

# Fitter

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## **Problem Overview**

Mobile applications, which promote a healthy diet and exercise, are not widely used because the value gained from using the application far outweighs the effort required for use. Our solution to this problem is to both reduce the effort required for use and drastically increase the value gained by using the application. We propose Fitter, a mobile application for the iPhone, which allows people to share their diet and exercise habits. Fitter allows people to promote their healthy lifestyles and discover new practices, enabling its users to live healthier lives.

## **Task Analysis**

Fitter is intended for generally health conscious individuals who would like to share or discover healthy lifestyles. These individuals currently take note of nutritional information, share recipes, eat at restaurants, and may participate in diet or exercise communities (e.g. Gold's Gym, Weight Watchers). To learn about new foods, restaurants, and exercise locations, they rely on word-of-mouth, personal trial and experience, advertisements, resource directories (e.g. Yellow Pages), and the Internet. Fitter's targeted users currently use e-mail, read blogs, make phone calls, use other social media such as Facebook, use Internet search, and participate in health and fitness communities to achieve these tasks.

After conducting contextual inquiries with some of Fitter's intended users, we discovered the desire for a simpler, credible, and standardized format to share health and fitness information. The participants wanted an improved sharing network for recipe and workout information, a standard format for nutritional information search results, and an interactive system to suggest new foods and exercises. The participants perform the existing tasks at locations where people think of food or exercise, including their home, the office, school, and the gym.

Communication is essential for the successful performance for these existing and desired tasks. Fitter's intended users currently communicate with their social groups vocally, via e-mail, and with social media. They share information intended for public consumption, anonymous experiences, and private data, which is often digitized and protected with login credentials. Fitter's intended users perform the tasks when they are hungry, shopping, exercising, planning meals or workouts, and while reflecting upon consumed meals and after exercising. Because Fitter is a mobile application, it is important for users to quickly access food and exercise information. We have determined that sharing information can take longer amount of time for users because sharing is not as time dependent as accessing information. In the event Fitter experiences technical difficulties, the users can fall back on aforementioned existing methods for task completion. Should users be misguided by the content on Fitter available to them, they can leave visible negative feedback, and correct the data with their own experiences.

## Revised Tasks

### *Obtaining Information on Certain Food Items* – Difficulty: **Easy**

Imagine that you have a lot of food stored up in your refrigerator that you need to get rid of. You do not want to waste the items but do not know what to make with the food that you currently have. You would like to find recipes based on the ingredients you currently possess, so you do not have to go out to buy more. At the same time, you want to make a tasty and healthy meal. You could go online and look up recipes, but these recipes do not provide the nutritional information required to make an educated decision based on health. You would like to know the basic nutritional information of the food that you have in order to make a conscientious decision on what to make. Many food items, such as produce, are not labeled with the information to help you make a decision. You would like a tool that takes as input a food item or group of items and outputs nutritional information and suggestions for recipes. Such a tool would help you make educated decisions to utilize food in healthy and creative ways.

### *Sharing Recipes, Workouts, and Related Information* – Difficulty: **Medium**

You just finished your daily jog around the neighborhood and you're at home preparing a healthy dinner. Your classmate Jason calls and asks you if you'd like to come over and barbecue with him and his housemates. You politely decline and think to yourself, "Jason and his housemates have been getting kind of pudgy lately. I bet they'd benefit from more exercise and a healthier set of meals." But how do you share this information without feeling awkward? Currently no technology exists to facilitate a system of sharing like this. In addition to sending your recipes and workouts, you might also want to include duration information and small sets of instructions. Furthermore, amongst the people that you would like to share with, there may exist some who are more conscious of the nutritional value of the food they consume who would be interested in the nutritional breakdowns of your recipes. The best way to accomplish this task now is to email all this information to your friends and family. This model does not give you any feedback to help you know exactly who was interested and would like to be sent more information. Without a standardized method of exchanging this type of information, you may never share the recipes and workouts, which help you look and feel better, with others who would benefit from this information.

### *Choosing What to Eat* – Difficulty: **Hard**

Imagine the following: It's Friday at the end of a hectic workweek and lunchtime is rapidly approaching. Because you were up all night preparing a report for your boss, you did not pack a nutritious lunch as normal. The deli across the street is having a special today on their Philly Cheesesteak sandwiches, and you can smell the greasy deliciousness through the open window in your office. But, you have been trying hard this past month to focus on the nutrition of your diet and you think to yourself, "If only it were easier to find a healthy lunch in this part of town." You could turn to the Internet and see what people on Yelp advise. But why trust some Internet stranger's opinion? Maybe one of your health-conscious co-workers is heading out to lunch. A quick scan of your e-mail reveals nothing and not wanting to interrupt, you decide not to call anyone. A Google Maps search is fruitless because you only discover the location of places, which serve

food during lunchtime. You cannot find nutritional information on the food these places serve, or any details on current specials in the area. In the end, the smell of the sandwiches is too much to bear, and you decide to buy one for the lack of a healthier option.

Currently there is no single aggregator of the information needed to make healthy decisions regarding what to eat. Hunger is instinctively overpowering and not often is there enough time to cross-reference several resources before heading out the door. This problem surfaces at home, too. Often people settle for less healthy options when a quick scan of the pantry and refrigerator fails to bring to mind any meal ideas. The lack of a reliable source for food ideas leads people to make unhealthy choices and eat food “because it is there”.

## Story Boards

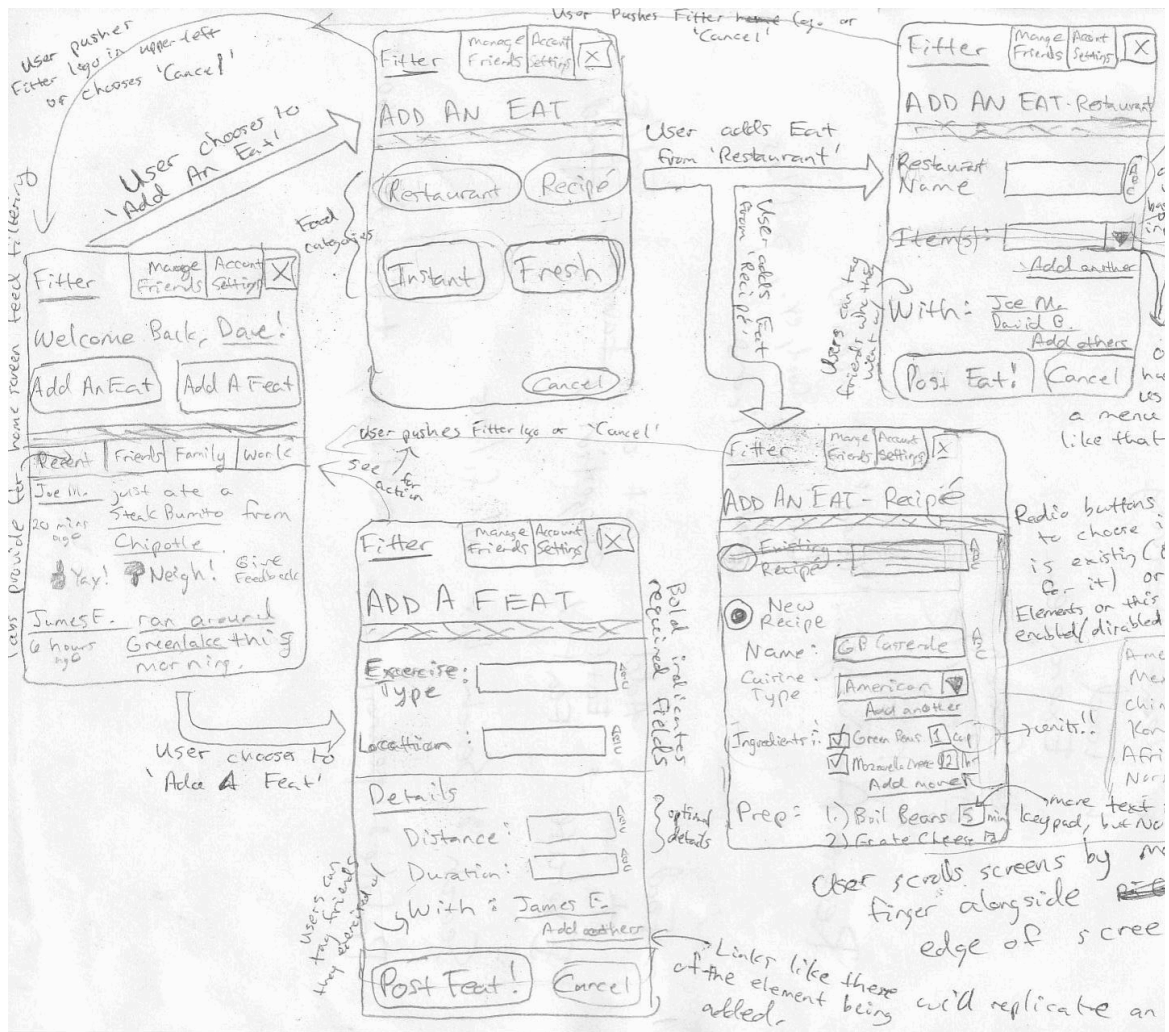


Figure 1

The storyboard in Figure 1 proposes a browser-based approach, which supports tasks using a directed-graph flow. The top of each screen remains the same for navigational purposes and displays a title for the screen to reduce user confusion. When the user launches the application, he or she is taken to the “Home” screen (leftmost in the figure). This screen acts like the root node of a directed graph and the user chooses which screen to advance to next by pressing buttons or hypertext-embedded links. The completion of each task - such as posting an “Eat” - takes the user back to the Home screen. Within each screen users add more information to their postings with interactive menus and copies of similar elements, e.g. checkboxes + quantity textboxes for recipe ingredients.

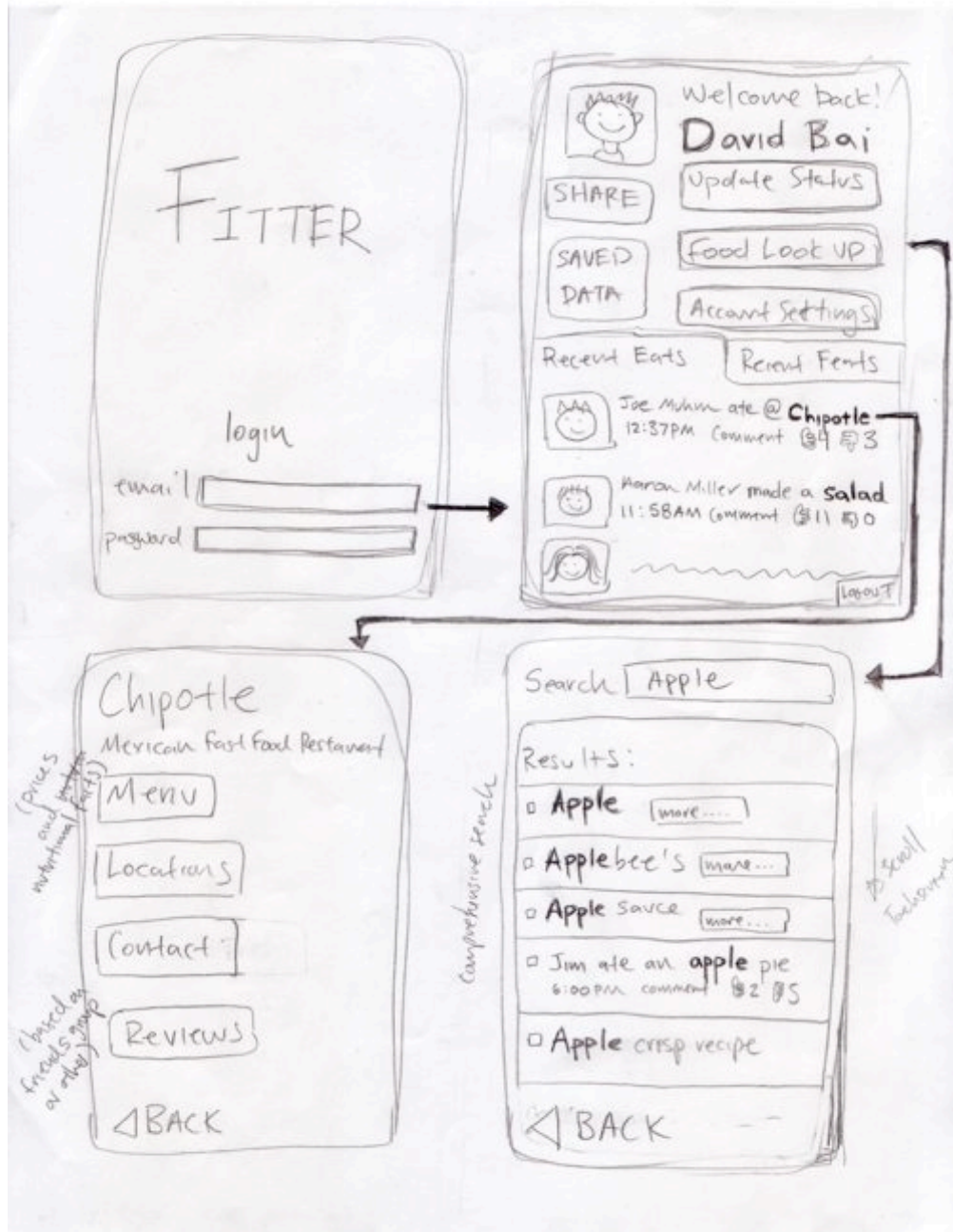
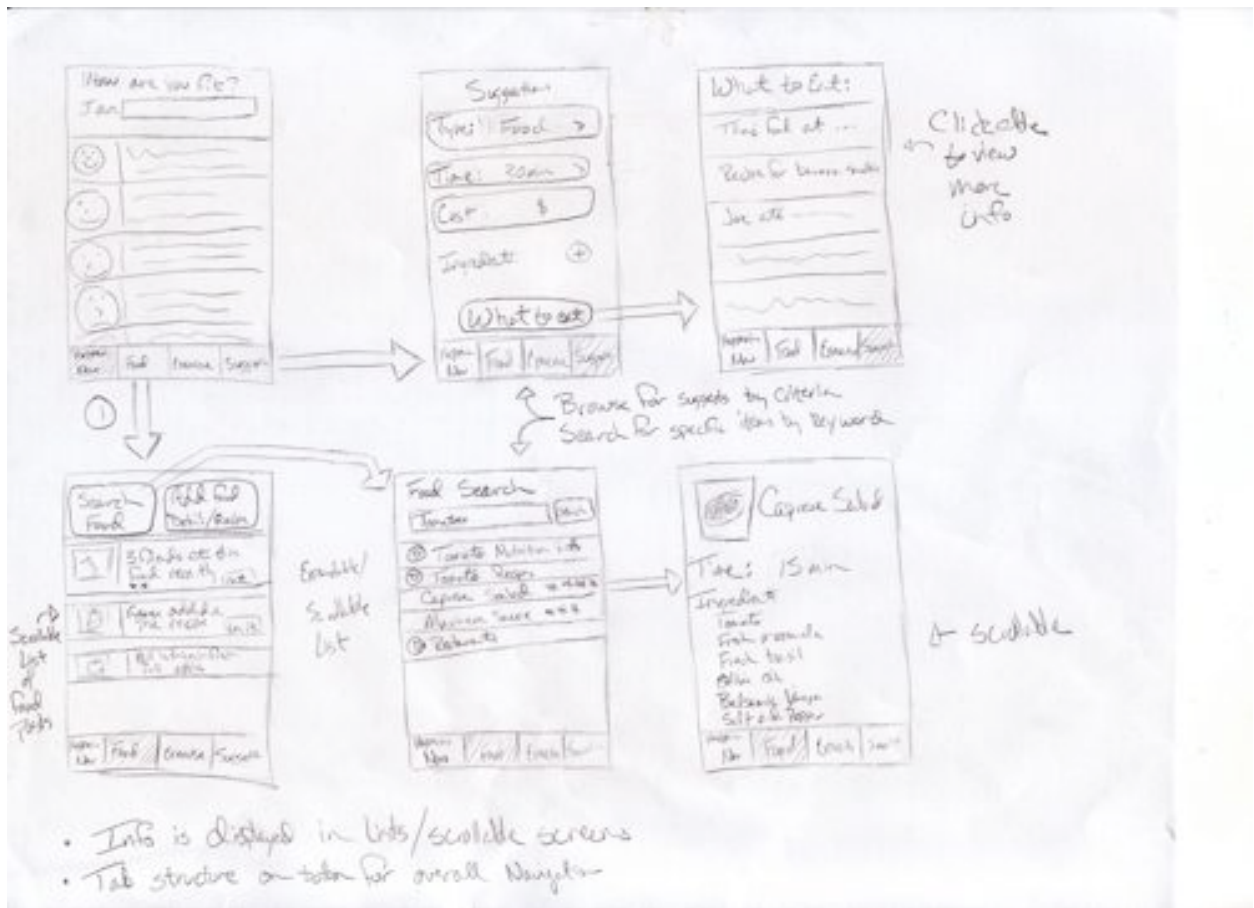


Figure 2

The design in Figure 2 is focuses on a search-based navigation. Users are brought to a home screen at start up and are able they navigate through the app via buttons and links located here.



**Figure 3**

This storyboard depicts a tab-based approach, common to many iPhone apps. It allows the user to quickly arrive at the information desired. It also organizes the app's functionality making the features easily discoverable. It does not have a home screen, instead after login the user is presented with one of the tabs containing meaningful information. This an attempt to reduce the number clicks the user must perform to complete a task.

## Design Choice

For our selected interface design, rather than choose one of the designs that were sketched out in the three storyboards above, we decided to create a hybrid, combining aspects from all three ideas that we thought would be effective and beneficial. Each design highlighted a different navigational system but in the end we decided that for a touch screen based platform, the tab system is the most intuitive and would be easier for the user to navigate through the app. A tab format allows people to easily jump between

the different functions of the app as well as present the user interface in a clear and concise manner. We originally thought of including a home screen that was depicted in two of the designs but then concluded that with the functionality of the tab system, there would not be much value in the home screen. To make the design even more clear and concise, not only is the tab that you currently are viewing highlighted at the bottom, but also there is also a title bar on the top to make it clear which tab is currently displayed.

We plan on developing this app for a touch screen device, primarily the iPhone. Entering text will be done through a pop up keyboard that is activated once the user clicks a text input box. Long lists, such as the different feeds, will incorporate a finger scroll, rather than having an explicit scroll bar. Users are presented with a login screen when the app first starts up, with the option of saving the login, to overcome the hassle of logging in every time. The combination of a clean and simple interface design, and the functionality of a touch screen, not only allows people to use the app with ease, but encourages them use it, too.

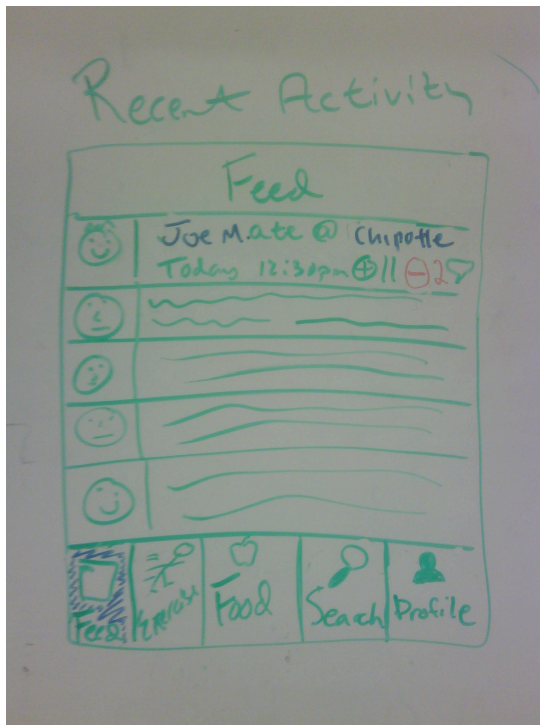


Figure 4

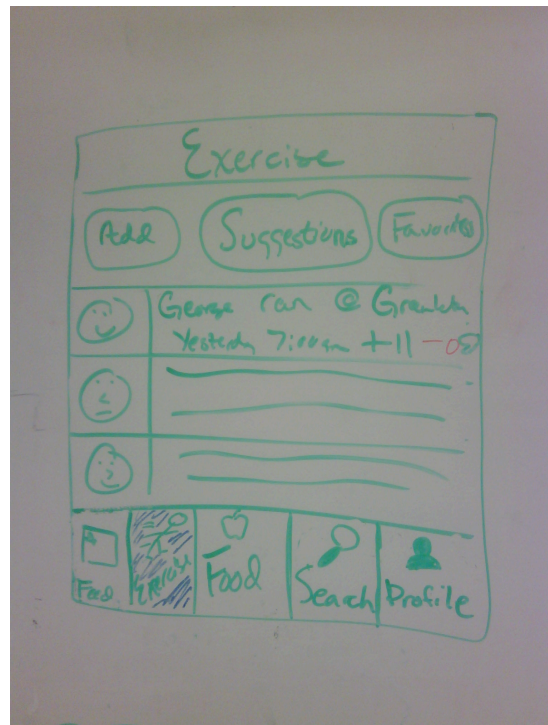


Figure 5

Our proposed system is composed of five different tabs (Feed, Exercise, Food, Search, Profile) representing the five main sections of the app. This design allows the user to achieve the three tasks that we have described as well as other useful utility functions. The first tab and the default tab that the user is brought to after login is the Feed tab, see Figure 4. This screen consists of a feed displaying the recent activity of people in the user's group of friends. This lets users see the recent food and exercise posts, which include some basic information like a timestamp, a "thumbs up or thumbs down" rating system, and the option to leave a comment on the post. Since this is a comprehensive feed, the posts would be sorted in chronological order, regardless of the type of post it

was (food or exercise). Our reasoning for including both food and exercise posts on this tab is to allow the person to quickly glance at this list and discover their friends' healthy choices. Each post is clickable and brings the person to a new screen that presents more detailed information.

The next two tabs are very similar in layout and functionality. The only difference is that they have a different area of focus. One focuses on the food aspect of the app and the other concentrates on the exercise portion, see Figure 5. There are a few things that one can accomplish on these two tabs. First, they give a view of the feed presented in the Feed tab, filtered according to the present tab (food or exercise). For example, if you are in the Food tab then all the updates listed in the feed on this page are food related. There are three buttons at the top of the feed allowing users to add information, find suggestions, and a browse through favorites. The add button allows a person to update his or her status, whether it be adding a recipe he or she recently made, a restaurant he or she went out to with a friend, or an exercise he or she recently completed. This is the primary method of sharing information between users. The suggestion button is for someone who does not have a clear idea about what he or she wishes to eat or do. Clicking this button lets the user enter some general details, like price and type of food or exercise, and see a list of suggestions, which match the given criteria. The favorites button allows users to store data, such as a jogging route, restaurant, or baking recipe, for future reference.

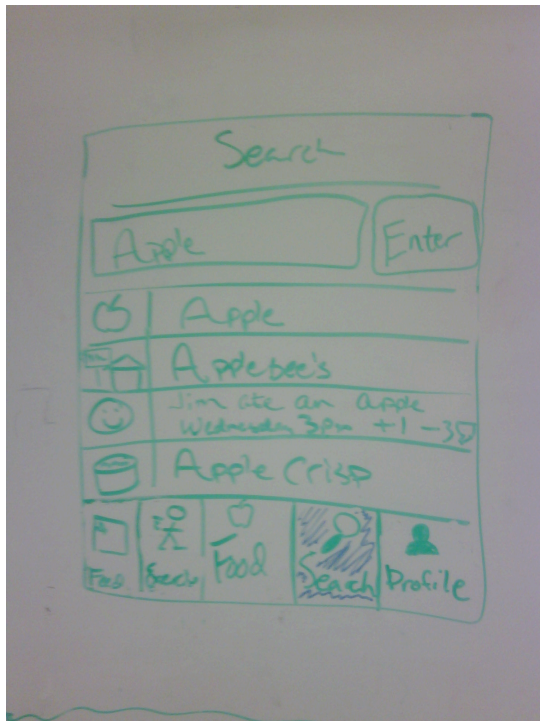


Figure 6



Figure 7

The Search tab is a screen where the user can search for anything that is involved with the app, see Figure 6. For example, if a user types in the word apple the results may include, nutritional information of different types of apples, an apple pie recipe,



information on the restaurant Applebee's, or a link to a friend's profile, named Johnny Appleseed. This makes it simple to find information on food, exercise, and even a way to find and add friends.

The last tab is the Profile, tab see Figure 7. This screen allows access to and the ability to alter the user's personal information. Here you can change account settings, which include privacy settings. To ensure privacy and security, there is a button to logout the current user. Everything displayed on this screen is what others see when they look at your profile.

## **Scenarios**

### *Finding Information on a Select Food Item*

John is at the grocery store shopping for food. He arrives at the store without a list of items to buy. While walking through the produce section, John is reminded that he has decided to change his diet for the better and eat healthier. It has been difficult change because he is used to eating out and not cooking for himself, so he does not know any recipes or the nutritional value of most foods. He sees that zucchinis are on sale, and remembers that he had a dish one time that included them and enjoyed it. Are they something he wants to include in his new diet? What can he do with them? John opens up the Fitter application and goes to the Search tab. He then types "zucchini" into the search box and sees a long list of related posts. At the top of the list appears basic nutritional information on zucchinis. He sees a number of different zucchini recipes from friends with similar tastes. He finds one that looks appealing and has received positive reviews by other mutual. He finally decides to purchase the zucchinis and resumes with his shopping.

### *Sharing Recipes, Workouts, and Related Information*

Frank just got home from an afternoon bike ride with Jenny. While he is lounging on the couch thinking about what to eat for dinner, he takes out his iPhone and starts Fitter so he can share the details of his ride with his friends. He pushes the "Exercise" tab on the bottom of the screen. Then he presses the "Add" button, which takes him to a screen where he inputs the details of his ride then posts it. Since he's pretty hungry, Frank decides to see what his friends are eating for dinner today. He pushes the "Food" tab and sees that his friend Jacob just added a new recipe for a "Chicken Caesar Salad" in the screen's feed. He views Jacob's recipe and decides it would make a tasty and healthy meal. Frank begins preparing the salad and while doing so thinks of a few more ingredients to add. So Frank pushes the "Food" tab and, just like with the "Exercise" screen, he pushes the "Add" button. From here, Frank enters his modified version of Jacob's recipe and posts it. He then gives Jacob's recipe a thumbs-up on the "Food" screen's feed and adds a comment, which contains a link to his salad's recipe.

### *Answering the question: What should I eat?*

Jenny just returned home from class and is facing a long night of homework. She needs to eat and would like to prepare a quick and healthy meal at home using the ingredients in her pantry. Nothing comes to mind, so Jenny turns to Fitter for some suggestions. She

navigates to the food tab and presses the suggestions button. After a quick browse of the food suggestions Jenny cannot find a dish that only uses the ingredients she has at home. She then navigates to the search tab. Because her refrigerator is full of tomatoes, Jenny searches for tomatoes and is presented with many recipes in the search results. A caprese salad recipe catches her eye, so she clicks on it. Jenny sees that the salad only takes fifteen minutes to make. After a quick scan of the ingredients, Jenny decides that she has everything needed and starts to make the salad. Fifteen minutes later Jenny enjoys her salad, gives the recipe a “thumbs up” on Fitter, and starts her homework.