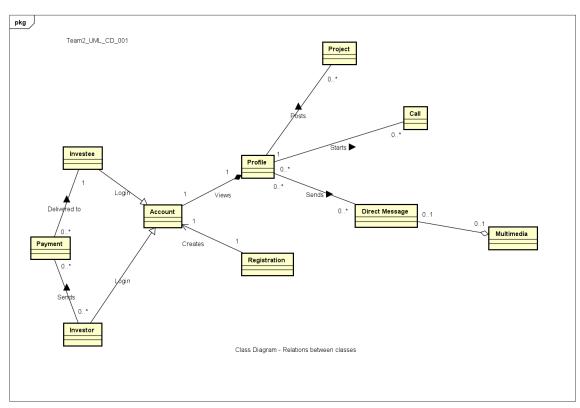
Android Emulator

Database will be hosted using Firebase

5.2 UML DIAGRAMS

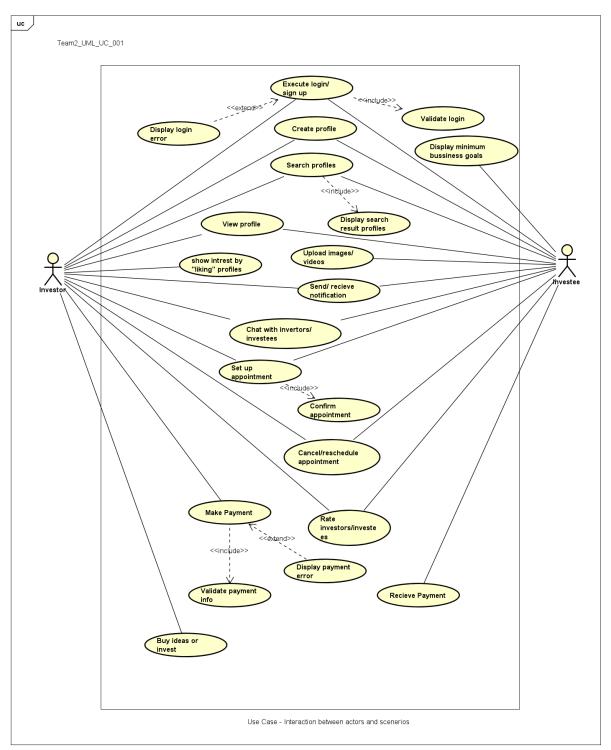
CLASS DIAGRAM

Figure 5.1: Relation between classes



USE CASE DIAGRAM

Figure 5.2: System Boundary



ACTIVITY DIAGRAM

Figure 5.3: User's Registration

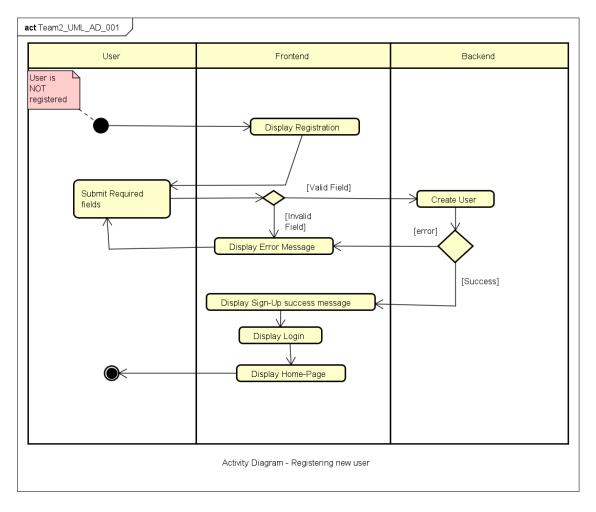


