Team 8

StudyOutlet

CSCI 3308: Software Development Methods and Tools
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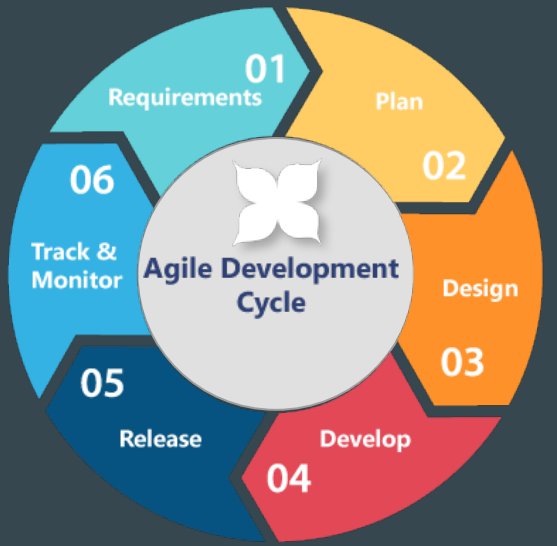
Group member: Woosung Jang, Zoë Koppenhofer, Ryan Whitmer, Pengqi Yin, and Alex Ray

Project Overview

- Testing framework for Physics GRE review
  - Students studying for the Physics GRE
- How does it work?
  - Register->login->customize settings->choose practice test->take practice test
  - Takes questions stored in database, displays for user, verifies correctness

Methodologies



- Peer-Programming
  - Not everyone has XCode
  - Programmers bounce ideas off each other
  - Fills gaps in the other's knowledge
- Agile
  - Weekly/bi-weekly meetings
  - Kept open mind to project changes
  - Assigned implementations to each member at the meetings

Slack

- Communication platform
- Rate: ★★★★★
  - Pros: flexible, good for code/media sharing, cross-platform
  - Cons: none

Heroku

- Deployment environment
- Rate: ★★★★½
  - Pros: free, popularity means support for most languages and frameworks
  - Cons: unintuitive user interface and jargon, no native MySQL support

Trello

- Project management system
- Rate: ★★★★★
  - Pros: visually appealing, fluid, intuitive
  - Cons: difficult to fit any given project into “cards”

Github

- Version control system
- Rate: ★★★★★
  - Pros: useful, extensible, forces good branching/committing practices
  - Cons: learning curve for managing merge conflicts and branches

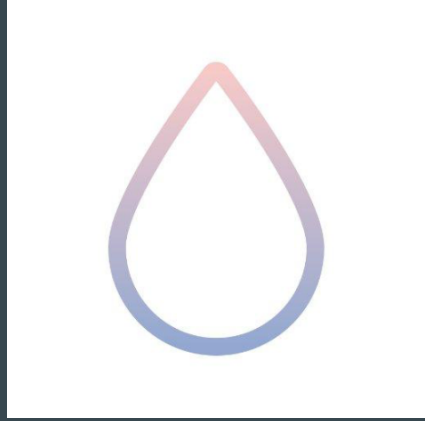
MySQL

- Database
- Rate: ★★★★★
  - Pros: simple, extensible, relational, support from all major web frameworks
  - Cons: none
- ClearDB MySQL for Heroku deployment
  - Pros: allows for MySQL while using Heroku
  - Cons: Stupidly low data limit

XCTestCase

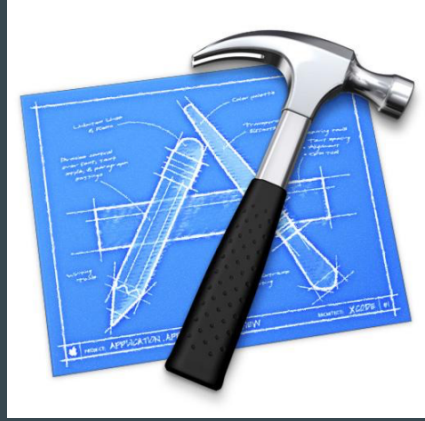
- Testing class
- Subclass of XCTest from Apple developer tools
- Rate: ★★★★★
  - Pros: ease of use, similar in structure to other testing frameworks
  - Cons: none

