

apt.

alice, tiffany, wyatt

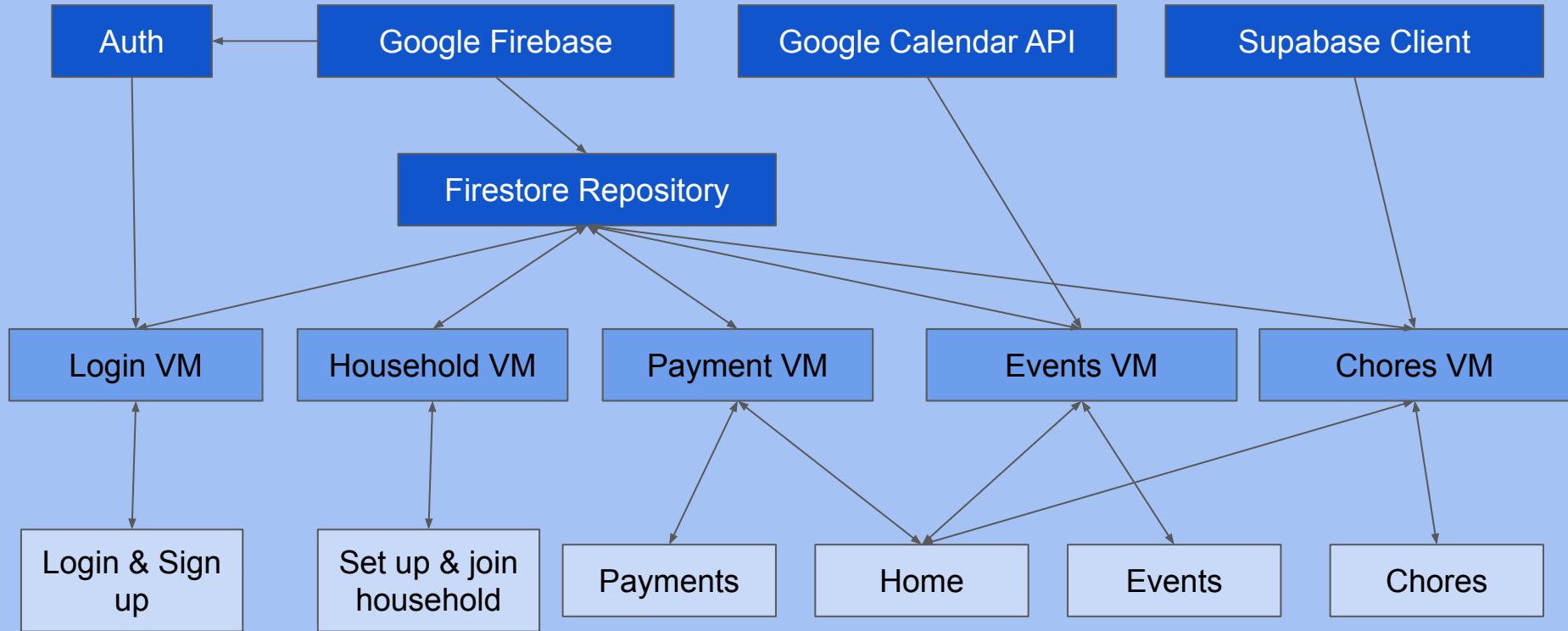
problem and solution

problem: living with other people is hard. Sometimes they're your close friends, sometimes they're strangers, but it is still difficult to juggle spending that much time in close proximity and balancing your living styles.

solution: we created this application to try to smooth out the experience of living with other people, particularly for college students who are in apartments for the first time and may need the added structure.

- streamlined payment system
- fair chore assignment
- shared household events
- convenient home widgets
- reminders + alerts

MVVM and dependencies



database schemas

Household

calendar: "calendar_name"

chores: [...]

name: "household_name"

payments: [...]

recurring_chores: [...]

recurring_payments: [...]

