



StudyStacks

cause no other app stacks up

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Purpose of the Project

Overall: Make a flashcard app that makes studying easier and FREE



Fit

- Leveraged skills we had + wanted to develop
- Relevant to us as part of the target audience
- Narrowed down on platform



Interest

- Hated that Quizlet's previously free features are now paid
- Add a personal touch to an existing app type
- Room for expansion



Worthwhile?

- Practical product that could help with studying
- Very few other major unpaid apps with the same functionality

Project Goals

We had four main goals for the app

Discovery

- Dashboard is regularly updated with new topics based on the user's declared interests

Convenience

- Create new stacks with a few taps
- See created and saved stacks in the profile

Motivation

- Encourage consistent habits via streaks + points
- Award badges for achieving different goals

Retention

- Just like Tinder, but for studying
- Swipe cards left to add them to your to be reviewed list

User Flow

ie. how it works

04/15

Account Creation + Onboarding

- Dashboard is regularly updated with new topics based on the user's declared interests

Dashboard

- At a glance overview of user stats, stacks, and stack creation

Library

- All publicly available stacks with built in search and filters for quick access

Social

- Leaderboard shows user's ranking against friends
- Add friends in the app via email

Profile

- Displays user information, favorite stacks, and buttons to customize app experience

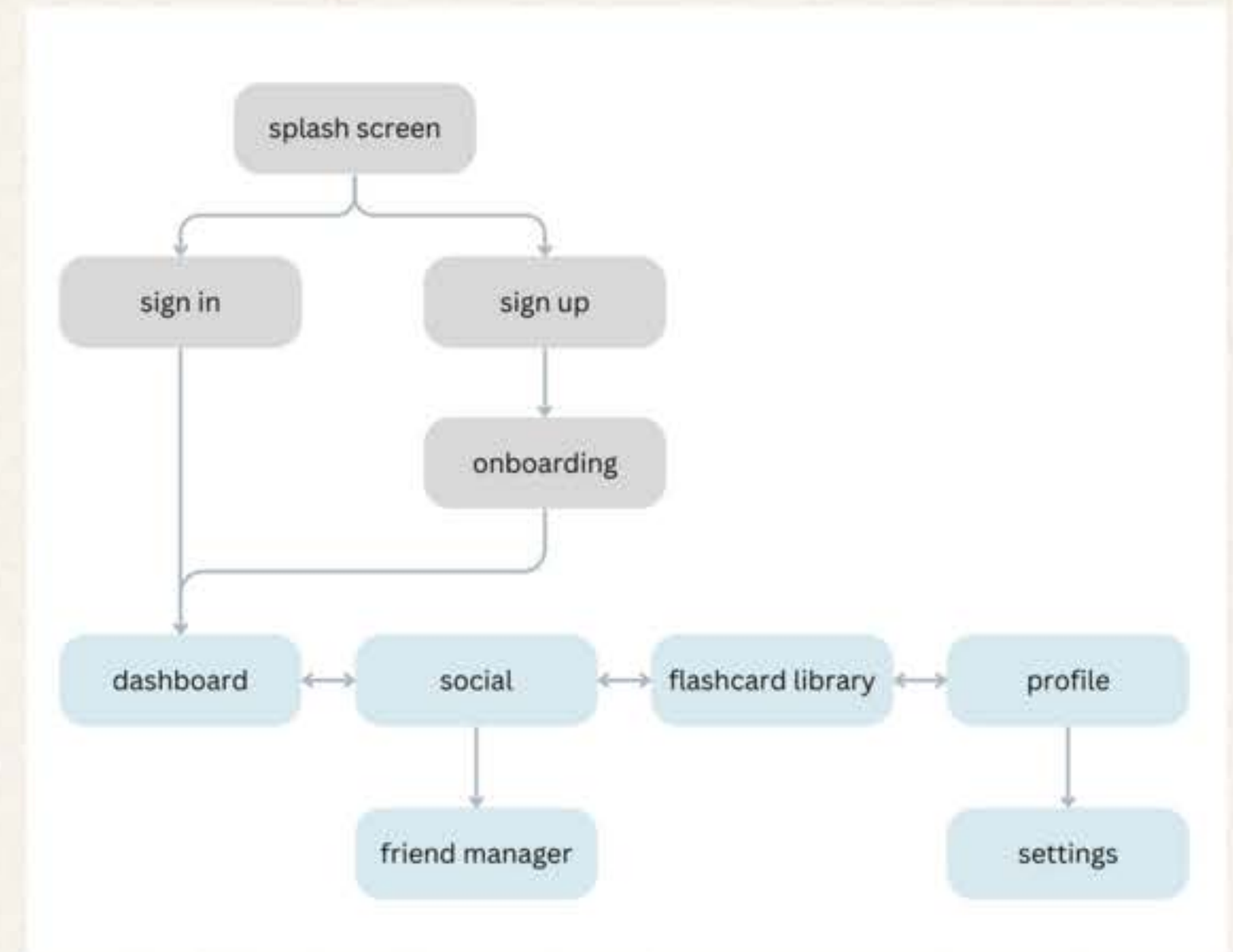


Figure 1. showing high-level overview of user flow in app

Data Flow

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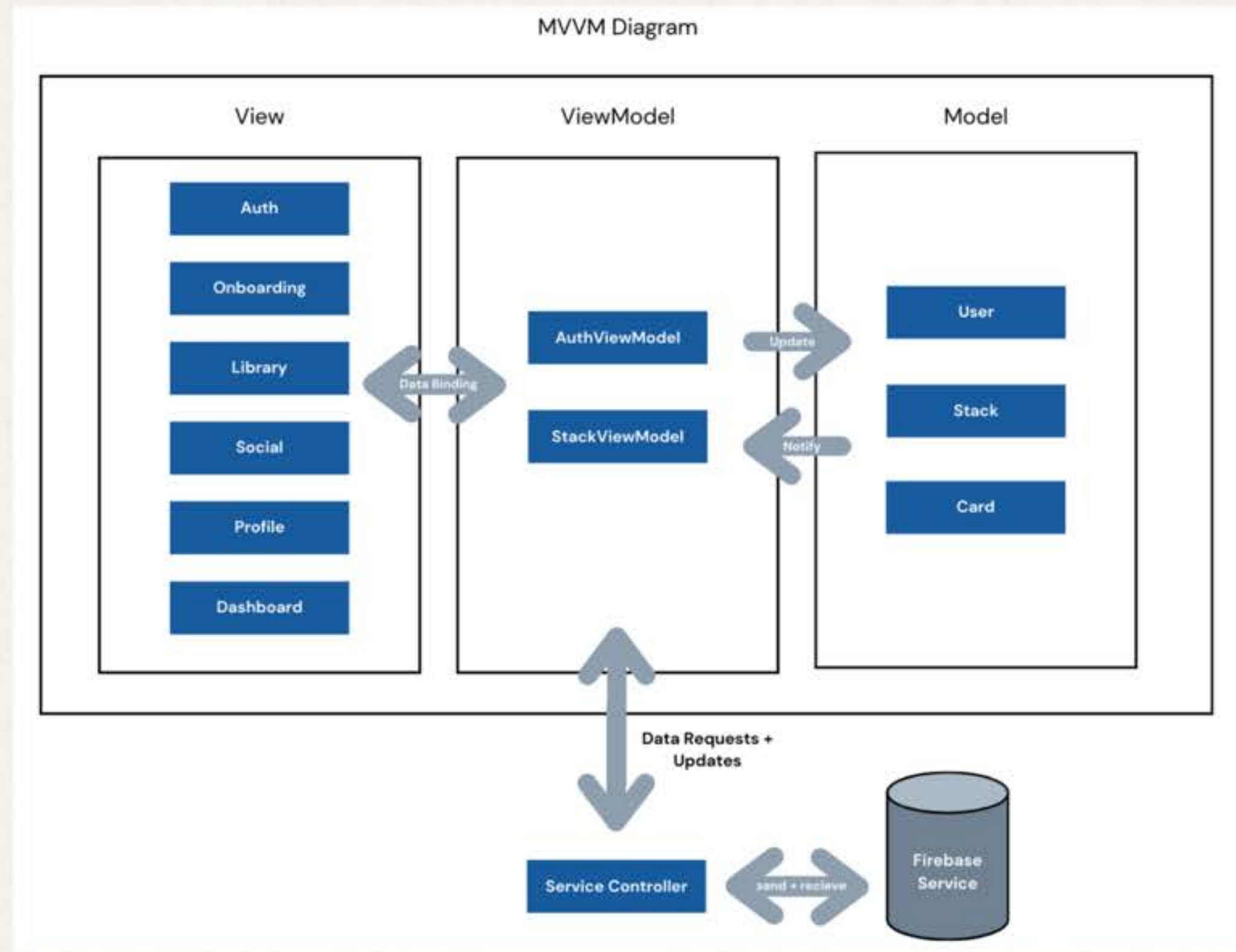