Vapor



- Server Side Swift framework
- Rate: ★★★★★
  - Pros: MVC patterns, similar in structure to Laravel, same language for front and backend, great community
  - Cons: very young framework, some lack of documentation

Xcode



- IDE
- Rate: ★★★★½
  - Pros: Swift support, fully featured, Storyboards
  - Cons: buggy code completion and build errors

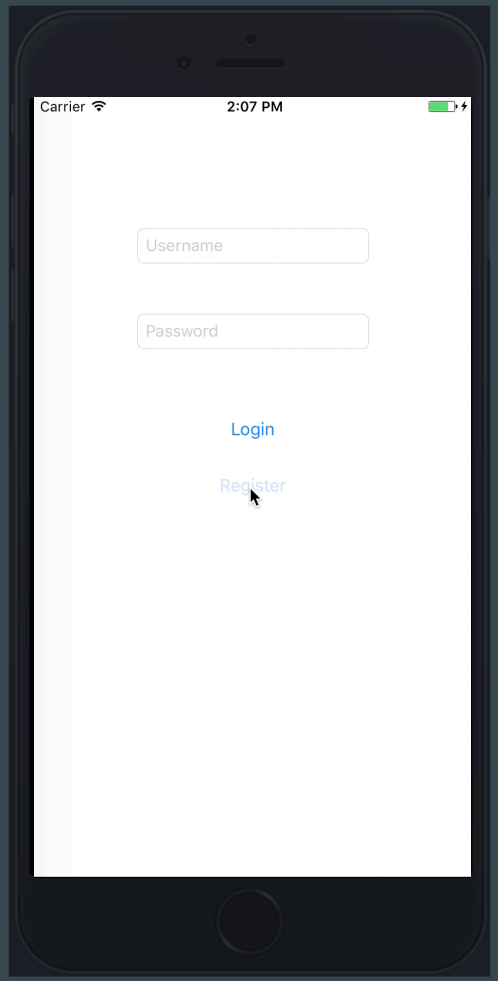
Challenges

- Not everyone has a Mac
  - Pair programming, Swift/Vapor Linux support
- Mathematical notation in questions and solutions
  - Storing and displaying images
- Unfamiliarity with frameworks/technologies
  - Communication, sharing resources

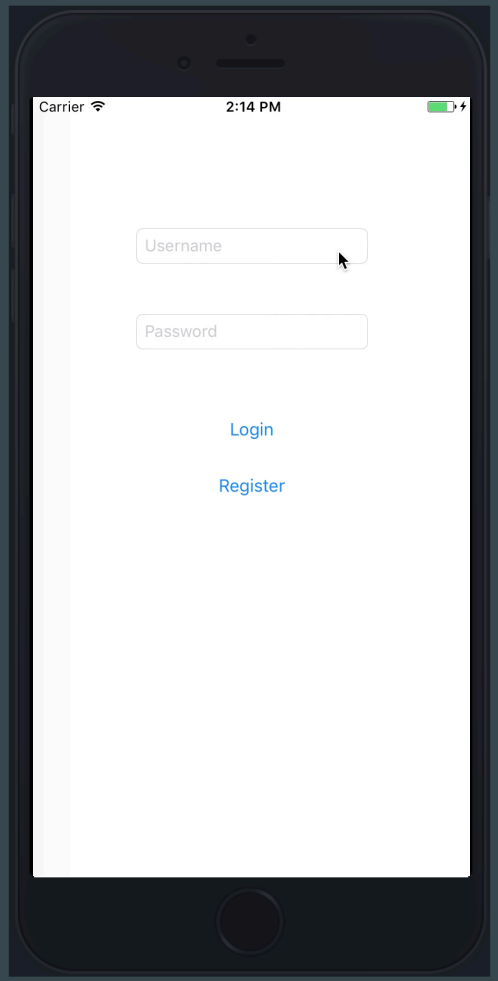
Key Lessons Learned

- Tools
  - How to use Github, Xcode, Heroku, MySQL and SQL clients
- Methods
  - Peer programming, project management (communication, Agile, etc)
- Software development process
  - Connecting frontend to backend, cooperative programming

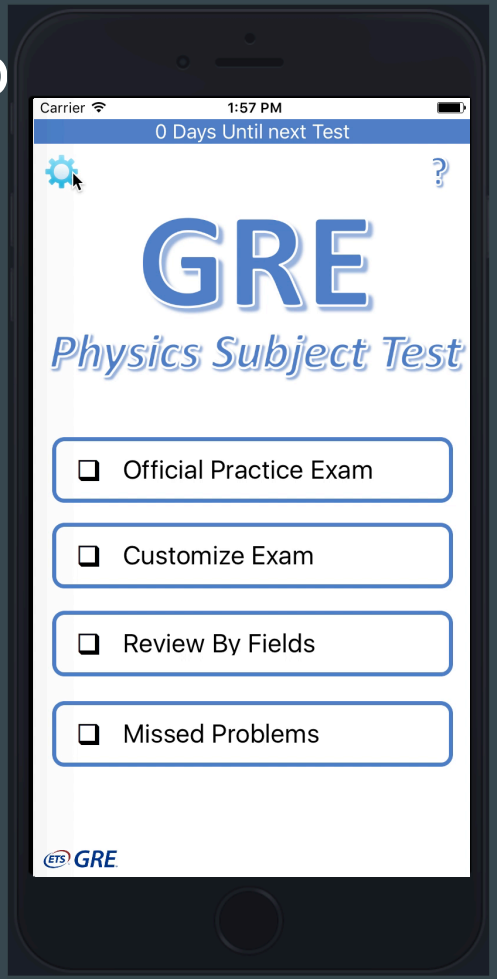
Register Demo



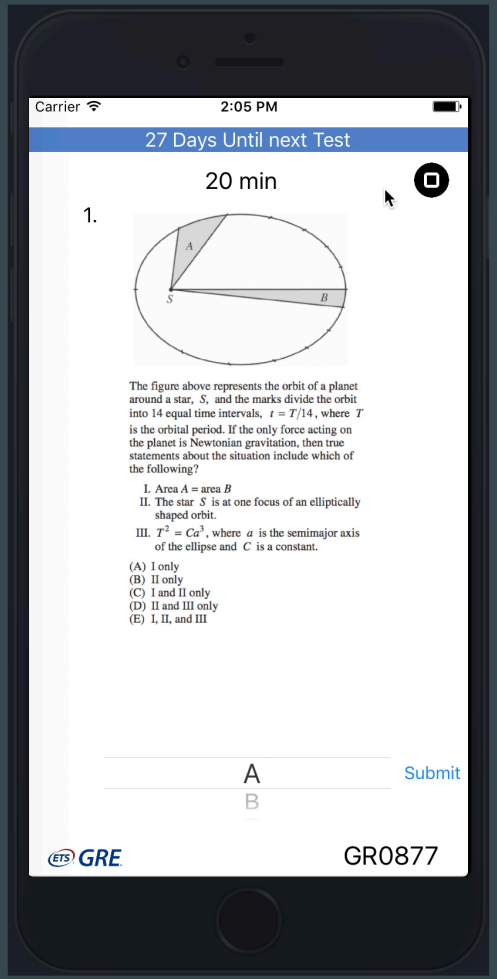
Login Demo



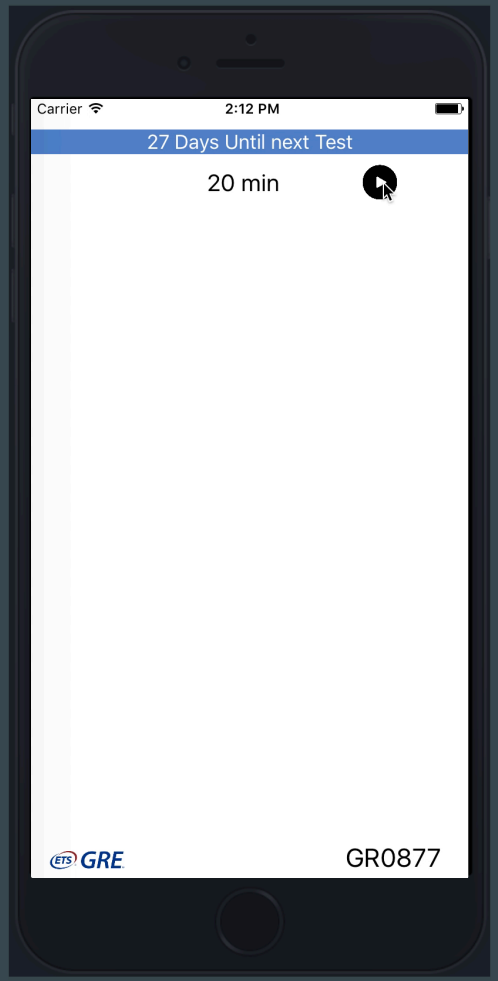
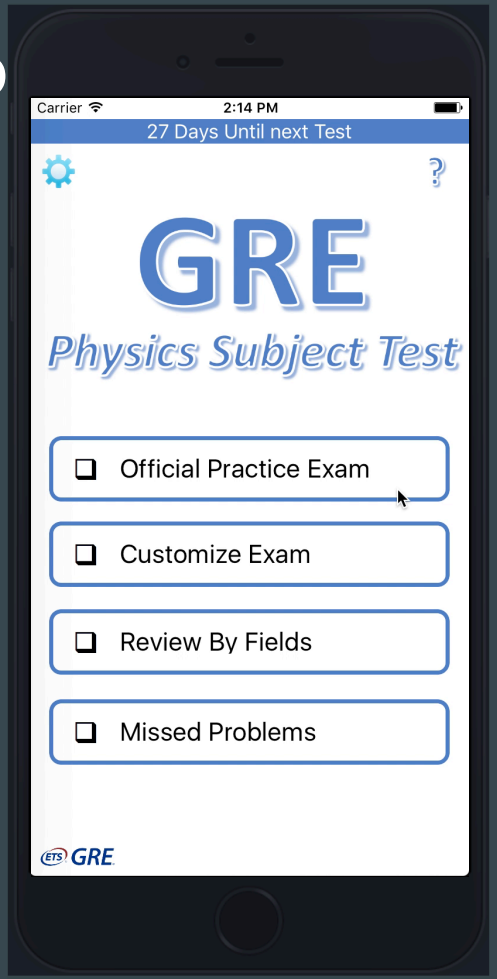
Date Countdown Demo



Timer Demo


Carrier
2:05 PM
27 Days Until next Test
20 min
1.
A
S
B
The figure above represents the orbit of a planet around a star, S, and the marks divide the orbit into 14 equal time intervals, $t = T/14$, where T is the orbital period. If the only force acting on the planet is Newtonian gravitation, then true statements about the situation include which of the following?
I. Area A = area B
II. The star S is at one focus of an elliptically shaped orbit.
III. $T^2 = Ca^3$, where a is the semimajor axis of the ellipse and C is a constant.
(A) I only
(B) II only
(C) I and II only
(D) II and III only
(E) I, II, and III
A
B
Submit
GRE
GR0877

Official Practice Demo



Customize Exam Demo