

Mobile Devices (CSCI 4100U) Project Proposal

PropertyPal: A Tenant Management App for Landlord Properties

Project Description:

PropertyPal is a property management app that enables landlords to manage their properties right in the palm of their hand. This app will allow landlords to keep track of which of their rental properties are being rented along with which tenant is renting it. PropertyPal's objective is to simplify property management tasks; it does this by efficiently tracking tenant payments (rental income), managing expenses, maintaining detailed property records and reminding you of late rent payments, expenses due and upcoming lease renewals. Our app is user-friendly, and its immersive user interface allows users to navigate through their new favorite property management tool with ease.

Project Overview:

The home screen will consist of four screens: the Properties, Reminder, Reports and Settings tabs. The user will enter into the app and they will be asked to Sign Up and Log In. Once that is complete they will be asked to set up their first property as seen in Figure 1. The properties tab will be filled once the user creates a property they have to manage as seen in Figure 2 adding the Address, Reference Name for the Property, tenant names, rent amount and type of lease.

Figure 1 - Welcome Page:

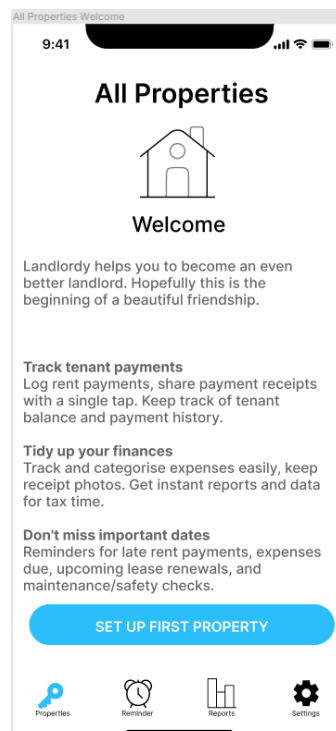
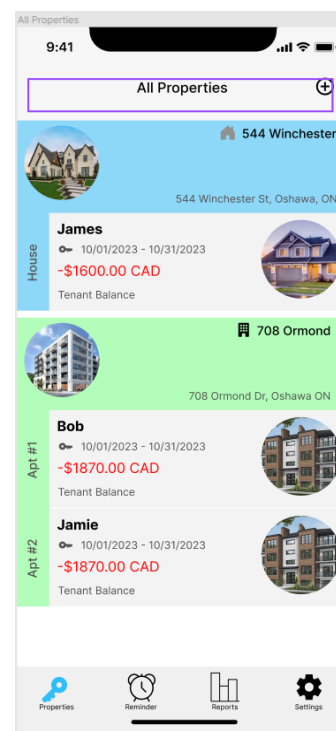


Figure 2 - All Properties Tab:



Properties Tab:

The properties screen displays a list of all rental properties. Landlords can manage and perform various actions on their property portfolio. They can edit critical property information, add newly acquired properties to their portfolio for quick access, and remove properties that have been sold or are no longer under management

The properties tab shows a list of all rental properties. The user can view their properties as shown in Figure 3, where the user can see the details regarding each property. The user can also edit the properties such as the name, address, and property type as shown in Figure 4. They can also view the rental unit details for each property and edit it as shown in Figures 5 and 6. The user can also add expenses, including the cost of any new appliances they have implemented in the property shown in Figure 7.