residents: [...]

```
calendar: "Other Events"
chores
  0
    assignedToId: "m9Jw5LBlmZWlXHzbIDCTNSuHRI2"
    choreID: "1"
    completed: true
    date_completed: November 13, 2025 at 12:00:00 AM UTC-5
    due_date: November 28, 2025 at 12:00:00 AM UTC-5
    image_uri: ""
    recurring_chore_id: 0
    1 (assignedToId: "hH08llkqNC...")
    2 (assignedToId: "oLt5u6tuVl...")
    name: "test"
  payments
    0
      amount: 20
      date_paid: November 13, 2025 at 12:00:00 AM UTC-5
      due_date: November 15, 2025 at 12:00:00 AM UTC-5
      id: 0
      memo: "dinner"
      paid: true
      pay_from: "ptRJsseSPeOsXehltx73QMjddvj2"
      pay_to: "hH08llkqNCWhChrx2jOLINqZjPY2"
    1 (amount: 500, date_paid: n...)
    2 (amount: 200, date_paid: n...)
    3 (amount: 25, date_paid: No...)
```

```
recurring_chores
  0
    cycle: 14
    description: "clean the toilet and sink and mirror"
    name: "clean bathroom"
    1 (cycle: 14, description: "...")
  recurring_payments
    0
      amount: 2000
      cycle: 30
      name: "rent"
      paid_by: "m9Jw5LBlmZWlXHzbIDCTNSuHRI2"
    1 (amount: 0, cycle: 0, name...)
    2 (amount: 200, cycle: 0, na...)
  residents
    0
      id: /users/yqKB3Ho0OmVHVai8LDOIGEUuxu82
      payment_percents
        0 0.33
        1 0.33
        2 0.33
    1 (id: "alice", payment_perc...)
    2 (id: "wyatt", payment_perc...)
    3 (id: "m9Jw5LBlmZWlXHzbIDC...")
```

database schemas

User

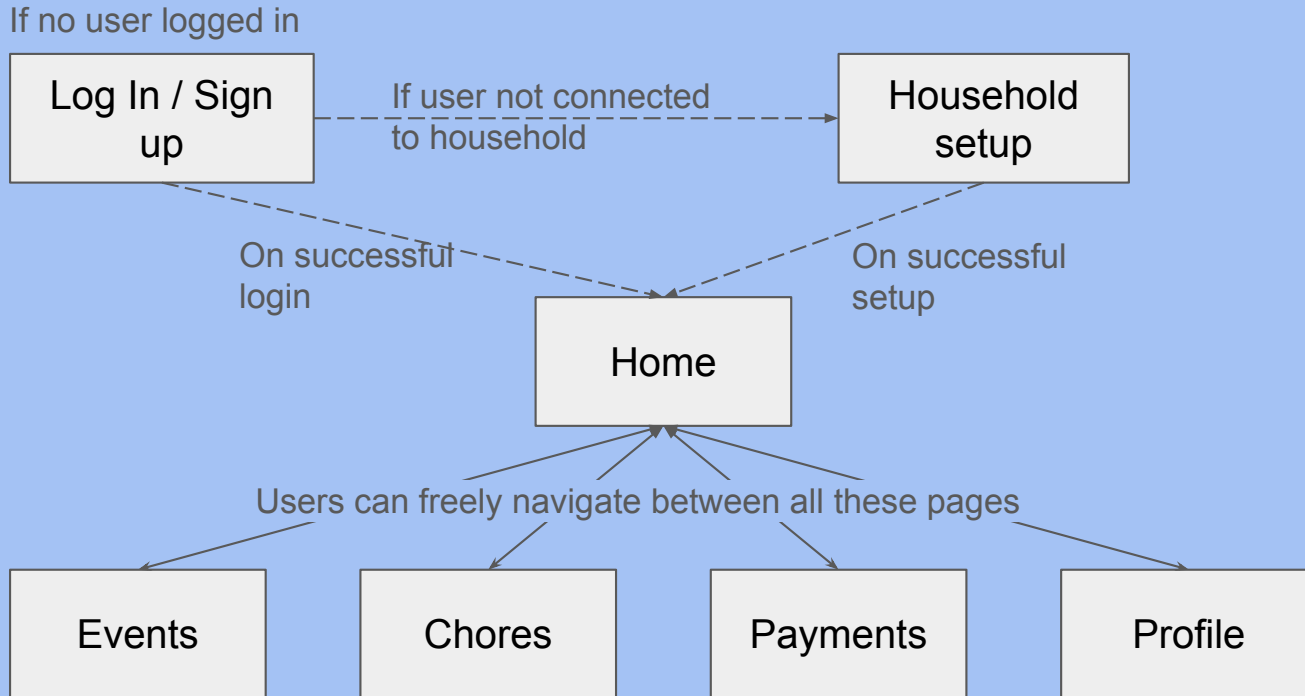
household_id: “household document id”

name: “user’s name”

username: “username”

venmo_username: “user’s venmo username”

navigation and feature relationships



features and screenshots

login + set up flow

have account

sign up + create household

Log in

OR

Sign up

Choose an account to continue to 501_Final_Project

Tiffany Lu

tlu@ucla.edu

Tiffany Lu

tlu@ucla.edu

+

Add another account

To continue, Google will share your name, email address, and profile picture with 501_Final_Project. Before using this app, review its privacy policy and terms of service.

Tell Us About Yourself

First Name

Last Name

Vesno (Username)

Next

Go Back

Review Your Info

Name

Jeff

Username

Vesno (Username)

Ready to go?

