15-637 Project Specification -- Team 8: memcpy()

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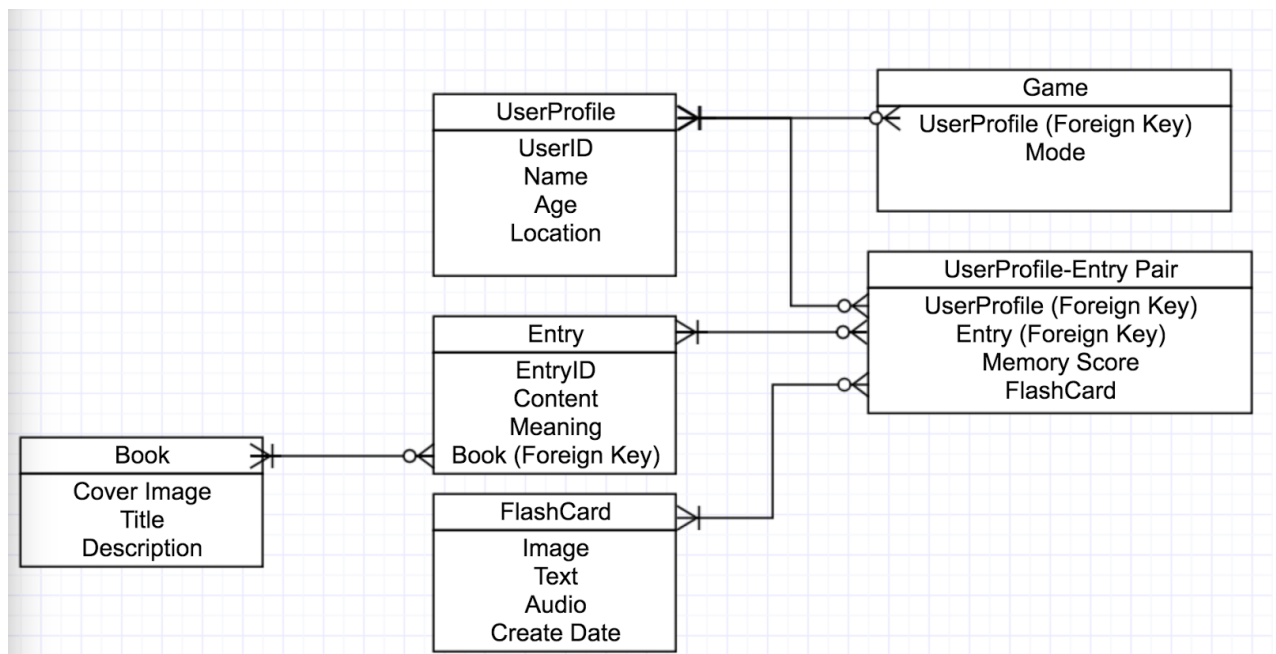
Sprint 1 backlog (owner: Yu-Heng Lei [yuhengl1]):
- Non-logged-in functions:
  - [Bian] Non-logged-in homepage: Simple introduction, website statistics (number of books, entries, users).
  - [Bian] Log in, registration: Same as homework, but the user can also upload a profile image at registration.
  - [Bian] Browse books: Anyone can browse the overview of books and their entries.
- Logged-in functions:
  - [Bian] Logged-in homepage: List recently learnt books, other books by popularity, and website statistics.
  - [Bian] View other user's profile and edit their own profile: Same as homework, but email field is hidden for privacy when viewed.
  - [Lei] Create, edit, and delete books and entries: Logged in users can create new books, but only the owner can edit or delete the book or entry.
    - A book overview should contain a cover image, a title, and a short description.
    - After creating the overview, the owner can then create the entries of this book.
  - [Gu] Learning mode: The user learns through each entry given the question and answer. User can choose or create new "flashcards" (as hints) they want to help them memorize this entry.
    - Create multimedia flashcards: A flashcard can contain text, an image, and an audio file. The flashcard will appear below the entry along with the author username, profile image, and creation date.
- [Bian] "Flashcard of the Day": The system will pick a random flashcard of any entry every day at 00:00 and show it on the top of both non-logged-in and logged-in homepages.
- [Lei] Enhance and unify website appearance at each sprint