Figure 3 - Property Details:

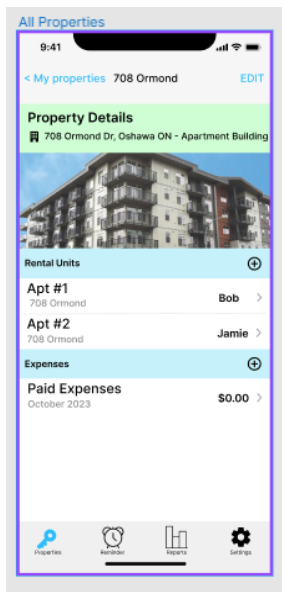


Figure 4 - Edit Property Details:

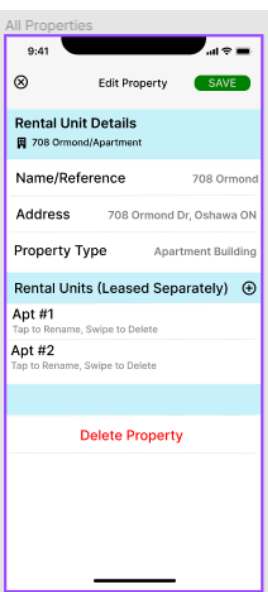


Figure 5 - Rental Unit Details:

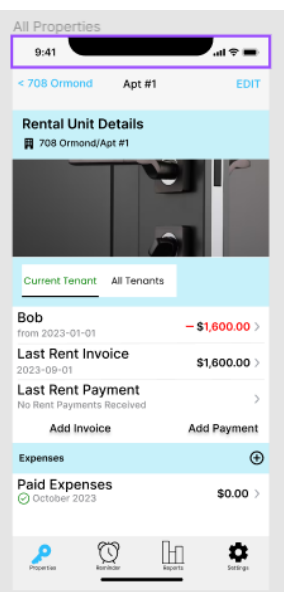


Figure 6 - Edit Rental Unit Details:

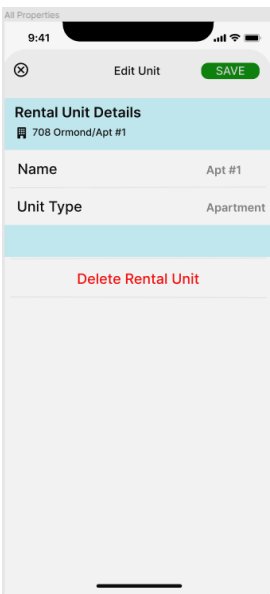
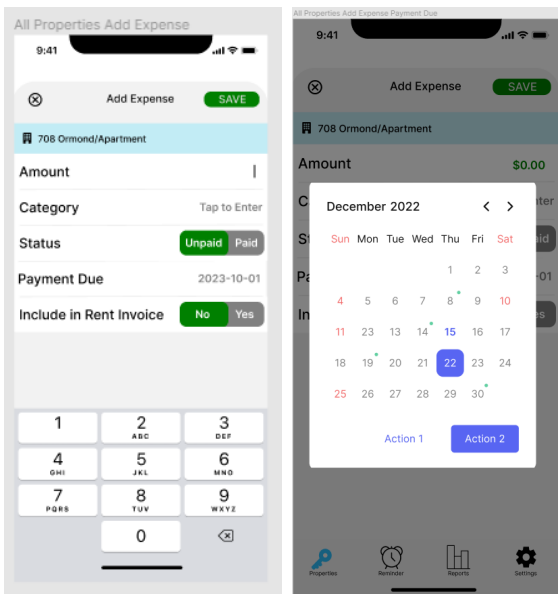


Figure 7 - Expenses Page:



Reminder Tab:

The Reminder Screen is another crucial tool in the app, as it provides notifications when a tenant has to pay. This includes the rent amount and it also updates the date everyday up until the tenant has paid (Outstanding/Late Rent Payment) the rent as shown in Figure 8. The user can also click on the notification and it will take them to the rent details of the tenant as shown in Figure 9, where they can see the tenant’s name, phone number, email address, the monthly rent, as well as details regarding rental invoices and payments. The user can also view the tenant’s remaining balance, and initial balance as shown in Figure 10. Figure 11 shows that the user can view current invoices as well as being able to create new invoices. The payment tab shows the history of payments done by the tenant as shown in Figure 12, where the user can also add payments whenever the tenant pays the user.