Figure 2. Showing MVVM structure for the app

Project Planning

Project Management Tool Used

- Trello → used to track product backlog, sprint backlog, and project progress (example card below)
- (sorta) Google Docs → we kept track of our notes from stand ups and sprint reviews in a shared Google doc

Implement stack library

In list: DONE

Members: LI

Labels: MVP - App Features, MVP - Flashcard Functionality

Notifications: Watching

Story Points: 3

Priority Badge: None

Description

Relevant User Story: As a learner, I want to be able to see all the available stacks so that I can see all of my options and search for what I want.

Objective: Implement the basic library functionality in the app

Scope:

- Create a LibraryView which lists all the public decks + the user's stacks
- Modify the StackViewModel as needed to accommodate for the additional functionality
- Implement a search functionality on the page

Acceptance Criteria:

- Users can see not only their own decks, but all public decks on the library page
- The search bar correctly filters the available stacks by the search term

StudyStacks Board

Filters: R2, B, GE, LI

Share

To do

- Edit Profile (2, LI)
- Request Notification Authorization During Reminder Time / Onboarding (1, LI)
- General UI (2, LI)
- README (1, R2, B, GE, LI)

In Progress

- Deck overview flips and UI (1, GE)
- [Potential UI cleanup] Arrows cut off Flashcard Text (1)
- Presentation Slides (3, 1, R2, B, GE, LI)