Create New Household

Join Existing Household

Go Back & Edit

Name Your Household

Household Name

e.g. Downtown Apartment

Previous

Next

Create Chores

Define recurring chores for your household

Chore 1

Chore Name

Description (Optional)

Cycle (days)

Add Another Chore

Recurring Payments

Define recurring bills for your household

Payment 1

Payment Name

Amount (\$)

Your Split (%)

Cycle (days)

You pay this bill

Add Another Payment

Shared Calendar

Enter your shared Google calendar name

Calendar Name

Previous

Next

Review Your Household

Household Name

House

Chores

Chore 1

Name: trash

Description

Cycle: 9 days

Payments

Payment 1

Name: rent

Amount: 1000

Split: 50%

Cycle: 30 days

Pays: You

Calendar Name

cal

Previous

Create Household

Household Created!

Household ID

PbED0mGGUN0FyK6Zeyw9

Show this ID with your roommate so they can join

Proceed to App

sign up + join household

Join a Household

Household ID

Search for Household

Go Back

testhouse

Payment 1

rent

Occupied split: 100.0%

Your Split (%)

Enter percentage

Payment 2

utils

Occupied split: 100.0%

Confirm & Join Household

Go Back

apt.

Events

No upcoming events

Payments

You Owe Others

You're all caught up!

Others Owe You

Everyone has paid you!

Chores

trash

Due: Fri, Dec 19

Home

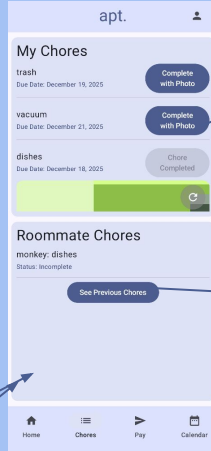
Chores

Pay

Calendar

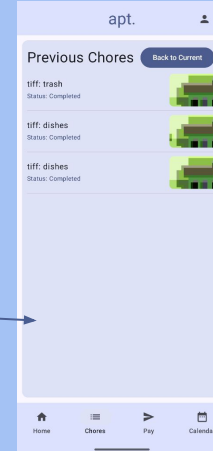
features and screenshots

chores flow

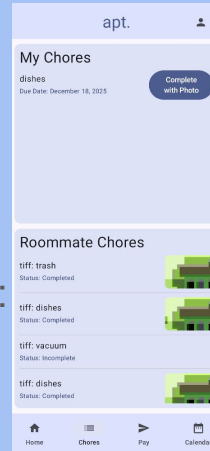


complete
chores

previous
chores

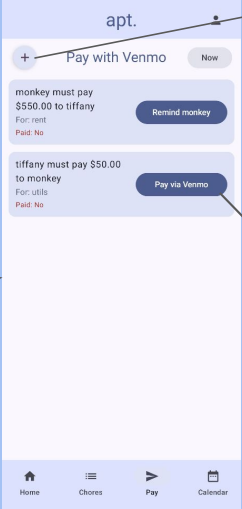
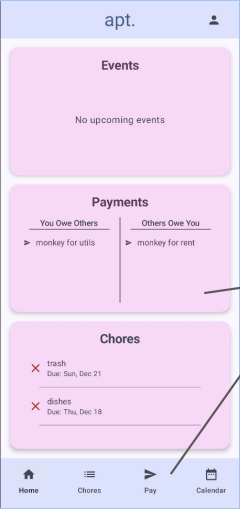


roommate view:

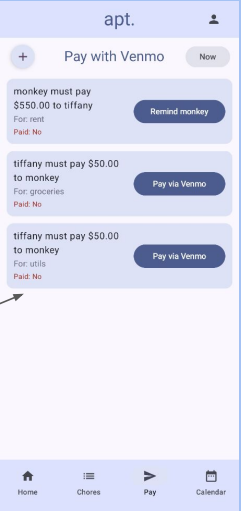
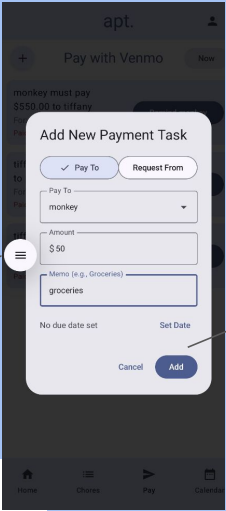