Figure 8 - Reminders:

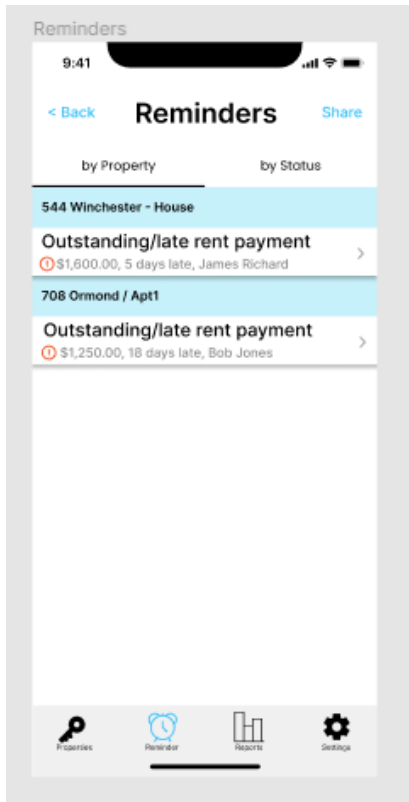


Figure 9 - Tenant Rent Details:

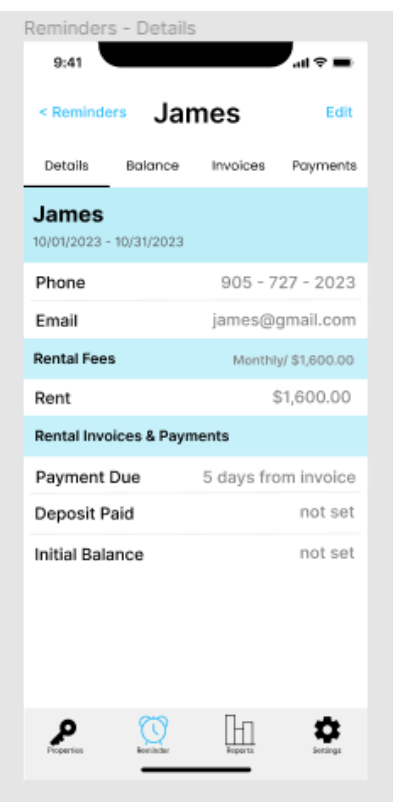


Figure 10 - Tenant Balance:

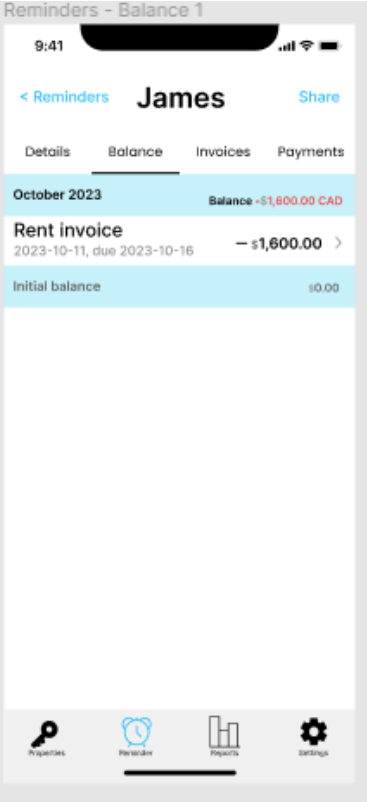


Figure 11 - Invoice:

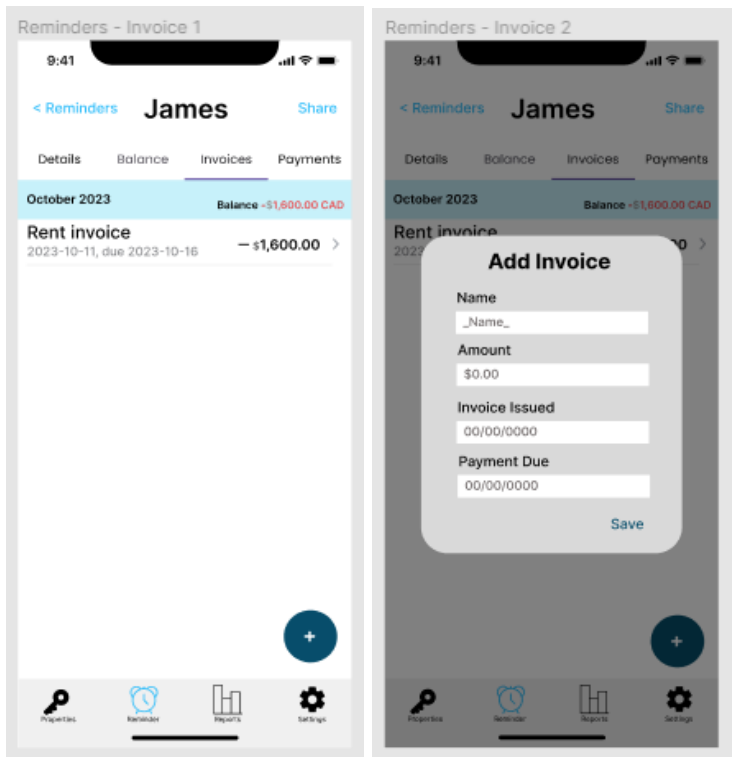
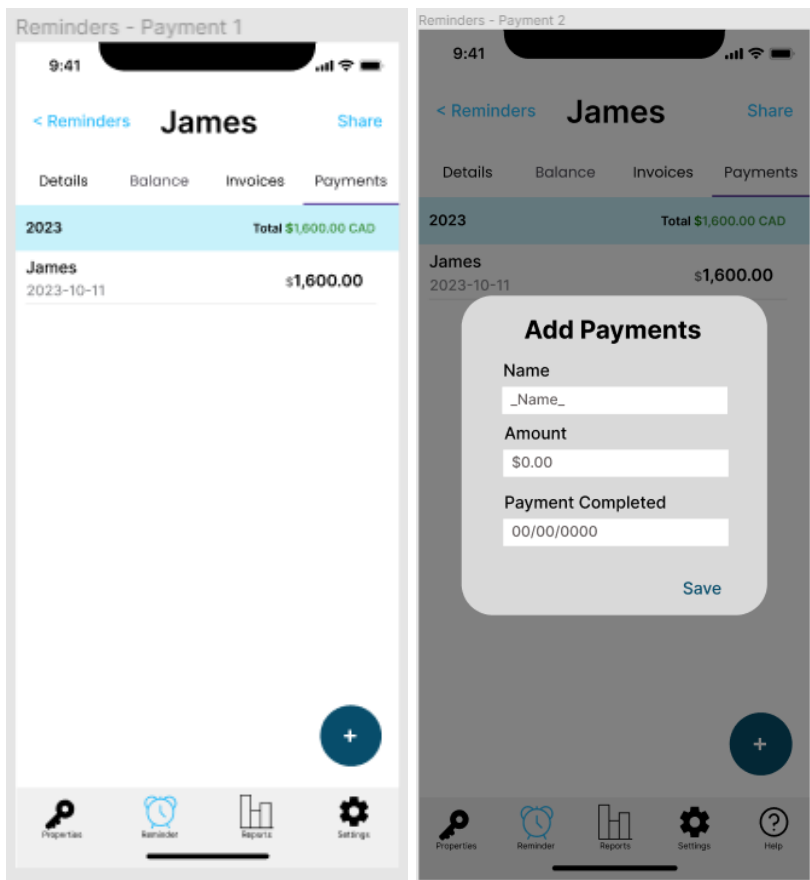


Figure 12 - Payments:



Reports Screen:

The Reports screen is one of the most important tools in the app, as it allows landlords to view detailed reports of the generated income, expenses, and payments made by all tenants or specific ones as shown in Figure 13. The user can switch between the different properties and also be able to select the period of the report as shown in Figure 13.1.