QA

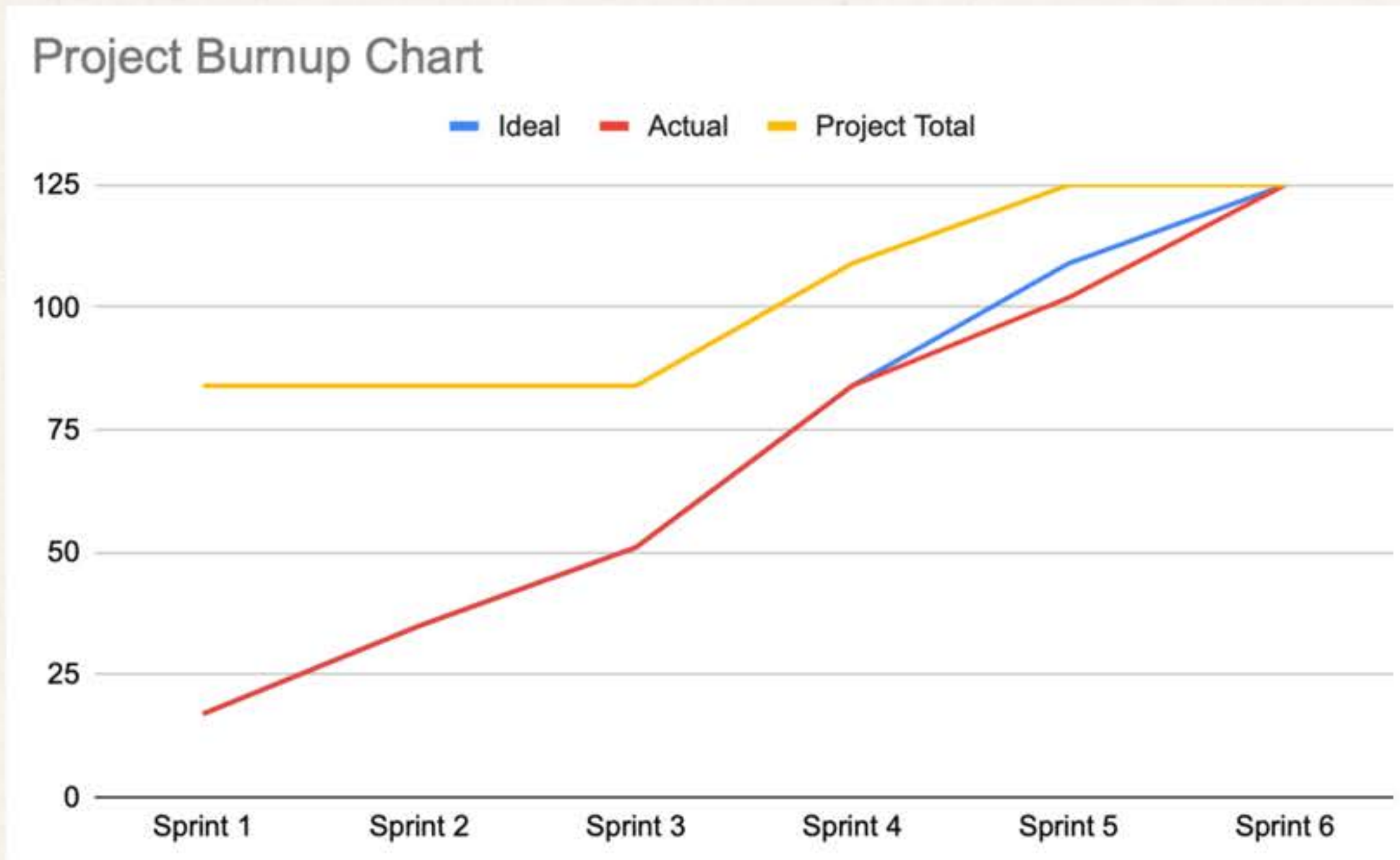
- Remembered Flash Cards Section (2, R2)
- Leaderboard Function for Dashboard (2, R2)
- adding streak functionality (1)
- Extra - App Features: Implement badge functionality (3, 4, 3, B)
- Implement Remainder of Profile (2, 2, B)

Done

- Determine Badges (2, 1, B)
- Design Leaderboard (1, 2, GE)
- Extra - App Features: Implement Leaderboard (7, LI)
- End to End testing (1, 1, B)

Stacks: 1 DAY, 10 DAYS, 30 DAYS, 1, 5, 10

Burn-Up Plan



Over the course of the project, we stayed relatively on track with the ideal points completed, with only a few sprints dropping below the ideal line.

Burn-Down Plan



In our most recent sprint, all work was moved out of To Do (which this power up tracks). However, about 5 points of work were left in the QA column

