

apt.

alice, tiffany, wyatt

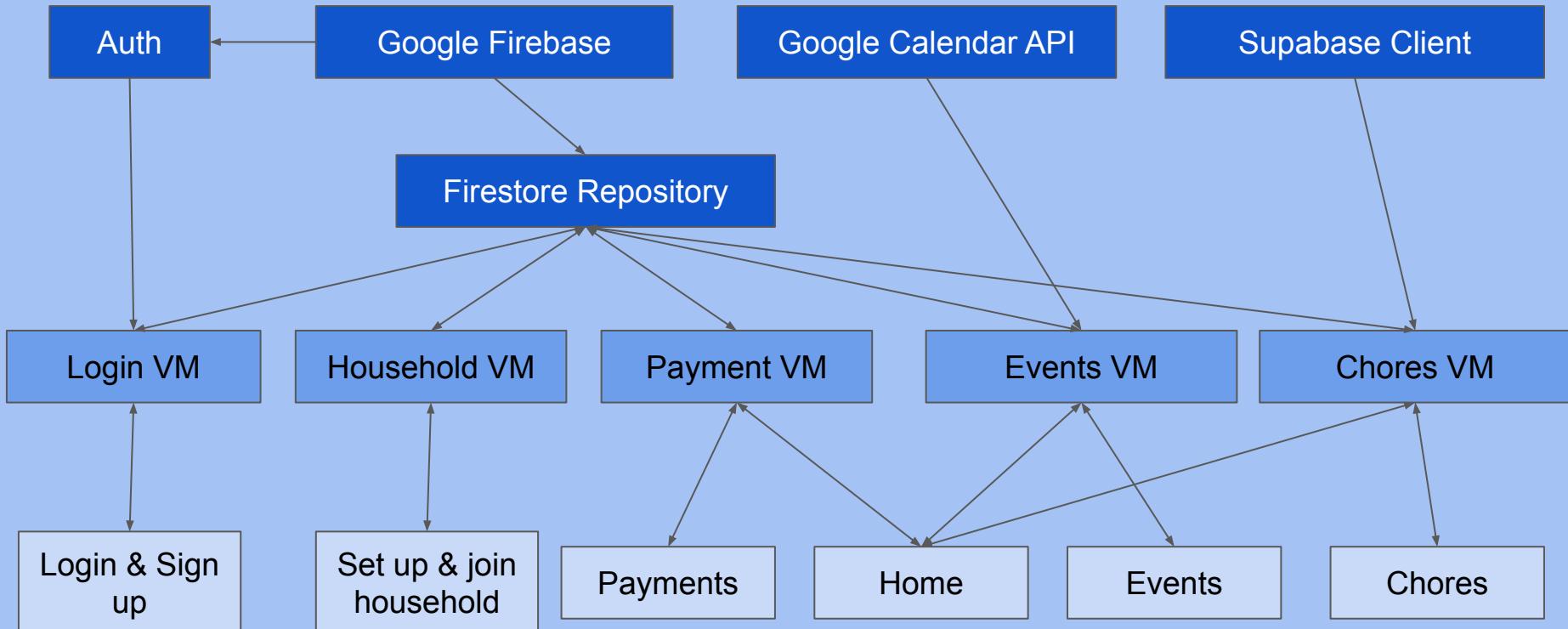
# problem and solution

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"	recurring_chores
chores	<ul style="list-style-type: none"><li>0</li></ul>
assignedToId: "m9Jw5LBImZWlxHmzbIDCTNSuHRI2"	cycle: 14
choreID: "1"	description: "clean the toilet and sink and mirror"
completed: true	name: "clean bathroom"
date_completed: November 13, 2025 at 12:00:00 AM UTC-5	<ul style="list-style-type: none"><li>1 {cycle: 14, description: ...}</li></ul>
due_date: November 28, 2025 at 12:00:00 AM UTC-5	recurring_payments
image_uri: ""	<ul style="list-style-type: none"><li>0</li></ul>
recurring_chore_id: 0	amount: 2000
<ul style="list-style-type: none"><li>1 {assignedToId: "hHO8llkqNC..."}</li><li>2 {assignedToId: "oLt5u6tuVi..."}</li></ul>	cycle: 30
name: "test"	name: "rent"
payments	paid_by: "m9Jw5LBImZWlxHmzbIDCTNSuHRI2"
0	<ul style="list-style-type: none"><li>1 {amount: 0, cycle: 0, name...}</li><li>2 {amount: 200, cycle: 0, na...}</li></ul>
amount: 20	residents
date_paid: November 13, 2025 at 12:00:00 AM UTC-5	<ul style="list-style-type: none"><li>0</li></ul>
due_date: November 15, 2025 at 12:00:00 AM UTC-5	id: /users/yqKB3HoO0OmVHVai8LDOIcEUuxu82
id: 0	payment_percents
memo: "dinner"	<ul style="list-style-type: none"><li>0 0.33</li><li>1 0.33</li><li>2 0.33</li></ul>
paid: true	<ul style="list-style-type: none"><li>1 {id: "alice", payment_perc...}</li><li>2 {id: "wyatt", payment_perc...}</li><li>3 {id: "m9Jw5LBImZWlxHmzbIDC..."}</li></ul>
pay_from: "ptRJsseSPeOsXehltx73QMjddvj2"	
pay_to: "hHO8llkqNCWhChrx2jOLINqZjPY2"	
<ul style="list-style-type: none"><li>1 {amount: 500, date_paid: n...}</li><li>2 {amount: 200, date_paid: n...}</li><li>3 {amount: 25, date_paid: No...}</li></ul>	