Figure 13 - Reports:

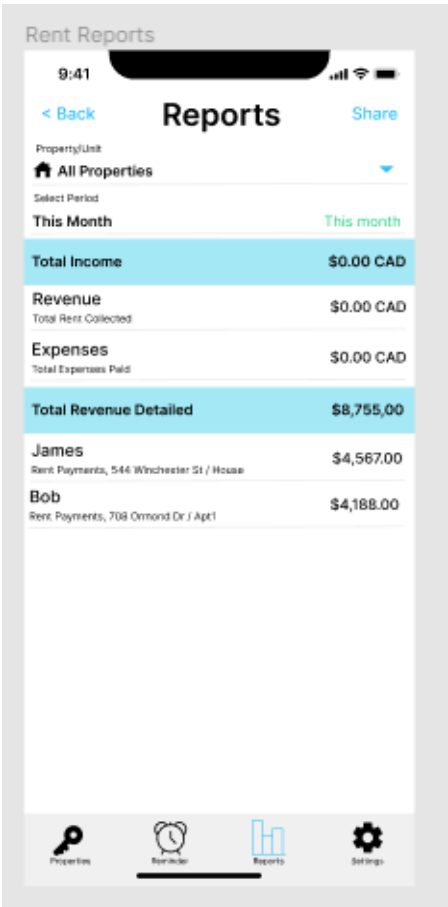
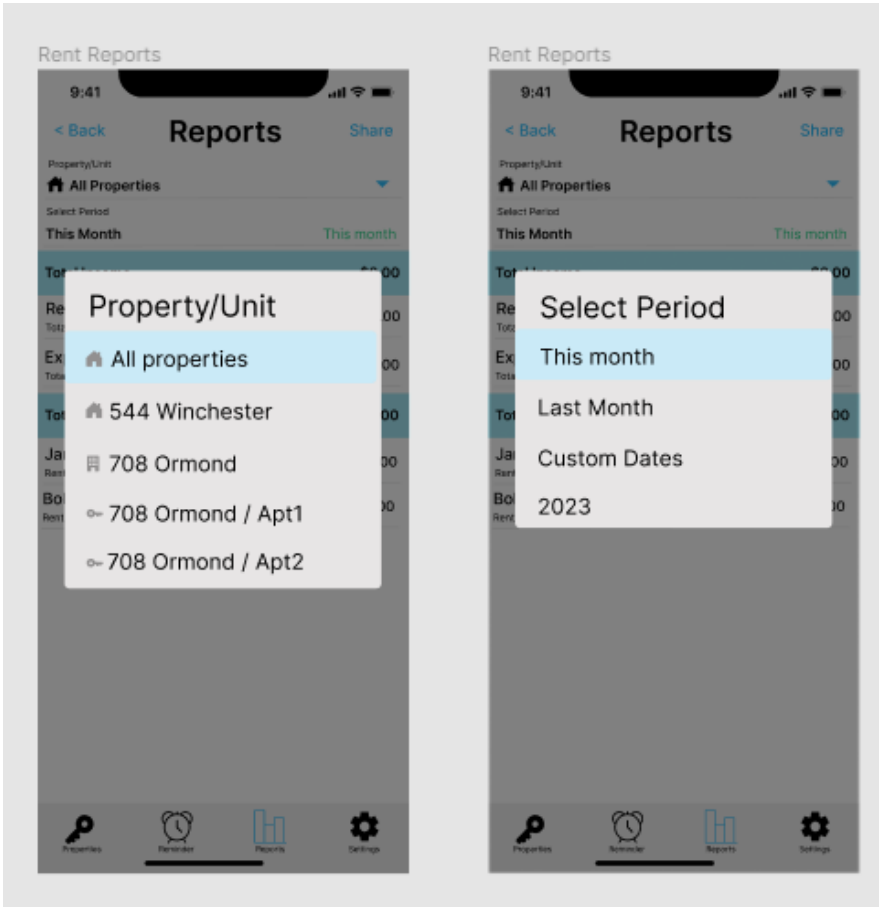