features and screenshots

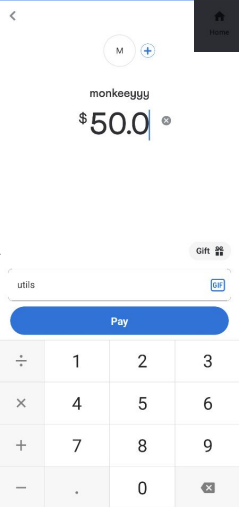
payment flow



add one time payment

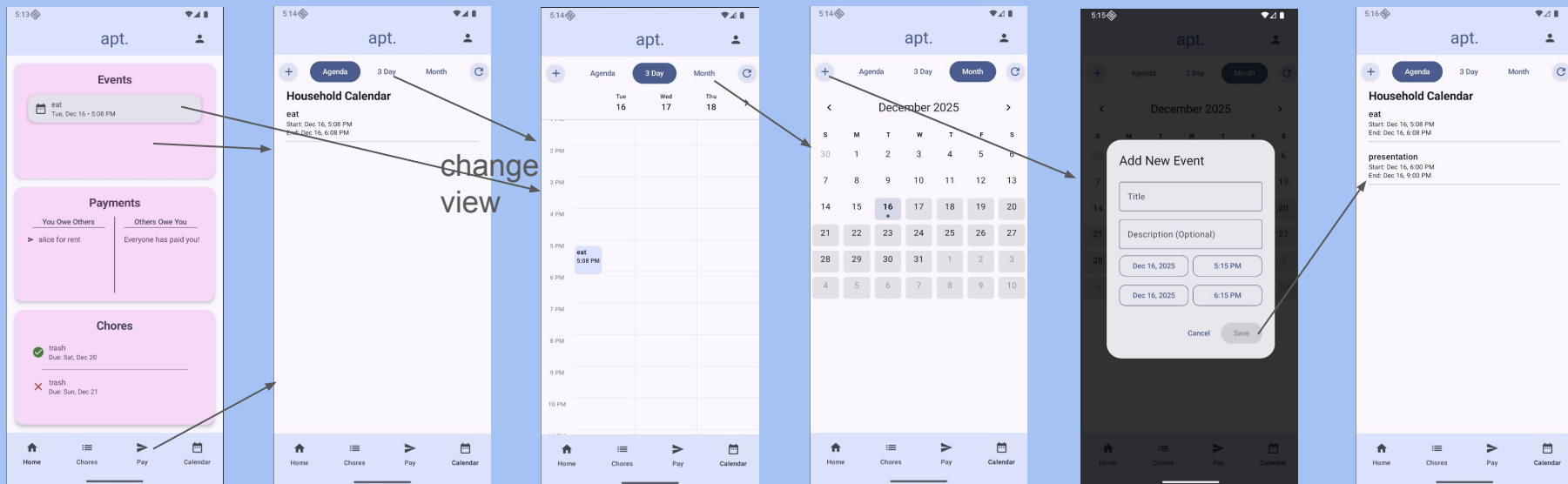


pay with venmo



features and screenshots

events flow



add event

debugging and testing

- handling errors with try-catch blocks and when necessary displaying error with a Toast
- comprehensive logging throughout complex processes such as API calls and retrieval of data from database
- reading through stack trace following crashes
- manually testing UI on different device sizes
- extended UI tests and unit tests for ViewModel

team workflow

wyattnapier / Projects / 501 Scrum Board

🔍 Type to search

+

501 Scrum Board

Add status update

Insights

Workflows 5

Backlog

Team capacity

Current iteration

Roadmap

My items

+ New view

🔍 Filter by keyword or by field

Discard

Save

🟢 **Todo** 8 / 5 Estimate: 0

This item hasn't been started

🟢 501_Final_Project #49

Ensure UI works for multiple device sizes

P0 S

🟢 501_Final_Project #73

complete without photo

P1 S

🟢 501_Final_Project #83

unit tests for events

P1 M

🟢 501_Final_Project #75

build out settings/profile page

P1 L

+ Add item

🟡 **In Progress** 3 / 5 Estimate: 0

This is actively being worked on

🟢 501_Final_Project #53

chore and payment assignment

P0 M

🟢 501_Final_Project #82

unit tests for chores

P1 M

🟢 501_Final_Project #84

unit tests for payments

P1 M

+ Add item

🟣 **Done** 48 Estimate: 0

This has been completed

🟢 501_Final_Project #74

Update join household UI to match registration and signup

P0 XS

🟢 501_Final_Project #62

Add household id to profile page

P0 XS

🟢 501_Final_Project #46

mark payment as completed

P0 XS

🟢 501_Final_Project #87

profile button bug

+ Add item

🟠 **Backlog** 4 Estimate: 0

🟢 501_Final_Project #47

[STRETCH] anonymous text posting wall

M

🟢 501_Final_Project #48

[STRETCH] customizable notifications

M

🟢 501_Final_Project #26

[SUPER STRETCH] Actually implement paypal properly

XL

🟢 501_Final_Project #67

[STRETCH BUG FIX] Calendar UI with lots of overlapping events (more than 5)

+ Add item

Challenges + lessons

- developing frontend before fully implementing the backend
 - A lot of restructuring throughout the development process
- designing the database
 - How to concisely store all of the different data types
 - Decided to use noSQL Firestore database
- business decisions
 - Determining logic behind different features of our application
 - E.g. how to assign chores and payments

thank you!