Figure 5.4: Login

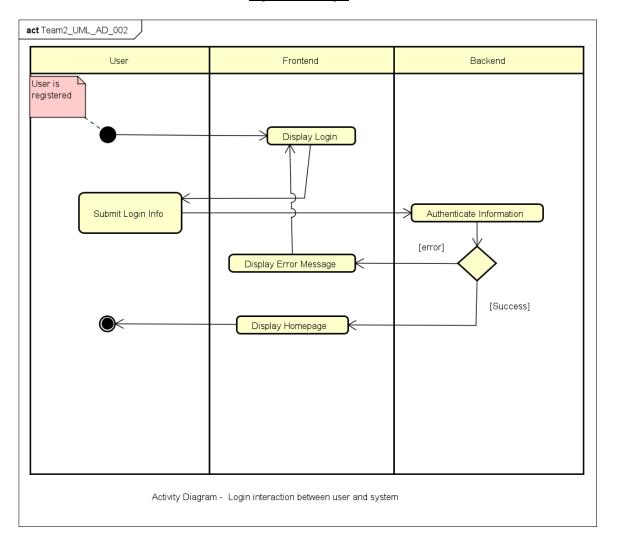


Figure 5.5: Uploading Medias

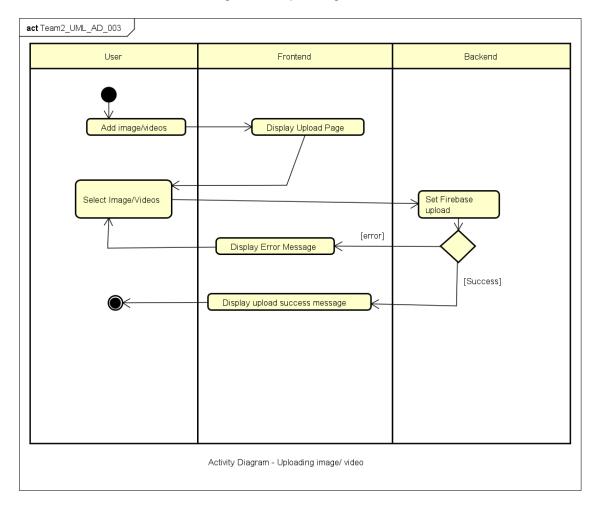
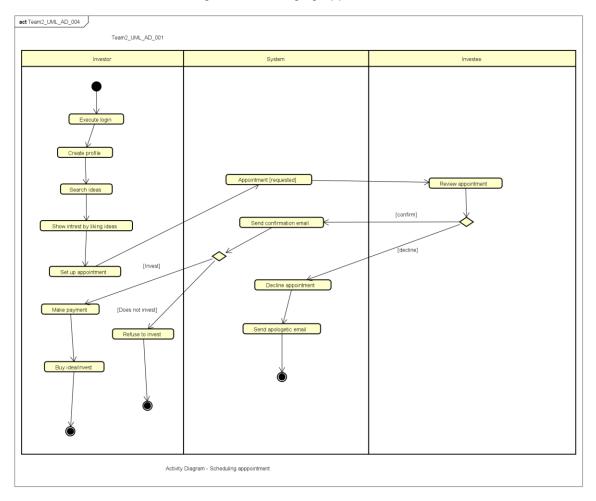


Figure 5.6: Managing Appointments



SEQUENCE DIAGRAM

Figure 5.7: Managing Proposals

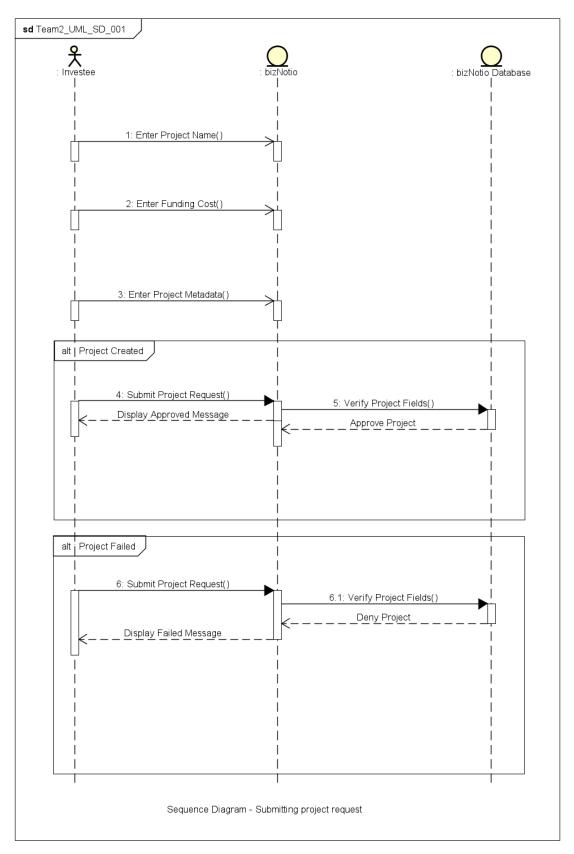
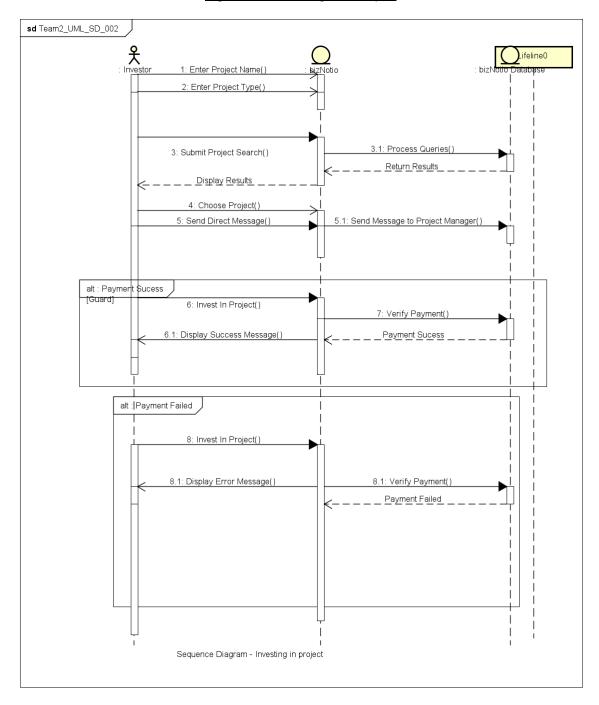