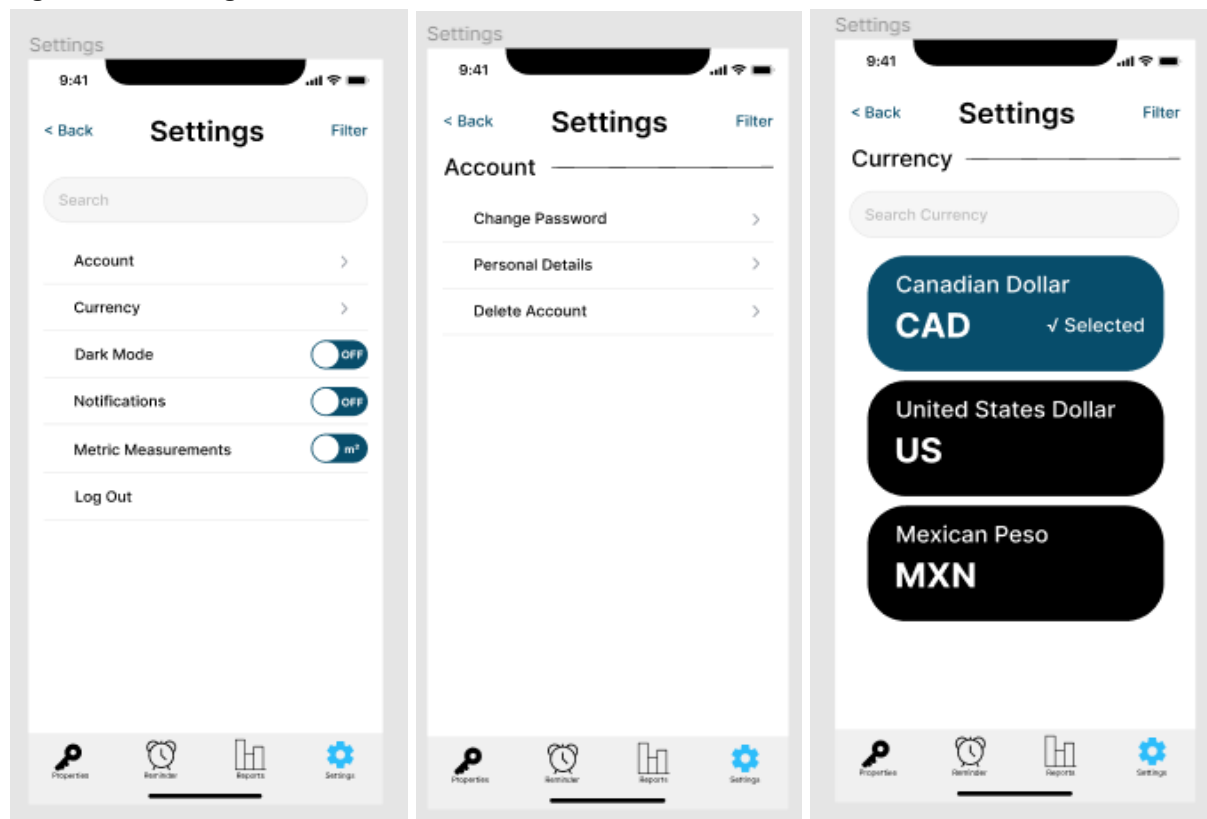
Figure 13.1 - Reports Filter:



Settings Screen:

Settings within our app provide users with the ability to customize and configure various aspects of their experience and property management. Key features and functionalities found in the settings of our app include account settings, currency, dark mode, notifications, metric measurements, and log out as shown in Figure 14.

