



Julia Vo & Alec Rudek  
June 7, 2014

# I. Executive Summary

When the time comes for students to start preparing for standardized testing, they are introduced with a few suggestions of how to obtain a high score. Students are told to buy and use test-prep textbooks, go to study sessions with their peers and get the right amount of sleep while maintaining a healthy diet. What this mobile application aims to do is keep track of the user's efforts to study and prepare for standardized testing. The app does not specifically aim to provide content to study, but rather record and organize the user's time spent studying. This way, users can view a visual representation of their studying habits, and will be able to choose which subjects they need to study more for, as well as compare their studying habits with other users. Users have the ability to create their own study schedule, and then use this app as a timer that records the time studied for each subject.

## II. Product & Service Description

### *Description:*

*Bee Smart* is a tablet and mobile application to help organize student's preparation for standardized testing. Bee Smart aims to increase productivity as well as decrease test anxiety. This product will help the user develop a sense of motivation using the social interactive features, while providing a visual representation as to where he or she is in the process of covering new material. Similar to fitness applications, they can track their progress and interact with others who share the same journey. The use of social interaction and test preparation is the unique proposition as many apps have not been able to successfully join the two, or create collaborative app for studying. In the digital market of applications geared to help students study, there is not an app focused on standardized testing. Many applications attempt to help

study schedule study times, offer study tips and even records their study times. However, there is not an app available to do all of this with a focus in standardized testing. This app will be specific to scheduling study blocks, organizing for specific portions of the exam, tracking progress, using social interaction, and counting down to the day. Students spend hundreds of dollars a year on books, but forget to schedule a set of study sessions. Other students schedule time, but overlook the other aspects of the test or disportion their time. This application will eliminate those problems, while providing a visual representation of progress to build their confidence and allow students to search for others in the area for a potential study session.

#### *Product Features:*

Bee Smart will have the option to select from the following standardized tests: ACT, SAT, GRE, and GMAT. The user will be advised, according to a preliminary questionnaire, on study methods that are best suited to their strengths and weaknesses. There will be categories and subcategories for each standardized test (i.e., GRE > Math> Arithmetic, Algebra, Geometry, and Data Analysis) as well as study blocks for each subject. To help the student get the most out of their app and prepare for this important test, the app will teach and encourage healthy study habits: memory retention, healthy diet, and sufficient amount of sleep. This is the one stop shop to bringing cohesion during a time of stress and anxiety.

#### *Summary:*

- Tablet/Mobile Application
- Standardized Test Organizer
- Schedule Study Blocks
- Social Interactive Features

#### *Goals:*

- Aims to increase productivity and decrease test anxiety
- Have users develop a motivation to study for the standardized testing, potentially by using an external reward system, or link the user's success/frequency of practicing with external motivation (e.g. competing with friends, or using social media)

- Encourage healthy studying habits by cognitive means. This app will provide tips to improve memory and retention and encourage positive learning methods.

#### *Features:*

- The option to select from the following standardized tests: ACT, SAT, GRE, and GMAT
- Accommodates studying methods and tips according to which test the user selects
- There will be different categories and subcategories for each standardized test i.e., GRE>MATH>Arithmetic, Algebra, Geometry, and Data Analysis
- Countdown to exam date
- Visual graphs for cumulative study times
- User opens schedule, selects one of the available subjects and sets timer to study
- Visual representation of which areas the user needs to improve in
- User Identifies exercise block time slots in a day and then distributes subjects to study within that timeframe
- Automatically links to calendar app and showcase available times
- Teach and encourage healthy studying habits: memory retention, healthy diet, and sufficient amount of sleep
- Create a day-by-day studying schedule by selecting preset subjects of choice
- Each scheduled exercise block will be timed and alert the user when times up
- Weekly updates of the overall progress compared to their friends
- Ability to edit exercise blocks
- During an exercise block the user will be locked out of all forms of social media
- The users will be notified of blank study block times
- Option to input the user's practice test scores to view improvements
- Pre-made study templates allowing the users to pick and choose from researched study methods

### III. Target Market

Bee Smart's target market is students who are preparing for standardized tests such as the ACT, SAT, GRE and GMAT. The application targets students in grade 11 through to both undergraduate and graduate college students. Our primary target market consists of students who are ambitious but may need help with organization. Bee Smart users are students who enjoy interactive and facilitated experiences while appreciating a visual representation of progress in order to feel accomplished and productive. Users of Bee Smart are also competitive in nature thus being attracted to the social media aspect of the application. Our target market is motivated and influenced by peers and friends thus seeing the amount of time spent studying by other Bee Smart users will motivate the target market to increase their study time which will ultimately push them to interact with other users

in an attempt to maximize efficiency of Bee Smart's features.

Although our primary target market is the student body, we can also market the application to academic institutions and their staff. Instructors of test prep courses across the nation can implement Bee Smart into their courses as an aid to track the student's study time, promote a healthy diet and sleep routine, along with recommending exercises to maximize information retention. Given that statewide testing continues to dominate the testing market there is definitely a need for Bee Smart. According to a report by the Center on Education Policy published in 2012, during the year of 2011-2012 there were 26 states that have or will implement an exit exam that high school students must pass in order to graduate, while 3 states require students to take an exit test but do not require them to pass it in order to graduate. Given that the list of states requiring its high school students to pass exit exams is growing offers Bee Smart momentum in the market. Bee Smart will be a need for students seeing the importance of standardized and state testing.