Figure 5.8: Investing in a Project



STATE MACHINE DIAGRAM

stm Team2_UML_SM_001 Login Selection entry / Request login entry / Select activity login approved do / Validate login New Proposal Selected [Login failed] New Proposal Created entry / New Proposal request do / Initialize new proposal Canceled do / Notify User and bring Home-Screen Forward Cancel Reviewed entry / Post review requested Cancel do / View proposal Modification saved Submit Modify Proposal Posted Submitted do / Notify User exit / Proposal posted do / Edit proposal Statemachine Diagram - Proposal submission flow

Figure 5.9: Proposal Submission Flow

stm Team2_UML_SM_002 Login Selection entry / Request login entry / Select Activity Login approved do / Validate login [Login failed] Appointment selected Requested entry / Appointment request do / Initialize appointment Submit request do / Counterpart request review Rejected Accepted Canceled do / Notify user Confirmed do / Notify both parties with remainder emails Appointment Scheduled Statemachine Diagram - Appointment Approval flow

Figure 5.10: Appointment Request Flow

5.3 Conceptual Data Model - Database

Database will have three main objects.

Investor, Investee, Project Data

Investor:

Name, Funding Range, Domain Interest, Contact Information, invested projects, liked projects

Investee:

Name, Project ID, Contact Information, liked projects, investor connections, bio, profile picture

Project Data:

Project Name, Project funding goal, project id, project owner, project timeline, project start date, project description, project media (videos, photos), project links (GitHub, website),

project current funding status, project current launch status (launched, idea phase, research phase, development phase)

All these main data types will be stored using Firebase and will be accessed via access tokens when the user logs in. The appropriate data will be used when the app makes requests to the database and will display the data to the users.

5.4 SCREEN SHOTS

"None available at this time"

5.5 TEST PLAN

Test plan will be provided at a later stage of the project

6. Assumptions and Constraints

6.1 ASSUMPTIONS

The following is a list of assumptions:

- > Ignore collecting money from external advertisement and general accounting
- > Ignore compliance issues
- Users are real Investees and Investors with correct information on profile
- User agreement and terms are not required
- Users are 18 years or older
- Ignore taxations on payment made through the application
- Abundant availability of team's members throughout the project
- > Team's members are familiar with all the development tools

6.2 CONSTRAINTS

The following is a list of constraints:

- > Team lacks android experience
- Schedule very aggressive
- > Team lacks prior Firebase experience
- > Team lacks prior Kotlin/Java experience
- > Team lacks prior database experience
- Lack of face to face meetings
- New team's members to each other making difficult communication
- > Application needs to be installed on a device

6.3 Out of Scope material

The following is a list of "out of scope" material:

- Post Project maintenance is not covered
- No web version is developed

7. Delivery and Schedule

Task/Milestone	Anticipated	Anticipated	Status	Comments
Description	Start Date	End Date	Otatus	Comments
Prepare Requirements and UML diagram	06/16/2020	07/02/2020	Completed	Deliverable will be ULM document in PDF format.
				Increment 1 Deliverable
SRA document (Includes project objectives, Requirements and UML diagrams)	07/02/2020	07/21/2020	In Progress	Deliverable will be the SRA document. All stakeholders agree on the content of the SRA by signing in section 8.
				Increment 2 Deliverable
Home screen design and implementation	07/02/2020	07/22/2020	To Be Completed (TBC)	
Login and registration design and implementation	07/22/2020	07/25/2020	TBC	
Account setup and maintenance design and implementation	07/22/2020	07/30/2020	ТВС	
Appointment management design and implementation	07/22/2020	07/30/2020	TBC	
Proposals management design and implementation	07/22/2020	07/30/2020	TBC	
Individual reviews and ratings design and implementation	07/22/2020	07/30/2020	TBC	
Payment management design and implementation	07/22/2020	07/30/2020	TBC	
Search design and implementation	07/22/2020	07/30/2020	TBC	
Test case design	07/22/2020	07/30/2020	TBC	Increment 3 Deliverable
External Documentation (i.e. User Manual)	07/22/2020	08/10/2020	TBC	
Project presentation	08/01/2020	08/11/2020	TBC	
Final Milestone: project delivery		08/11/2020	TBC	Increment 4 Deliverable

8. Stakeholder Approval Form

Stakeholder Name	Stakeholder Role	Stakeholder Comments	Stakeholder Approval Signature and Date
Rodrigo Augusto	Development Mgr		
Prajwal Gautam	Project Assistant		
Sushant Gupta	Developer		
Sindhu Parajuli	Developer		
Lamia Chowdhury	Developer		
Jonathan Padilla	Developer		

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None