Figure 14 - Settings:



Summary:

PropertyPal offers a complete and user-friendly platform for property management, allowing users to efficiently manage their rental properties and tenants while maintaining accurate financial records. The primary objective of our app is to offer an organized and intuitive design, ensuring that users can readily access and efficiently manage the information necessary for effective property management.

Basic Functional Requirements:

- Dialogues and Pickers
 - Alert Dialogs will be added when adding or removing properties, units, tenants and expenses.
 - A Date Picker will be implemented for the user to set the dates throughout the app (Rent Due, Expenses, Reminders)
 - Option Pickers will be added for the user to pick from a list of options if the property is either a House, House Basement, Apartment Building, Duplex ..etc.
- Multiple screens and navigation
 - Used for different sections for their own functionality.
 - Throughout the app, there are many different screens and uses for navigation such as pages within the tabs and buttons such as Back, My Properties and Save.
- Snack Bars
 - Used for confirmation for the user throughout the functionality of the app.
 - After performing a change, snack bars would serve as confirmation for actions in the app such as when adding a new property a snack bar will pop up and display that it has been successfully added.
- Notifications
 - Used to inform the user and remind him of set reminders of upcoming or overdue tenant rent payments. Also will display upcoming expenses to add into the property such as hydro bill, water bill, gas bill.
 - Notifications will pop up on the user's phone when the user configures it on the Reminder Tab.
- Local storage (SQLite)
 - A copy of the list of properties, tenants, and additional details such as rent payment history, rent, invoices, etc.. On the local storage of the user's device without the need of an internet connection.
- Cloud storage (Firestore or other)
 - Will be used as a backup service to ensure all of the local data will be backed up to the cloud.
 - Based on the Users preference it can be stored on the cloud to not increase local storage.
- HTTP requests
 - Will be used to retrieve information from the online database such as retrieving tenant or property information stored on online databases.