With that said, the audience we have in mind would need to be fairly dedicated to using *Bee Smart*, since one of the main features of this application is to show a progression and compare records of studying so the user can analyze how their studying habits have changed over time. Overall, a consistent use is preferred over a frequent use, so the data provided would be more relevant. Furthermore, the users are encouraged to use *Bee Smart* with their peers, because being able to compare study data with other users (that have been approved by the user) is the core motivational feature of this application. If the user sees his or her peers are studying more on a daily basis, they should feel motivated to do the same so their study data can reflect well to the friends that can see it.

Aside from dedicated users, *Bee Smart* can also cater to lighter users, who may use the application to input their previous test scores just to keep track. For instance, the user may enter

the scores they received for the multiple practice ACT tests he or she attempted, to see which areas of the test they improved in, and which one they did not. Other lighter features of this application would be the countdown timer on the home screen, letting the user know how much time is left until their specific test(s).

The option to lock out Facebook, Twitter, and other social media apps may scare some users initially, but we hope through the consistent use of *Bee Smart* will encourage the user to utilize this feature. The user must be willing to try this feature to fully experience the effectiveness of this application.

## IV. References

Bee Smart was developed to assist students during their crucial study period before exams. Upon research, it was discovered that performance is based on multiple fronts: social, physical, and emotional health. This is no surprise, and students know they must keep on top of all of these fronts when studying for an important exam. However, students are facing new challenges that previous generations have not dealt with, throwing away traditional methods of studying. A student can no longer sit in a room without constant interruption. At night, students sleep next to their cell phones, tablets, and laptops. Every morning they are fed an amount of new information and updates about their friends, the world, and work. It has become difficult to shut everything off and focus on what is most important: their education.

1. EduNova Co is a leader in helping students achieve better grades. This organization has found that a set of factors that contribute to a student's performance. These factors include organization

and learning styles. They found that once a student is organized and is routinely checking off work that must be done, their anxiety levels drop. Students worry less, boosting their confidence. Along with organization, understanding different learning styles is important. Some students benefit the most from listening to an explanation, reading content themselves, or using visual tools.

<http://www.edu-nova.com/helping-students-gain-better-study-habits.html>

**2.** In 2012, Franklin University addressed the difficulties of studying with so many distractions. The university has found that students typically study for about 14 hours a week, which is down almost 50% from 1961 when students averaged at 24 hours a week. To assist students, they found that it was most helpful to engage the brain, use memory builders, flash cards, and to plan study time.

<http://www.franklin.edu/blog/learn-more-effectively-with-these-5-study-habits/>

**3.** Helpguide is one of the world's largest, most highly regarded mental health websites. This website has received over 65 million visits in 2013. Helpguide uses the latest research to report on new developments and support for various conditions including depression, anxiety, emotional health, stress, and sleep. Using this information, Helpguide developed a set of tips to improve memory. The first tip emphasizes the brain's reliance on sleep. Students often skip out on sleeping to get work done. This is unfortunate since the key memory-enhancing activity occurs during the deepest stages of sleep. Something else they found is that chronic stress destroys brain cells and damages the region involved in forming new memory and retrieval of old memories.

[http://www.helpguide.org/life/improving\\_memory.htm](http://www.helpguide.org/life/improving_memory.htm)

4. The National Center of Biotechnology Information is part of the United States National Library of Medicine. In 2011, a research article was published after studying the relationship between students' study habits, happiness, and depression at the Isfahan University of Medical Science. One of the major findings was that 68.8% of students studied less than 5 hours, and only 2.5% studied for more than 10 hours. The 68% seemed to experience a high amount of homework, lack of motivation, and wavering interest. This article concluded that students should seek out different methods of studying to enjoy better mental health and to avoid depression.

<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3249802/>

5. The American Federation of Teachers released a detailed report on the trade off between test taking and the loss of time to teach. They have concluded that students will learn more according to the amount of time they are given to study. Though the study suggested that the amount of time used to prepare for tests should shorten, it reflected on the benefits of increasing learning sessions. Students took more away from the material when they have more time to exam it.