# database schemas

## User

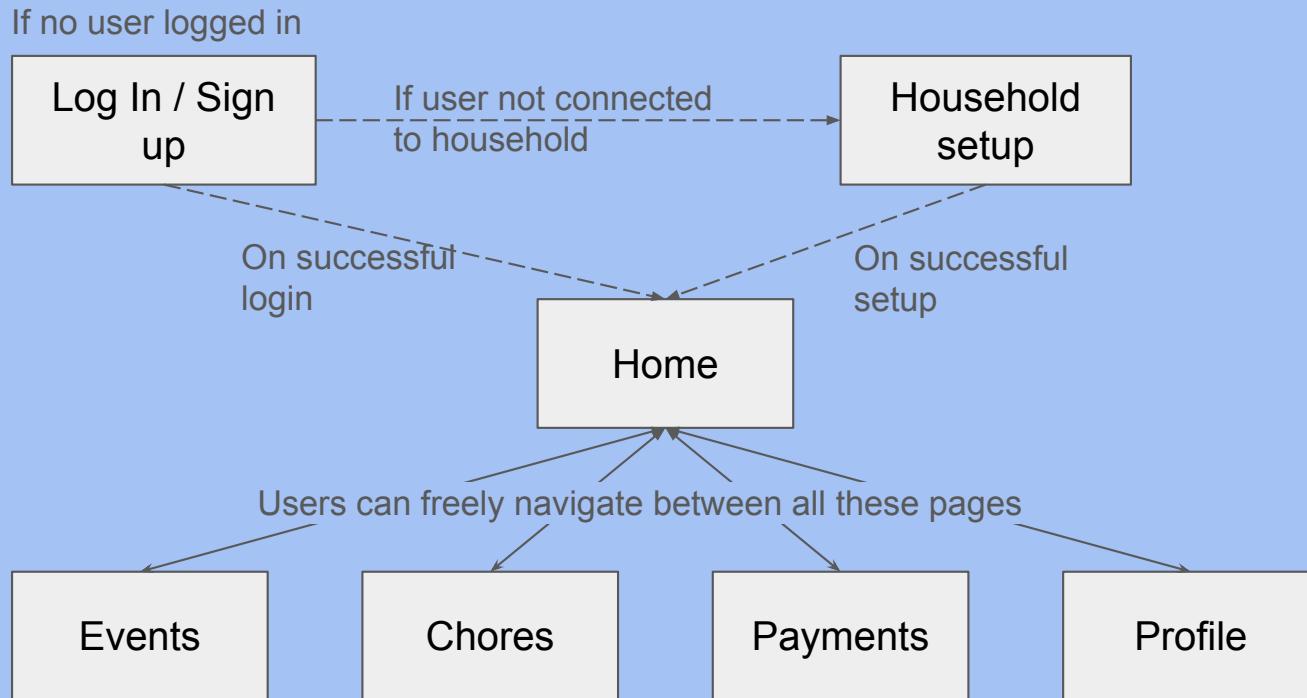
household\_id: "household document id"

name: "user's name"

username: "username"

venmo\_username: "user's venmo username"

# navigation and feature relationships

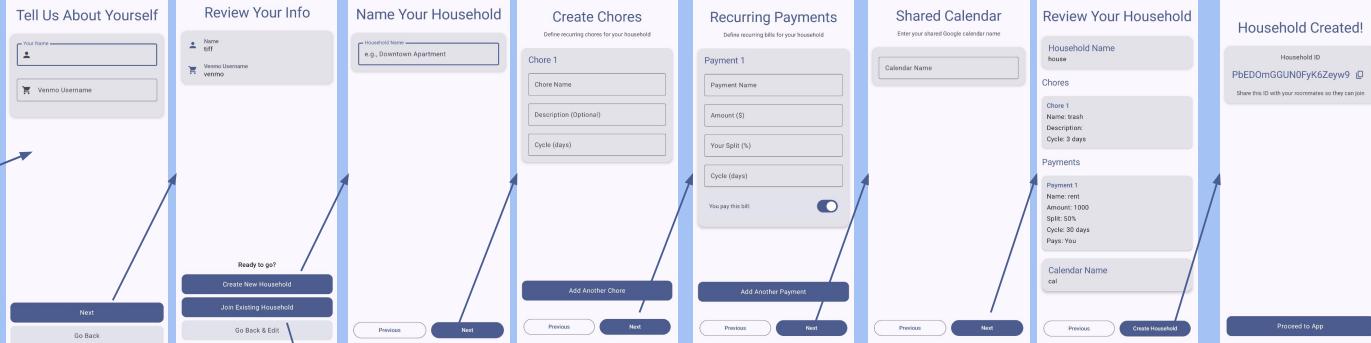


# features and screenshots

## login + set up flow

have account

sign up + create household



sign up + join household



# features and screenshots

## chores flow

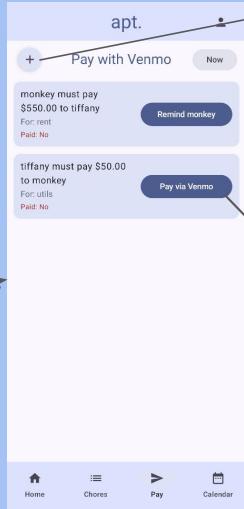


roommate view:

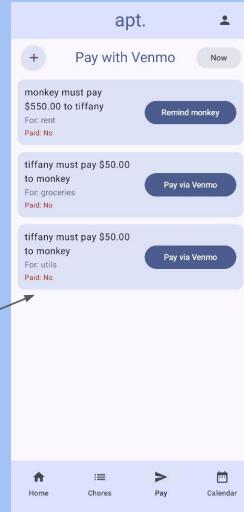
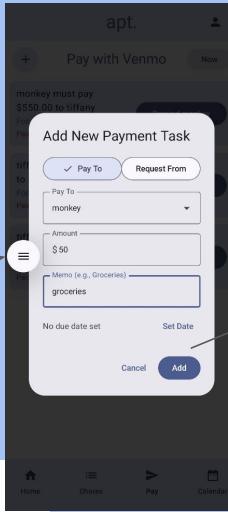


# features and screenshots

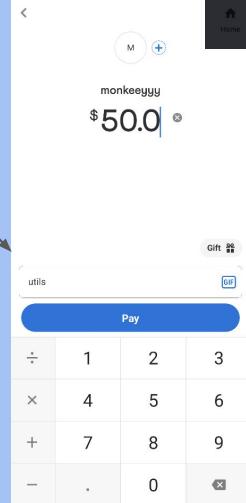
## payment flow



add one time payment

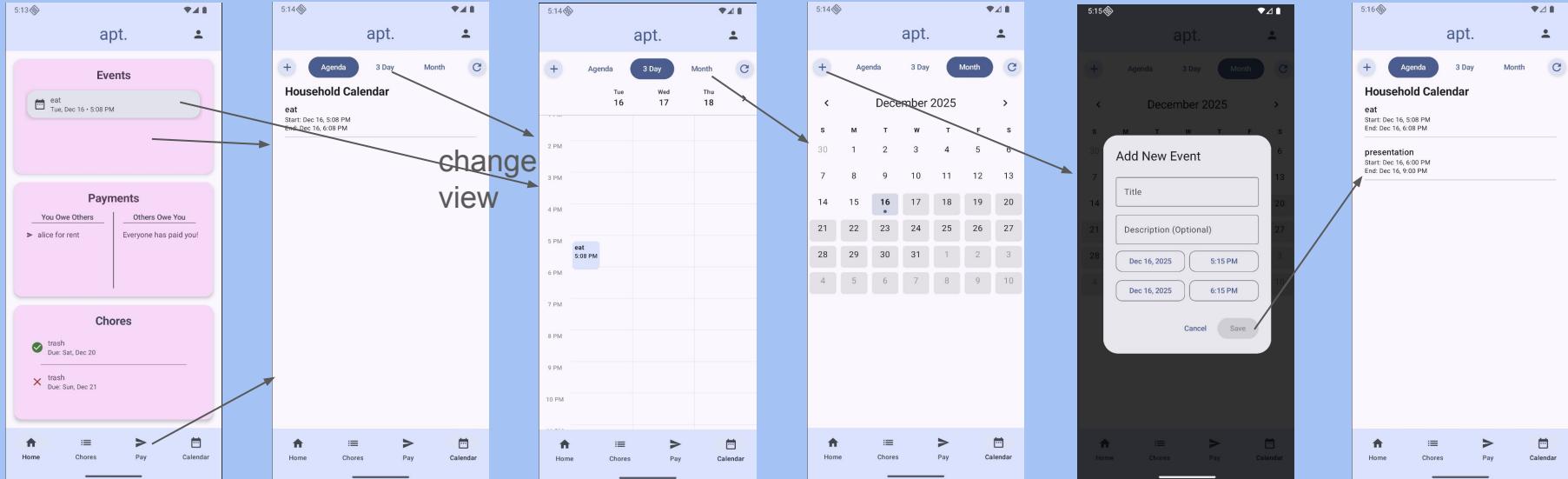


pay with venmo



# features and screenshots

## events flow



# 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

The screenshot shows a Scrum Board interface with four columns: Todo, In Progress, Done, and Backlog.

- 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)
- 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)
- 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 (P0 XS)
- 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) (P0)

At the bottom of each column, there is a "+ Add item" button.

# 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!