Product backlog (after Sprint 1):
- Enhance and unify website appearance at each sprint
- Games: At the book page, the user can start a timed multiple-choice game in various modes. The system randomly chooses entries according to difficulties (probability proportional to "1.0 - user-entry accuracy"). Answering with keyboard (pressing 1, 2, 3, 4) should supported in each mode. After the game finishes, there will be a result page showing game statistics and (if any) achievements unlocked.
  - Quiz mode: 10 seconds for each entry until the user exits. When the user gives the wrong answer or the time runs out, the correct answer and their selected flashcard will show up to remind the user.
  - Speed mode: 30 seconds in total to answer as many questions as possible. Answering correctly/incorrectly will add/deduct 1/2 seconds as bonus/penalty.
  - Survival mode: 5 seconds for each entry to answer as many questions as possible until "hit point" (HP) becomes 0. The user initially has 5 HP represented as icons. Answering incorrectly will deduct 1 HP.
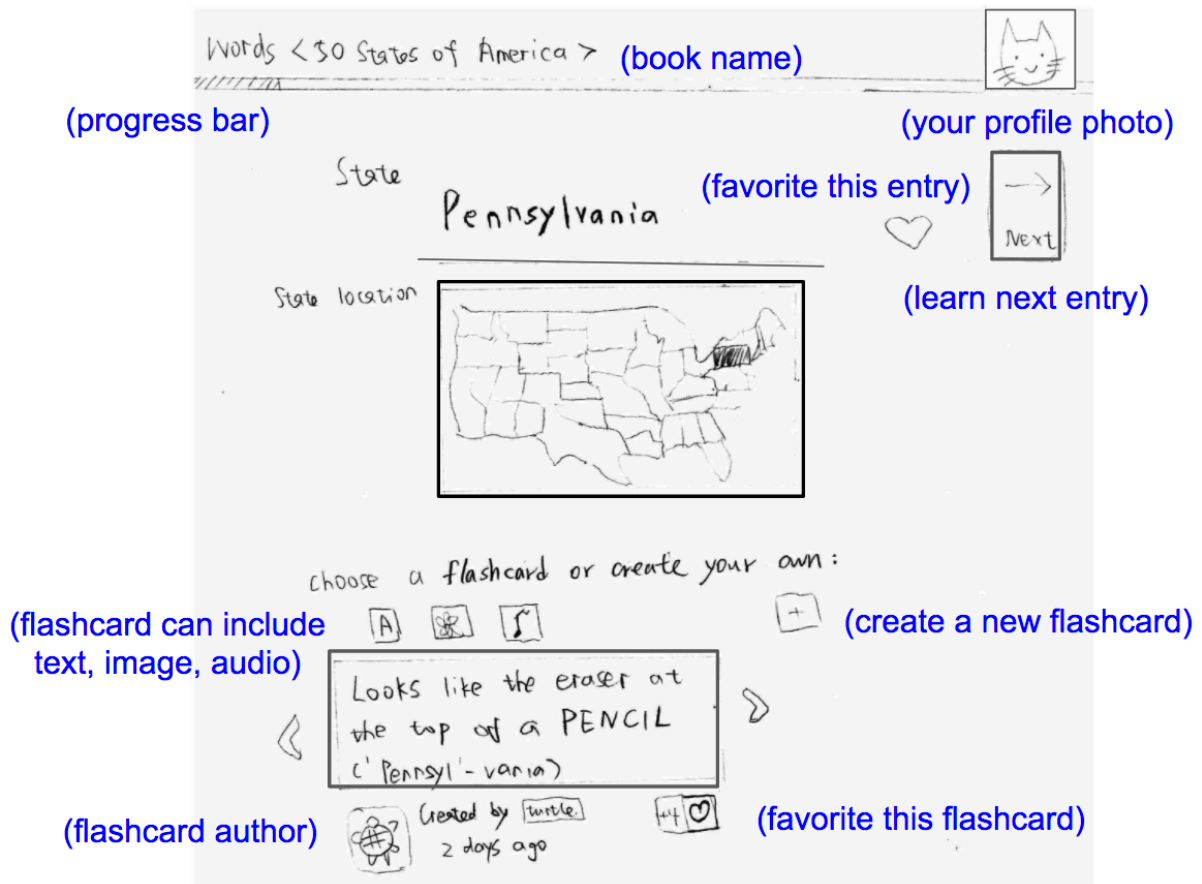- Record game statistics:

- ○ User-entry accuracy, entry accuracy, user accuracy, user-entry combo, user combo, user score.
    - ■ User score: Each time the user answers correctly, the user score will increase according to speed and difficulty (entry accuracy). Answering incorrectly will decrease the user score.
- ● Achievement system: Users can "unlock" achievements by completing various missions.
- ● Leaderboards: Show leaderboards of each book and of the whole website.
- ● Show personal learning statistics with visualization.
    - ○ Overall score, accuracy, combos, most difficult / easiest entries
    - ○ Plot the score over time as time series visualization.
- ● Social interactions:
    - ○ Share books and flashcards to Facebook/Twitter/WeChat.
    - ○ Comment on books and entries to discuss the content.
    - ○ Follow/Unfollow users when viewing their profiles.
    - ○ "Like" a flashcard: The user can click/unclick a "like" button to upvote a particular flashcard. A flash will also show the number of likes by users.
- ● Final week actions:
    - ○ Final bugfix and review.
    - ○ Deploy the application to a cloud service.
    - ○ Create interesting content for the final demo.

Data models:

User interface mock-up:
- **Learning mode**

Words < 30 States of America > (book name)

(progress bar)

(your profile photo)

State

Pennsylvania   (favorite this entry)

State location

→ Next

(learn next entry)

choose a flashcard or create your own:

(flashcard can include text, image, audio)   [A] [image] [♪]   [+] (create a new flashcard)

Looks like the eraser at the top of a PENCIL (' Pennsyl '- vania)

(flashcard author)   Created by [turtle] 2 days ago   (favorite this flashcard)

- **Quiz mode**

Quiz < 30 States Of America >

Question   [15] / [20]

(question NO. 15 out of 20)

Timer   Score   [637]

(10 seconds countdown)

(question) Which one is the correct State for the state location?

(answer options)   1. New York   2. California

3. Pennsylvania   4. Virginia

⊗ Give Up   (give up this question to see flashcard)