Agile Method

Choice

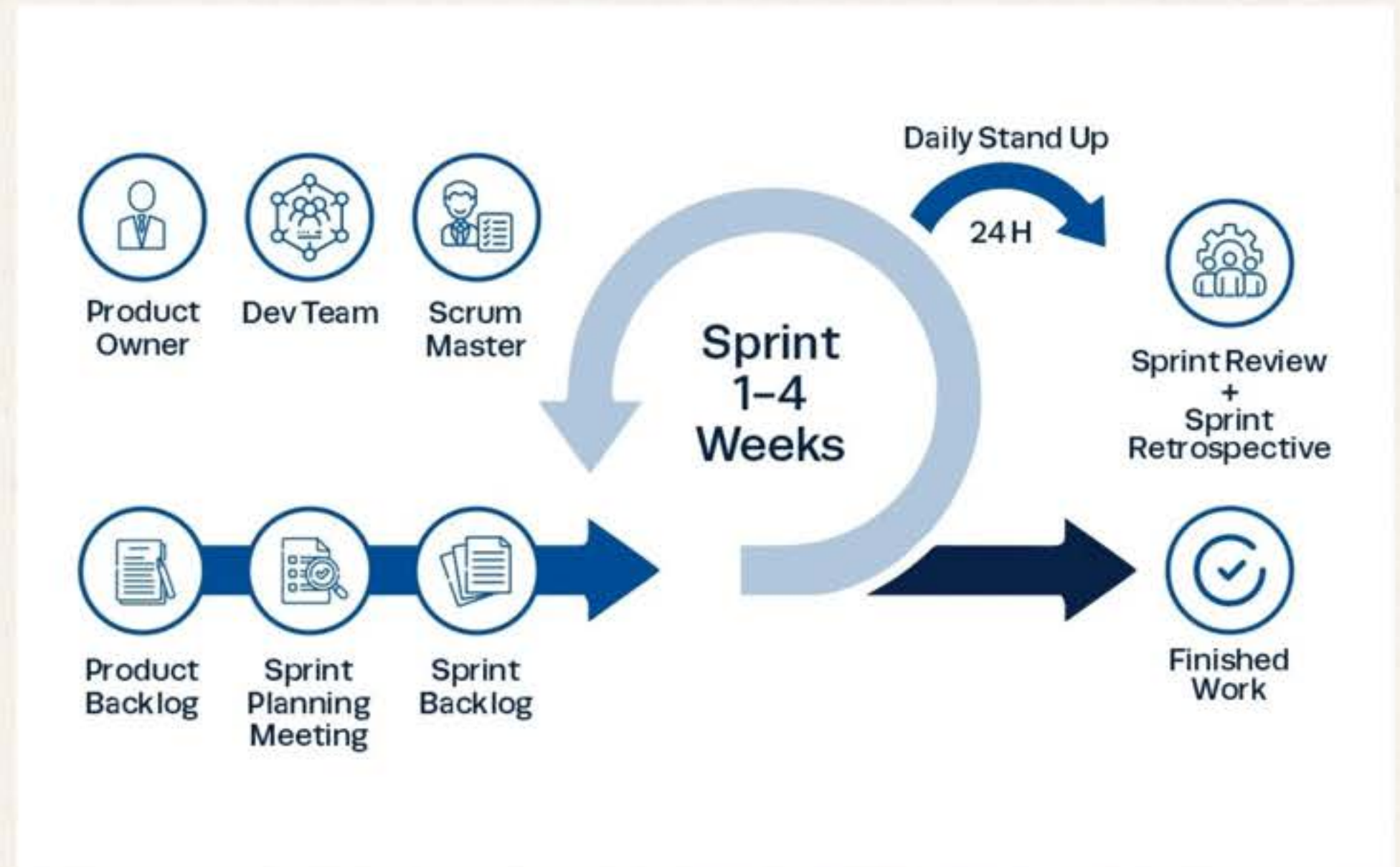
- Scrum!

Why?

- prevented procrastination by using time boxes
- allowed more flexibility than some other methods (like XP)
- weekly meetings allowed us to check in regularly and ensure constant delivery

Did it work? Yes!

- Code was pushed to main every sprint
- 2-week sprints allowed us to pivot as needed



credits: Institute of Project Management

Agile Method – Tool

We chose to use Trello!



Advantages

- easy to learn how to use
- cards could be assigned to different team members
- built in plugins to add on story points, generate burndown

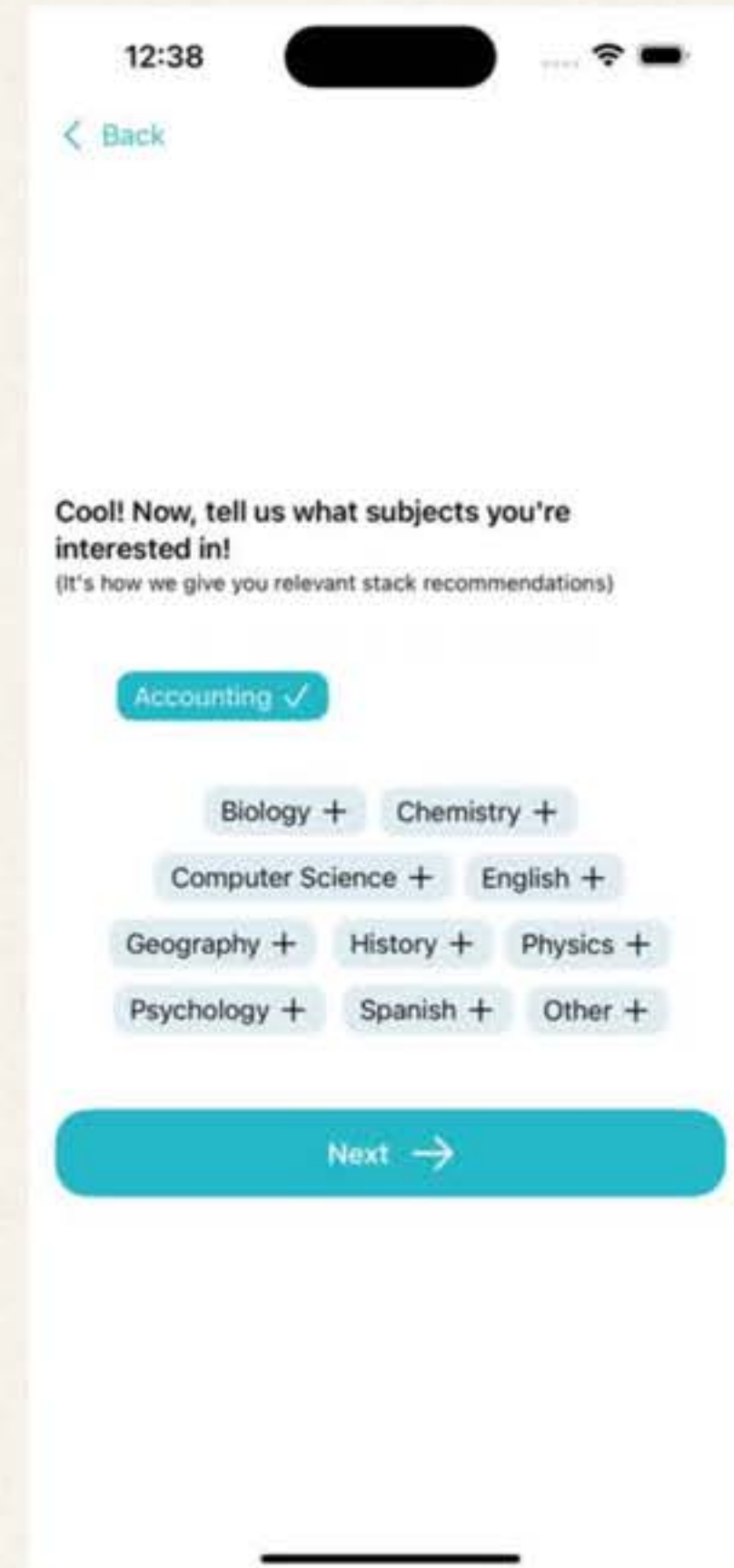


Drawbacks

- only the Kanban board was accessible on the free plan
- instead of grouping cards with their relevant stories, we just had to use tags or put it in the description

Demo Time!

We have a live demo, but here's the recorded one just in case



11/15

Project Challenge #1

Interpersonal challenges

Description

- misunderstandings or differing expectations for certain parts of the project
- waiting until stand-ups to ask for help
- managing frustrations with development timelines

Mitigation

- a lot of “what do you mean by that” and room for additional explanations
- encouraged texts in the group chat when help was needed
- patience. and working together to find solutions

Project Challenge #1

Technical Challenges

Description

- varying skill levels in Swift and iOS development
- logic challenges in more complex features

Mitigation

- shared tutorials and information, detailed code reviews
- asking peers for help, Googling for common solutions

Changes During Development ^{14/15}

Original Idea

- using **Spaced Repetition** within the app so that users would be reminded of stacks studied based on a time algorithm

What changed?

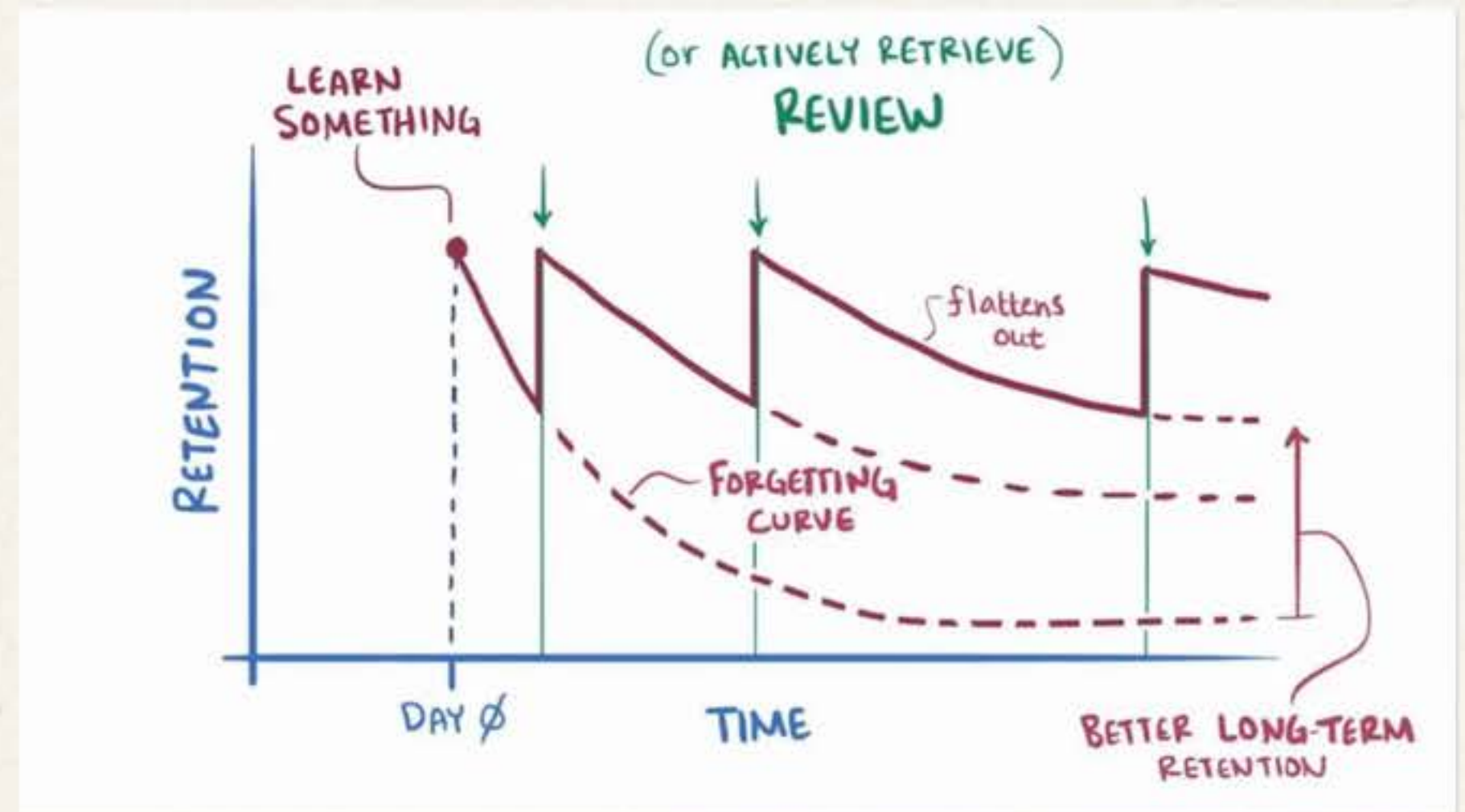
- changing priorities → focused more on gamification
- complexity + data → research would be needed to develop the algorithm, as well as managing more data

Adaptation

- instead of reminding users of stacks to revisit, their self-reported forgotten cards are included in a review stack

If we persevered...

- We still could! This feature could be added on to the current app given enough time



credits: Osmosis - Spaced Repetition



Thank You!

Any questions?