<http://www.aft.org/pdfs/teachers/testingmore2013.pdf>

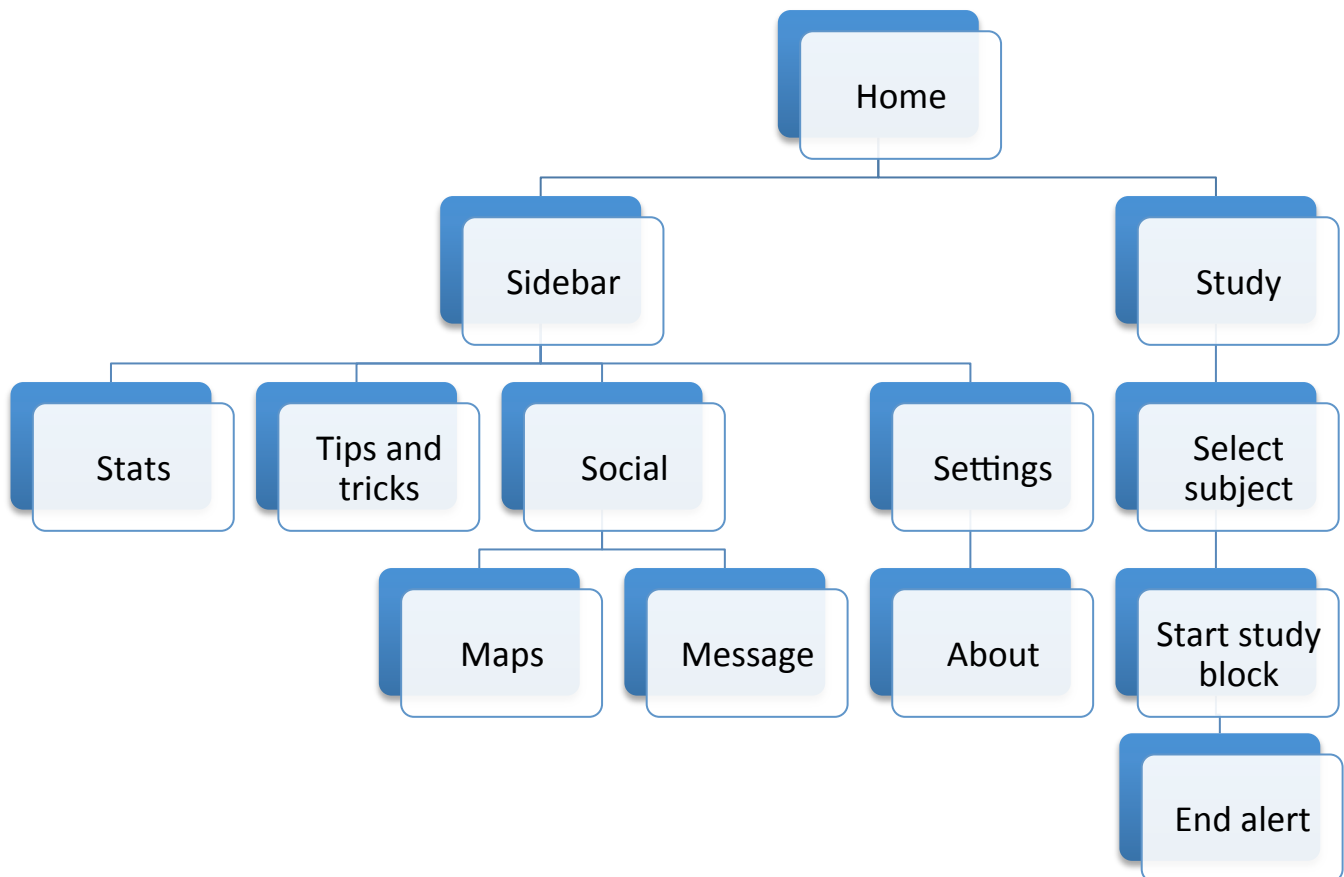




# 1. Pages

## 1.1. Page Tree

Splash Screen  
 Register  
 Find Friends  
 Home  
 Select Subject  
 Set up Countdown  
 Timer  
 Timer Static

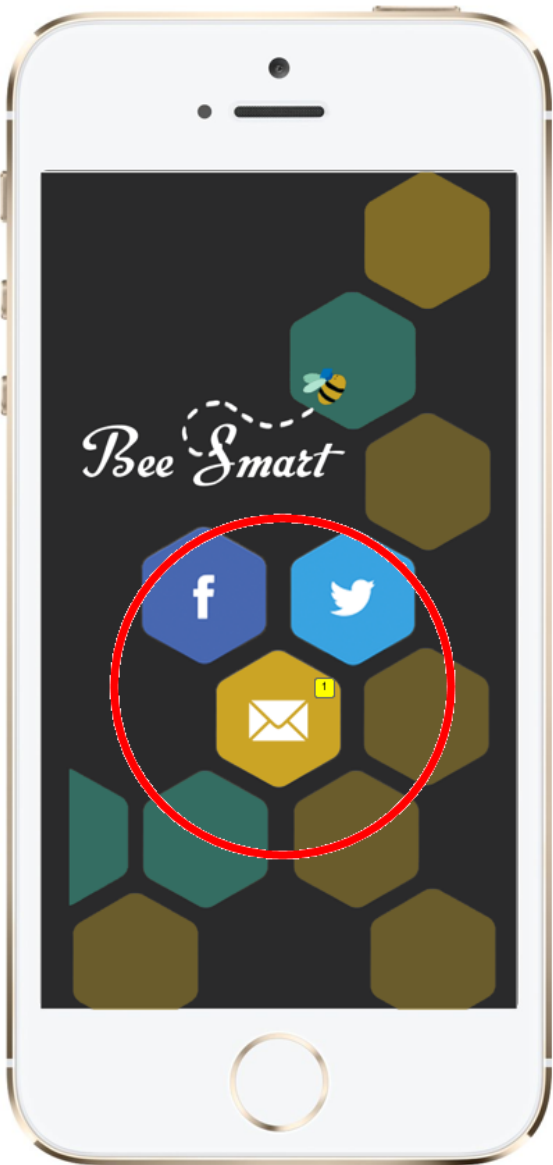




1.2. Splash Screen

1.2.1. User Interface

Sign in/up via Facebook, Twitter, or e-mail



1.2.2. Widget Table

Footnote	Interactions
1	OnClick: Case 1: Open Register in Current Window



1.3. Register

1.3.1. User Interface

Ability to select  
exam type, (GRE,  
SAT, ACT, GMAT)

The image shows a mobile app registration form on a smartphone screen. The form includes a profile picture upload section with a 'Browse' link. Below this are fields for USERNAME (filled with 'Julia Vo'), PASSWORD (masked with dots), CONFIRM (masked with dots), and EMAIL (filled with 'sample@email.com'). There is a section for selecting an exam type, with 'GRE' selected and circled in red. To the right of this are date pickers for 'DATE OF EXAM (OPTIONAL)' set to 'January 24, 2015'. Below these are radio buttons for 'Male' and 'Female'. At the bottom, there is a checkbox for 'Send me weekly updates' and a green 'REGISTER' button. At the very bottom, there are two buttons: 'Sign in via Twitter' and 'Sign in via Facebook'.

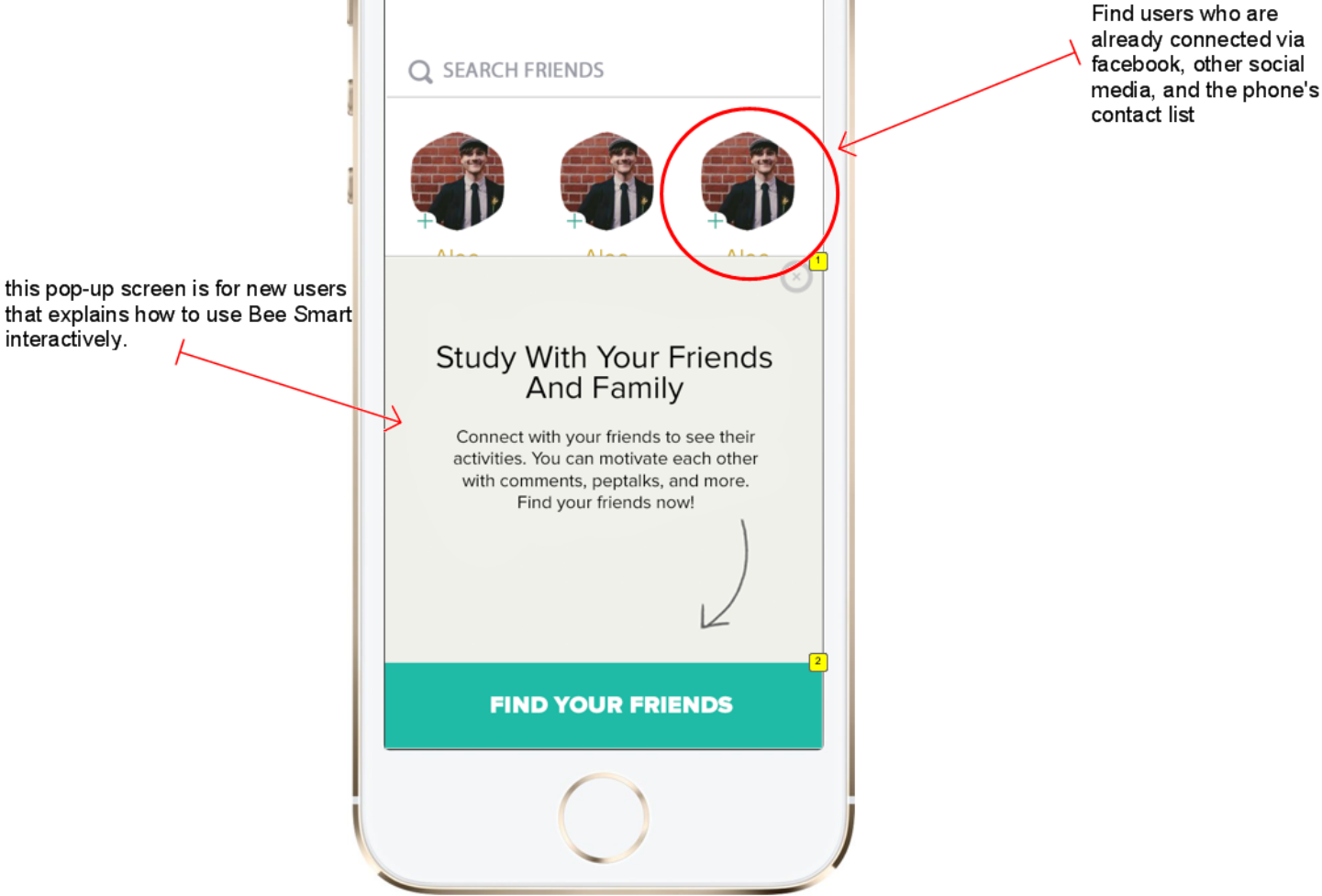
1.3.2. Widget Table

Footnote	Interactions
1	OnClick: Case 1: Open Find Friends in Current Window



1.4. Find Friends

1.4.1. User Interface



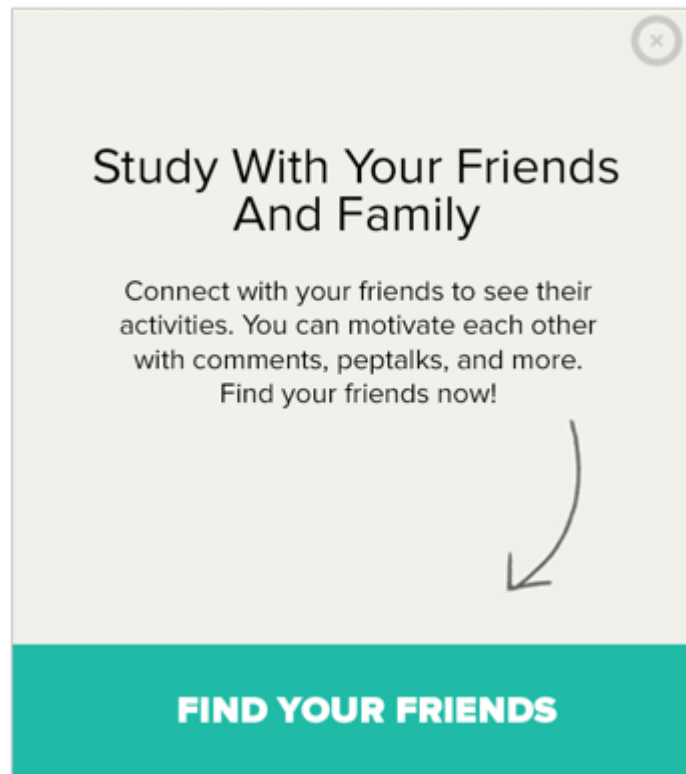
1.4.2. Widget Table

Footnote	Label	Interactions
1		OnClick: Case 1: Hide friends
2		OnClick: Case 1: Hide friends
3		OnClick: Case 1: Open Home in Current Window

### 1.4.3. friends

#### 1.4.3.1. State1

#### 1.4.3.2. User Interface



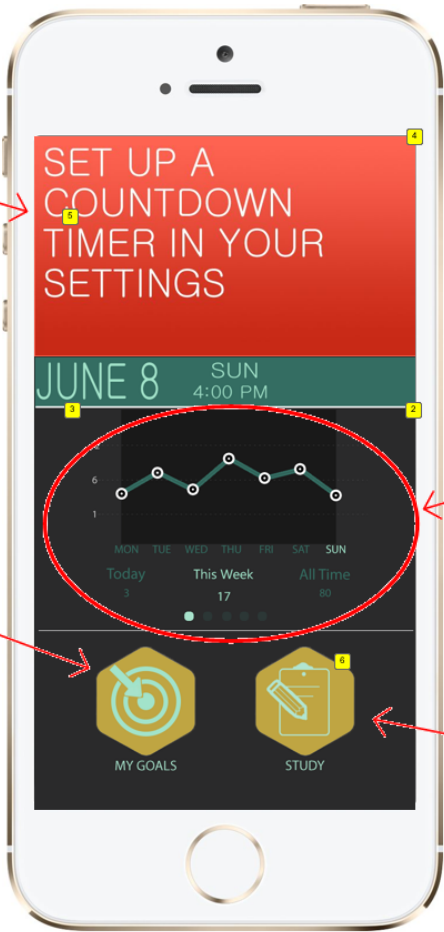


1.5. Home

1.5.1. User Interface

This temporary warning will appear as long as the user has not set a date for an exam

The user can track specific goals set for each week (study x hours per week) to track where they were, where they currently are, and where they want to be within the range of the goal.



Side scroll left and right to view different charts and displays of statistics. The graphs track the user's study habits

This is where the application tracks studying habits and can turn this activity into information for the user

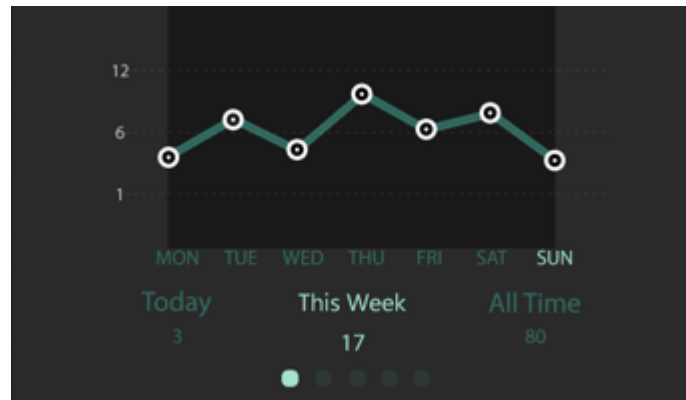
1.5.2. Widget Table

Footnote	Label	Interactions
1		OnClick: Case 1: Hide Panel
2		OnClick: Case 1: Set Graphs state to Next loop slide right out 500ms slide right in 500ms
3		OnClick: Case 1: Set Graphs state to Previous loop slide left out 500ms slide left in 500ms
4		OnClick: Case 1: Hide Set Timer, Set Timer
5		OnClick: Case 1: Set Sidebar state to State1 slide right out 500ms slide right in 500ms
6		OnClick: Case 1: Open Select Subject in Current Window

### 1.5.3. Graphs

#### 1.5.3.1. line graph

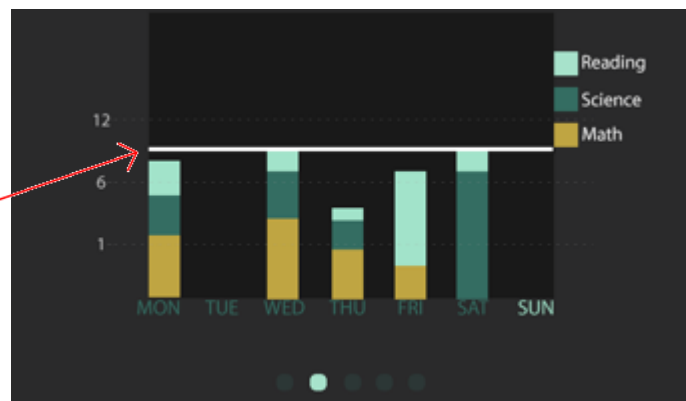
#### 1.5.3.2. User Interface



#### 1.5.3.3. Bar 1

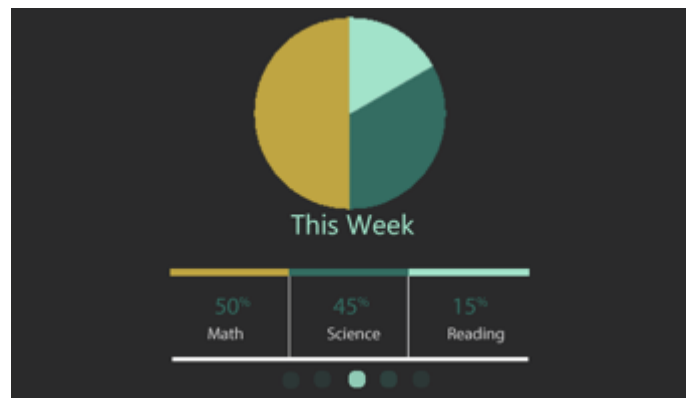
#### 1.5.3.4. User Interface

The white line indicates the current goal.



#### 1.5.3.5. Pie

#### 1.5.3.6. User Interface

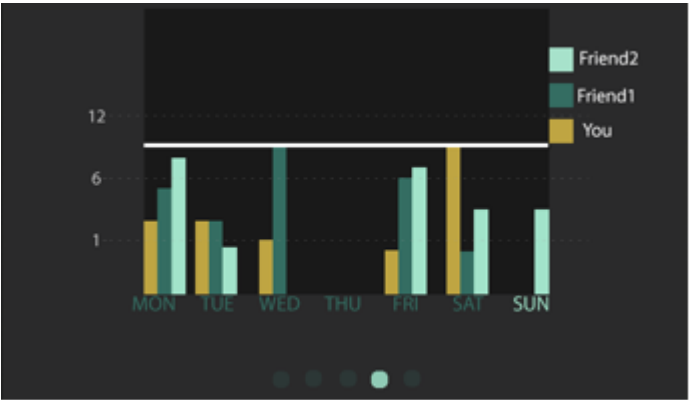






1.5.3.7. Bar 2

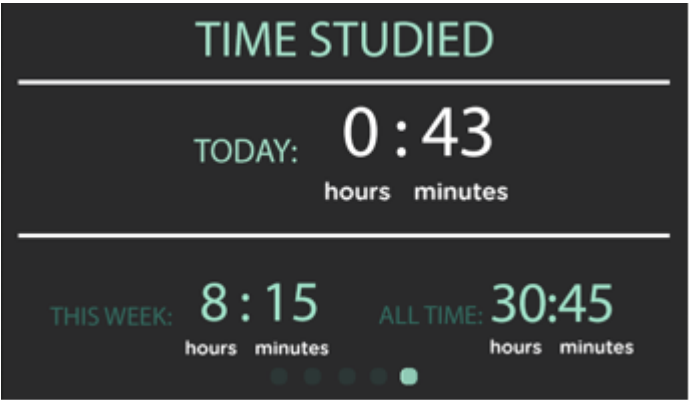
1.5.3.8. User Interface



This graph compares studying habits to the user's friends. The user may select who can see their studying habits as well as which friends are displayed on this graph.

1.5.3.9. Hours

1.5.3.10. User Interface

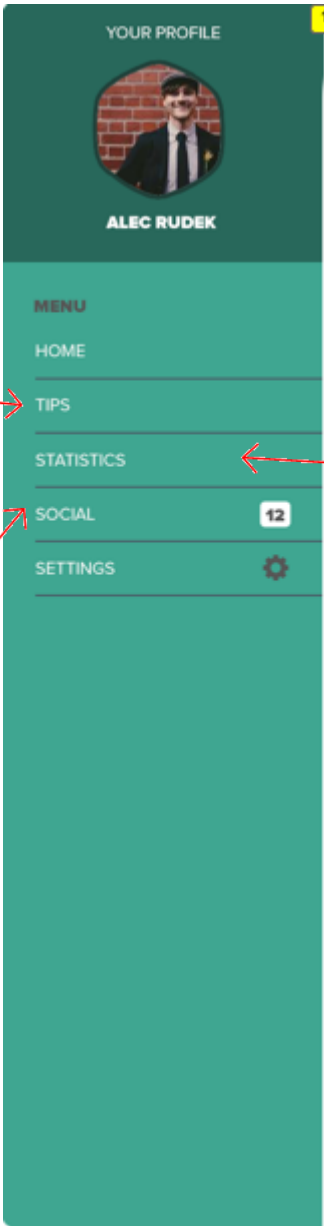




1.5.4. Sidebar

1.5.4.1. State1

1.5.4.2. User Interface



The 'tips' page include usefu information to prepare for a standardized test, such as recommended amount of hours to study, mainting a healthy diet, and what to expect on each test.

Statistics page provides a more in-depth look at the charts, as well as more interactivity, such as the ability to change the range of variables in each graph.

Social includes messages, 'thumbs up' notifications, and the ability to check the progress of the user's friends.

1.5.4.3. Widget Table

Footnote	Interactions
1	OnClick: Case 1: Hide Sidebar

#### **1.5.4.4. State2**

### **1.5.5. Set Timer**

#### **1.5.5.1. State1**

#### **1.5.5.2. User Interface**

SET UP A  
COUNTDOWN  
TIMER IN YOUR  
SETTINGS

### **1.5.6. Set Timer**

#### **1.5.6.1. State1**

#### **1.5.6.2. User Interface**

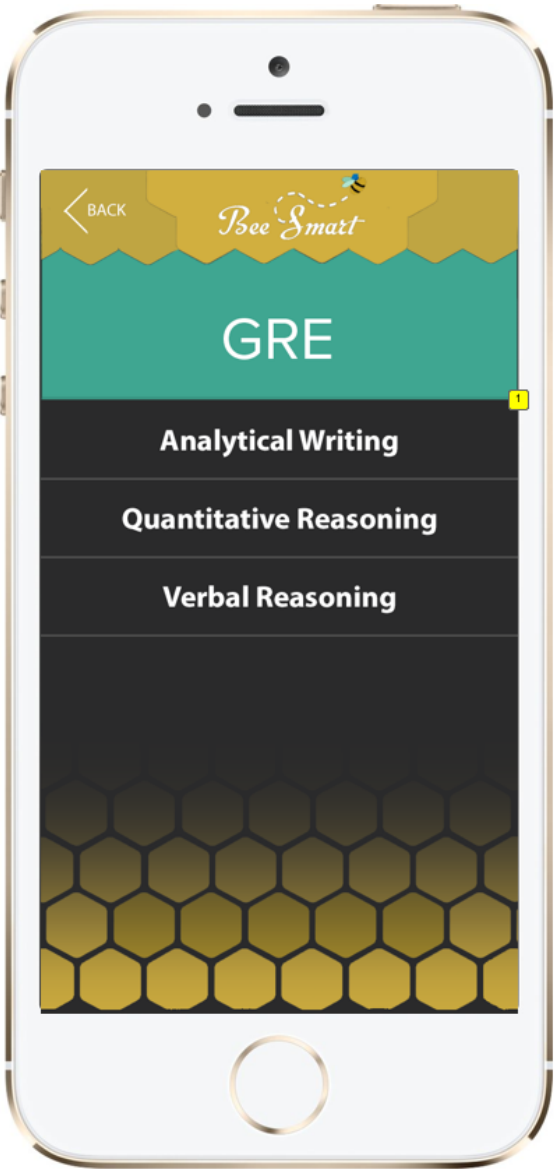
SET UP A  
COUNTDOWN  
TIMER IN YOUR  
SETTINGS



1.6. Select Subject

1.6.1. User Interface

When setting up a "study block", the user picks what subject they will be studying for, so the application may record this data for the purpose of relaying the data back to the user in the statistics.



1.6.2. Widget Table

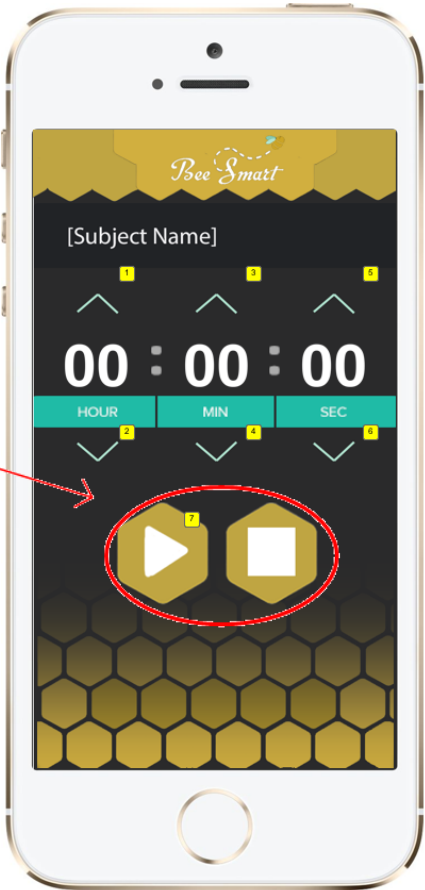
Footnote	Interactions
1	OnClick: Case 1: Open Set up Countdown in Current Window



## 1.7. Set up Countdown

### 1.7.1. User Interface

The play button will become a pause button when pressed. Pause simply puts the timer on hold, while the stop button stops the timer and the data will officially be recorded.



Here, the user sets up how long they want to study for the selected subject.

### 1.7.2. Widget Table

Footnote	Label	Interactions
1		OnClick: Case 1: Set numbers state to Next loop slide up out 500ms slide up in 500ms
2		OnClick: Case 1: Set numbers state to Previous loop slide down out 500ms slide down in 500ms
3		OnClick: Case 1: Set numbers2 state to Next slide up out 500ms slide up in 500ms
4		OnClick: Case 1: Set numbers2 state to Previous loop slide down out 500ms slide down in 500ms
5		OnClick: Case 1: Set numbers3 state to Next loop slide up out 500ms slide up in 500ms
6		OnClick: Case 1: Set numbers3 state to Previous loop slide down out 500ms slide down in 500ms
7		OnClick: Case 1: Open Timer in Current Window

## 1.8. Timer

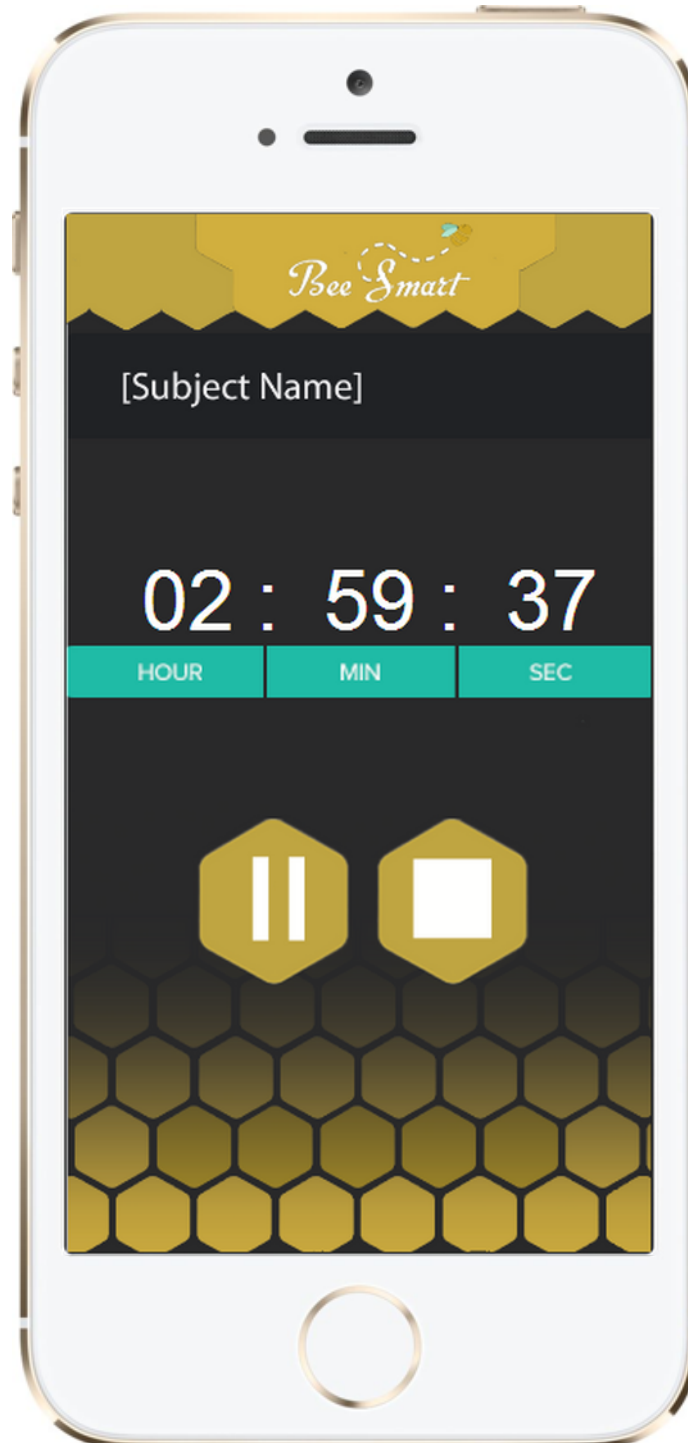
OnPageLoad:

Case 1:

Set value of variable HourVar equal to "02", and  
value of variable MinuteVar equal to "59", and  
value of variable SecondVar equal to "60", and  
text on widget CountdownTP equal to "[HourVar]:[MinuteVar]:[SecondVar]"

Show VisibilityController

### 1.8.1. User Interface



## 1.8.2. Widget Table

Footnote	Label	Interactions
1	VisibilityController	<p>OnShow:</p> <p>Case 1</p> <p>(If value of variable SecondVar equals "0"):</p> <p>Set value of variable SecondVar equal to "59", and  text on widget CountdownTP equal to "[[HourVar]] : [[MinuteVar]] : [[SecondVar]]"</p> <p>Hide VisibilityController</p> <p>Case 2</p> <p>(Else If value of variable SecondVar is less or equals "10"):</p> <p>Set value of variable SecondVar equal to "[[SecondVar-1]]", and  text on widget CountdownTP equal to "[[HourVar]] : [[MinuteVar]] : [[SecondVar]]"</p> <p>Hide VisibilityController</p> <p>Case 3</p> <p>(Else If True):</p> <p>Set value of variable SecondVar equal to "[[SecondVar-1]]", and  text on widget CountdownTP equal to "[[HourVar]] : [[MinuteVar]] : [[SecondVar]]"</p> <p>Hide VisibilityController</p> <p>OnHide:</p> <p>Case 1:</p> <p>Wait 1000 ms  Show VisibilityController</p>
2		<p>OnClick:</p> <p>Case 1:</p> <p>Open Timer Static in Current Window</p>

## 1.8.3. VisibilityController

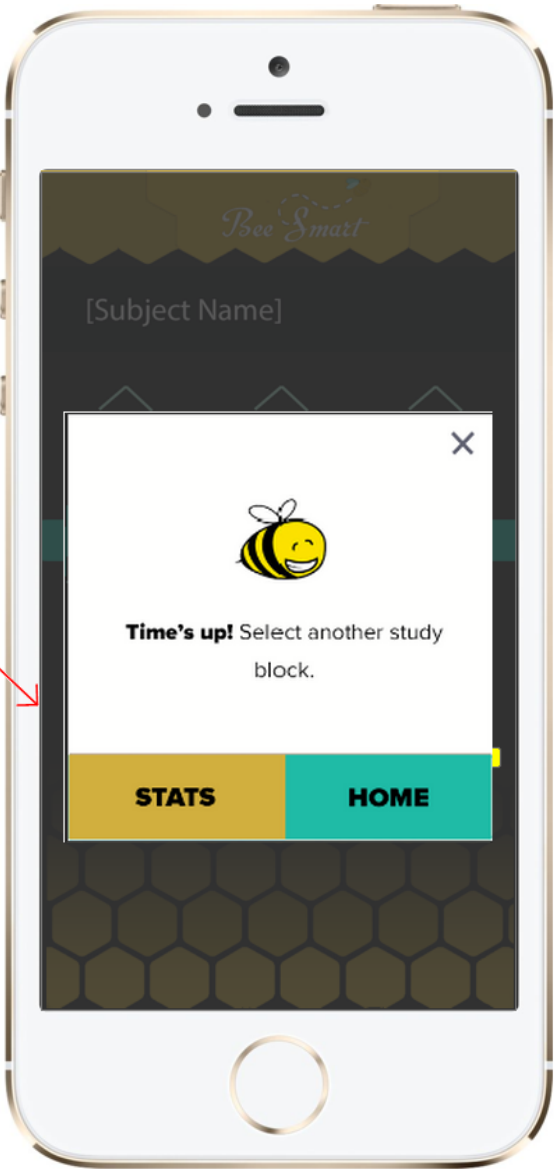
### 1.8.3.1. Decrement



1.9. Timer Static

1.9.1. User Interface

The user has the option to look at the statistics right away or go to the home page.



1.9.2. Widget Table

Footnote	Interactions
1	OnClick: Case 1: Open Home in Current Window