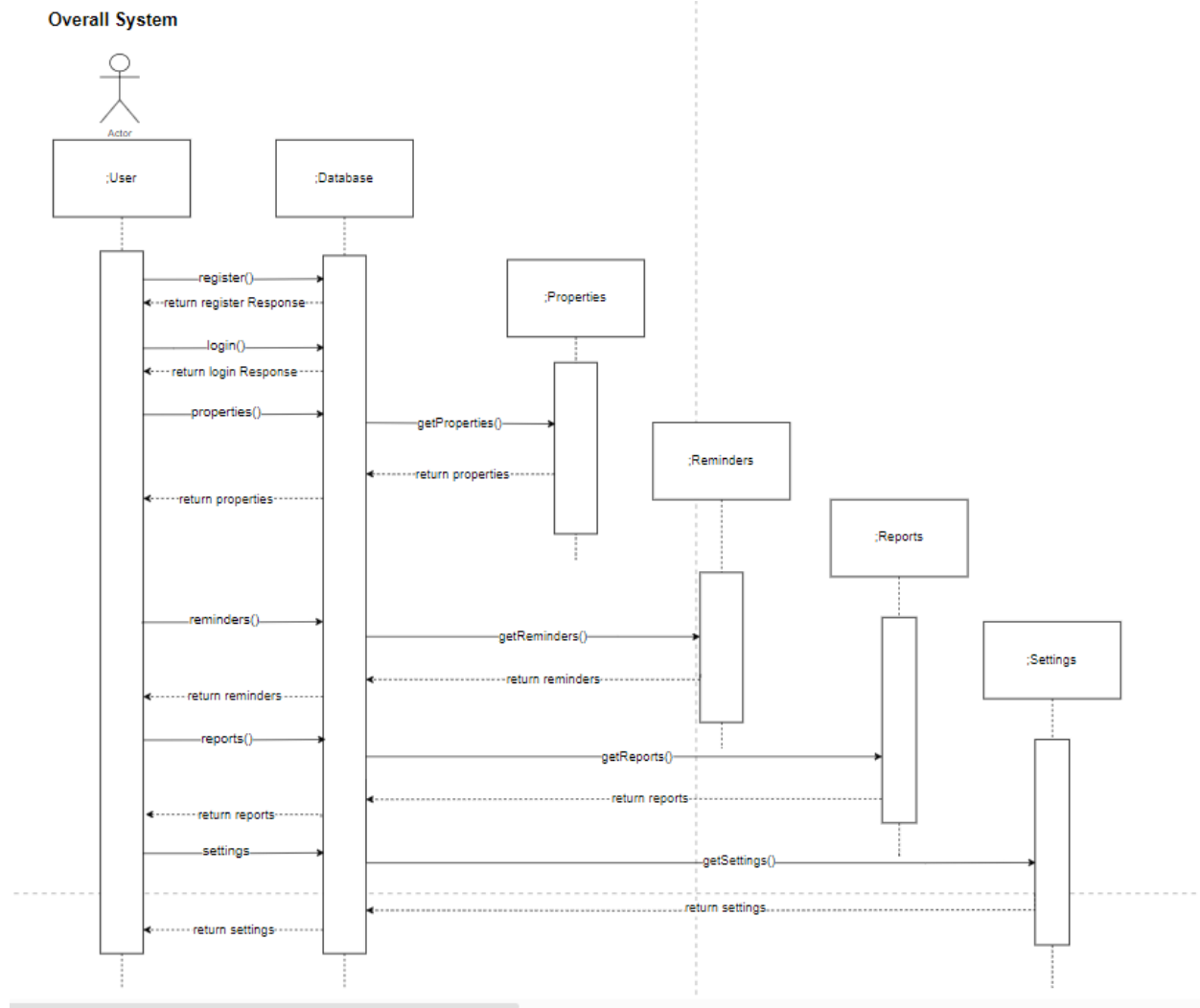
Group Members and Responsibilities:

- Harsh Patel - 100826961
 - Code the app user interface.
 - UI design, creating user-friendly interfaces with their proper layouts.
- Georges Anthony Gutierrez Ricard - 100815169
 - Code the app's user interface.
 - Implementation of all systems in the front end, such as buttons, pages, etc.
- Ashwin Gnanaseelan - 100817801
 - Code the app's database management system.
 - Implement storage solutions and testing.
- Zainulabuddin Syed - 100830898
 - Code the app's database management system.
 - Handle HTTP requests for external data as well as the implementation of cloud storage.

UML Design Sequential Diagram:

Diagram 1 illustrates the app's sequence, the diagram starts off at the user registration followed by the login process. Once logged in, users have access to four primary tabs: Properties, Reminders, Reports, and Settings. To access the Properties tab, the user initiates a request, prompting the system to retrieve property data and present it to the user. A similar process is followed for the Reminders, Reports, and Settings tabs. This is an overall sequence diagram where we analyze the flow of PropertyPal.

Diagram 1 - Sequential Diagram of Overall System:



UML Design Generalized Domain Model Diagram:

Diagram 2 illustrates the app's generalized domain model, users in the app have access to a range of features. They can view all properties, each of which is divided into two classes: Rental and Property Details. Users can also add properties where they will be prompted to add property details such as the address, property type, name, and expenses. In addition to property management, users can access the Reminders feature, which can be filtered based on property and status. This feature also provides access to tenant information, including their name, phone number, email, rent fee, payment due date. Furthermore, users can generate reports that provide insights into income, revenue details, and expenses helping them make informed decisions. The Settings page offers various customizable features, including account settings, currency preferences, dark mode, notification preferences, metric conversions, and the option to log out. In the Account Settings section, users can modify their password, view personal details, and even delete their account. This generalized domain model shows how users can interact with and access each class and feature within the app.

Diagram 2 - Generalized Domain Model:

