

Project Written Report- Fitness Senpai

Team: GrapeFruit
Abhinav Rai (arai)
Priyanka Dixit (ptdikshi)

Abstract:

Staying healthy in today's fast paced, competitive world has become a bit of a task and demands a planned approach.

'Fitness Senpai' is the fitness app that address a frequent shortcoming of other health apps in the market, "providing a personal health plan, tailored for you and your body's needs". The app is intended for people in the age group of twenty to fifty years. The app assists you to achieve your fitness goal in an efficient way and also assists you to maintain your good health, through a combination of personalized nutrition and exercise plans and complementary features like reminders to maintain healthy habits, keep track of your doctor's recommendations and feedback and track your progress.

Background:

With so many health apps in the market(LifeSum, Loselt, MyFitnessPal, Google Fit), the user is confused about what they exclusively offer and which is the best for him. In a typical scenario, a user tries a bunch of health apps, following each one's suggestions for a while but realizes that the results he/she imagined and what he/she actually has are not inline. Each one of us is unique and so are our bodies and their needs. A generic health app cannot cater to this diversity.

'Fitness Senpai' will understand this and thus works for your individual needs. For instance, for someone with a heart condition, a high cardio routine is dangerous and not suggested, the app knows this and suggests accordingly. The meal plans are also tailored for you keeping in mind your food habits, your goals, body metabolism and food allergies. This ensures that your journey to a more fit lifestyle is smooth and gradual.

Research carried out in the Fitness Apps market indicates that most users abandon personal health technology quickly due to lack of actionable feedback[1]. We propose to address this concern by providing app to user feedback on a regular basis. For example if the user is not at home and its lunch time, then the notification for lunch would also ask user if he/she wants to look for nearby healthy places to eat at, rather than the less engaging notification of "Its Lunch Time".

Additional research reveals that 'context-awareness' will be the differentiating feature between apps of the future [2]. The example described above, illustrates how 'Fitness Senpai' will take the 'context' into consideration, during interactions with the user. The application will also use the 'history' of interactions with the user, for making the suggestions more relevant.

Methods:

'Fitness Senpai' will be supported by all major mobile platforms and wearable devices. The design will involve development of an interface which is user friendly and compliant with the HCI laws for mobile platforms.

- For a first time user, the app would ask you to create a profile. The user also has an option to login with popular social accounts. This provides the convenience of skipping the mundane task of providing your personal details and maintaining a new password. Also in the future, integration with other social media features would be more feasible. As familiar images are recognized and processed more quickly than text, icons have been used in places of labels to achieve better usage efficiency.[Figure 1, Figure 2.1]
- The app would ask to provide your doctor's details, a doctor-patient key to securely get access to your medical history and your dietary preferences. This key would prevent fake profiles for accessing critical information about a person. You can manually update your allergies as well. This allows the app to better suggest a fitness plan.[Figure 2.2-2.3]
- The Home screen allows you to neatly access all the major functional categories the app provides. The home screen is designed to be easy to comprehend and provide a central navigation point for the user. Also the icons are large enough to be easy on precision requirement while tapping and colorful and intuitive enough to make app navigation quicker.[Figure 3]
- Notifications types can be toggled to user's taste. If a user feels that a reminder to stay hydrated is no longer useful or is intrusive in the first place, it can be toggled off. Here you can also set up sleep related

preferences ranging from type of music to how long it should be played. All this gives the user the feeling of control and is valuable for a satisfied long term use.[Figure 4]

- Fitness goals and plans can now be customized to a more refined personal pace and setting. Even with the personalized goals and plans, some users may still want to add the extra bit of customization to better suit their lifestyle. For example a person with a busy job schedule might not be able to complete the recommended 8000 steps/day, to be able to tune that makes it more feasible. [Figure 5.1-5.2]
- The app records user's movements throughout the day through a connected wearable device or through the mobile's sensors. If a user wants to record an untracked activity, then he/she can do so manually too. The activity can be recorded either by voice to text input or by typing in a predictive search box. This allows the user to register activities quickly and relatively error free. The app also suggests, based on user's data and information from its own database, how much approximate calories, each type of exercise would be burning. Similarly users can also record the daily food intake and get an estimate of calories consumed. Based on these activities and current fitness plan, the user would also be getting realtime feedback from the app, like a warning when daily calories intake limit is exceeded.[Figure 6]
- For getting food suggestions, The user can either look for nearby places to eat, which are presented with a meta-data showing a general index of "healthy places to eat". This is indicative of a level of cleanliness, ingredients used and food options available at that place. Colour coding the place markers on the map allows the user to process the information in a way that makes judgement making quicker and easier. For more detailed information, integration with other specialised apps like "Yelp" and "Google Reviews" allows the user to access specific information in those apps too. The user can also get information categories on the basis of cuisines and food content too. The information is neatly laid out in a form of album art, showing the recommended portion image and description. This layout allows the user to navigate between and comprehend the information easily.[Figure 7.1-7.3]
- The user can also track his progress under the history section. The information is displayed in the form of a line graph with calories 'consumed and burnt' in the same graph. This representation allows to know when the intersection happens and which days the user is burning more calories than he/she is taking in, just by glancing over the graph. This section also provides information about food items eaten in the past week. [Figure 8]
- In this section, the user can set up appointments with his registered doctor over the app itself. The information is presented though a calendar of events, which is again easier to relate to in terms of scheduled tasks. User also can see recent recommendations from his/her doctor right at the top half.[Figure 9.1-9.3]

A focus throughout this app has been to make the user interaction efficient and as quick as possible. With the pilot data collected from pervious interviews, changes in implementation and functionality have been made. This has allowed us to refine the app further and make it more user-friendly. The participants interviewed for the pilot data, ranged from HCI novices to knowledgable people in the field of Software development and User Experience. The participants were asked to think aloud about the storyboards presented to them and their reactions recorded. Then the reactions were analysed and a list of proposed changes was generated which catered to those responses and needs.

- Popular opinion was that signup process is always tedious with filling out lots of information, it was shortened by integrating with popular social apps. Just a tap on a social app icon now sets up most of the user's profile.
- Participants felt that they needed more customization with suggested plan and set goals. This is implemented by providing different intensity level selections for setting up goals and selectively picking up daily targets from the suggested plan.
- Basic functionality for sleep management has been introduced.
- The option to chat with your doctor was not feasible to implement with acceptable response times from the doctor. This is replaced with facilities like making appointments, view appointment history and see recent recommendations, which are quite useful.
- Instead of just food suggestions in terms of portions and options, the app also tells the user, nearby places to eat indicating a health index. This allows the user to make informed and sensible choices. Also healthy food options can now be searched, categorized by dominant nutrient content and cuisines type.
- The app also auto-fills parameters for manual exercise inputs, based on your body stats and workout done. This makes the input process efficient and quick.
- Notifications too are now customizable to the user's liking. This was also a requested feature in pilot data from the previous interviews.

Tasks and Timeline:

- Requirement gathering and analysis

This phase would involve surveying potential users about their current health app use experience like things they would like to see in their current app, its shortcomings etc. Based on this survey and analysis of the data collected, we would prioritize the tasks to be implemented, in a list. Estimated time is around **5 days**. 3 days for the surveying and data collection and 2 days for analysing the data.

- Design

Using the feedback from the survey we would design the core functionality of the app (**4days**) and following a user centered approach, we would create some prototypes and again get a feedback from the users on it. This would probably be an iterative process. When the user feedback indicates that the prototype is well designed and in line with projected goals of the app, we will start with the next phase. This part is probably the longest and might take anywhere from 21 days to 35 days. (Say 30 days for the timeline depiction)

Creating the storyboard for the flow in app **3 days**

Creating the mockups of screens, a prototype **7 days**

Evaluating the prototype **4 days**

Iterating the prototype development and evaluation, future iterations take less time though **7-14 days**

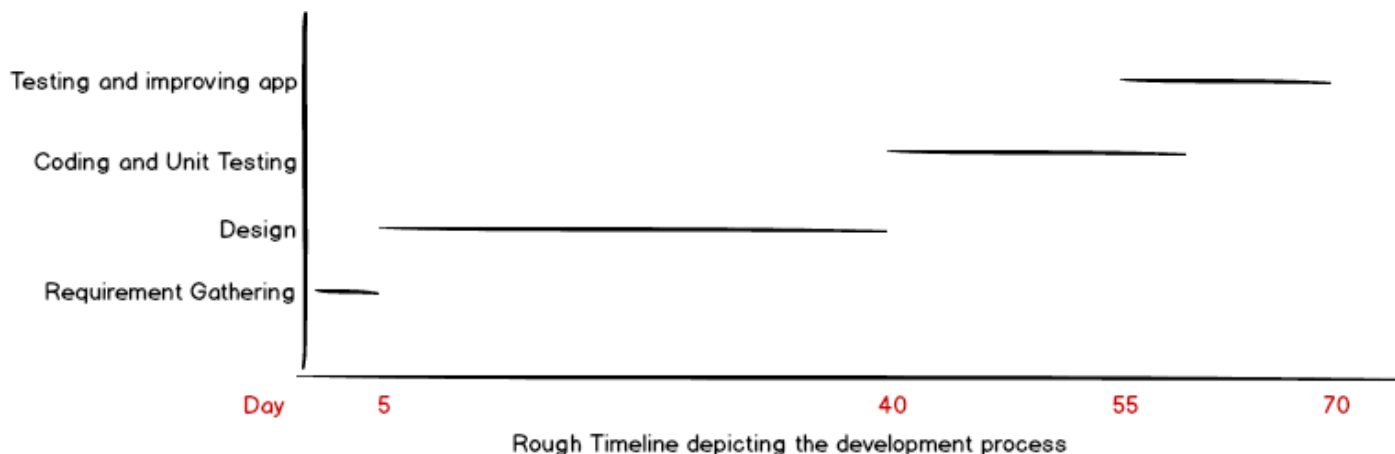
Drafting the technical requirements of the app **4 days**

- coding and unit testing

Translating the technical requirements to functionality and unit testing would take about **21 days**

- Testing and improving app performance

Testing for usability through interviews should take around **14 days**. We would want the user to give their feedback based on an extended usage and not just a first glance review. Testing and tracking technical issues and improving app performance can be worked upon simultaneously. Testing would be carried out through interviews and surveys asking for user feedback, problems they faced and features they like the most.



References

1. Schneider, Hanna. "Adapting at Run-time: Exploring the design space of personalized fitness coaches ." Proceedings of the 22nd International Conference on Intelligent User Interfaces Companion - IUI '17 Companion (2017): n. pag. Web.
2. Canny, John. "The future of human-computer interaction." Queue 4.6 (2006): 24. Web.
3. Murnane, Elizabeth L. "Mobile Health Apps: Adoption, Adherence, and Abandonment." UBICOMP/ ISWC '15 ADJUNCT n. pag. Web.

FIGURES

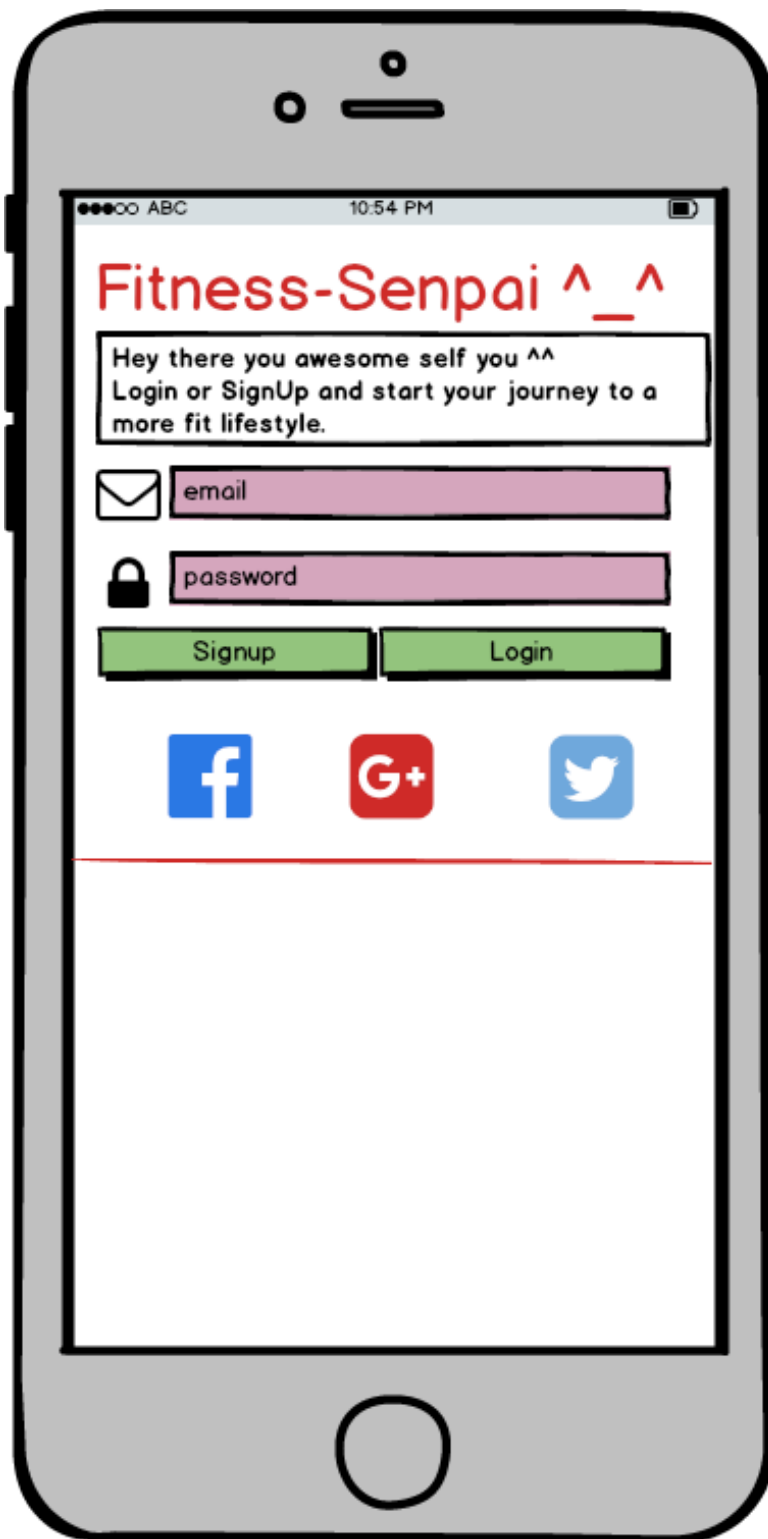


Figure 1 Login Screen

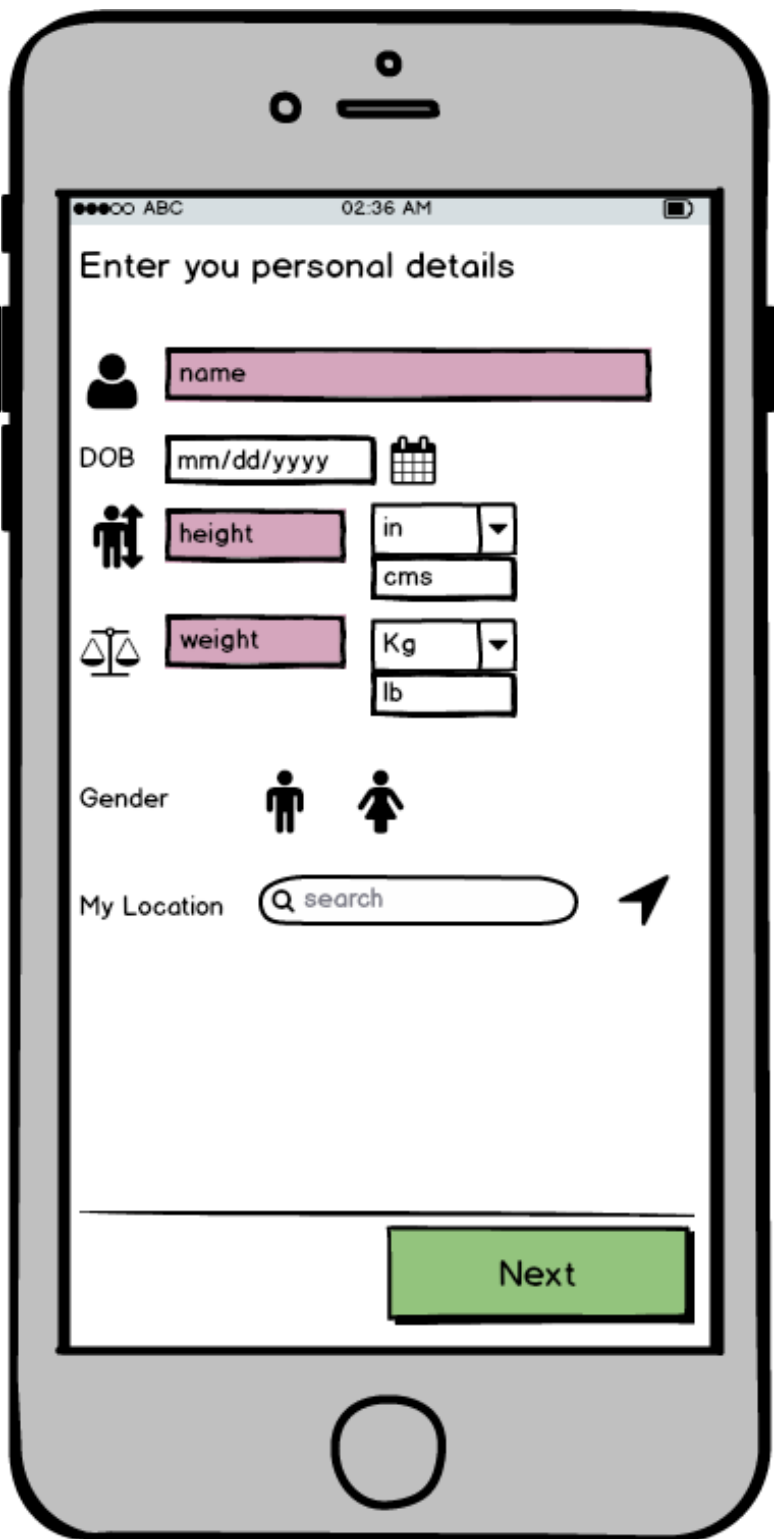


Figure 2.1 SignUp 1/3

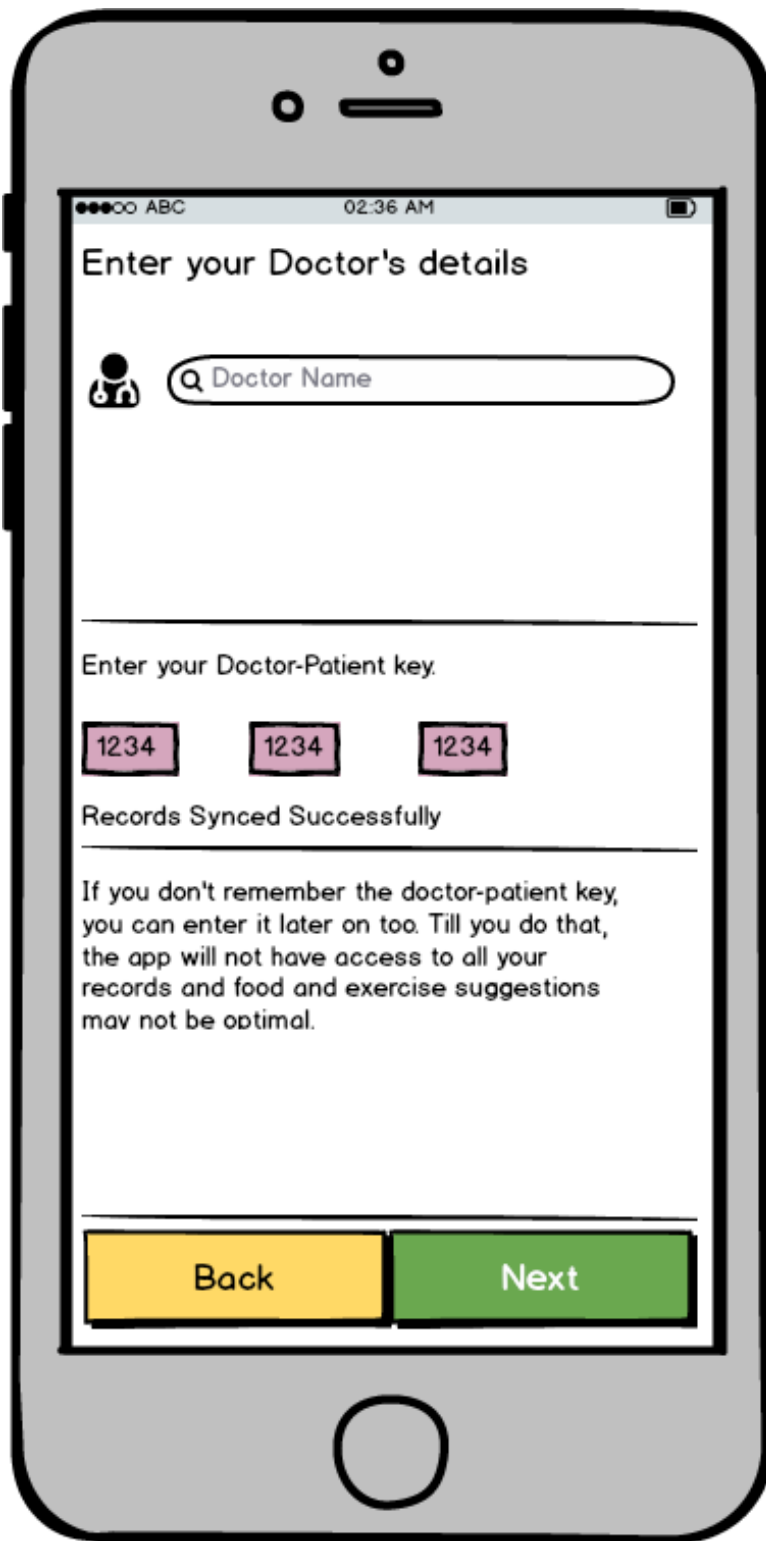


Figure 2.2 SignUp 2/3

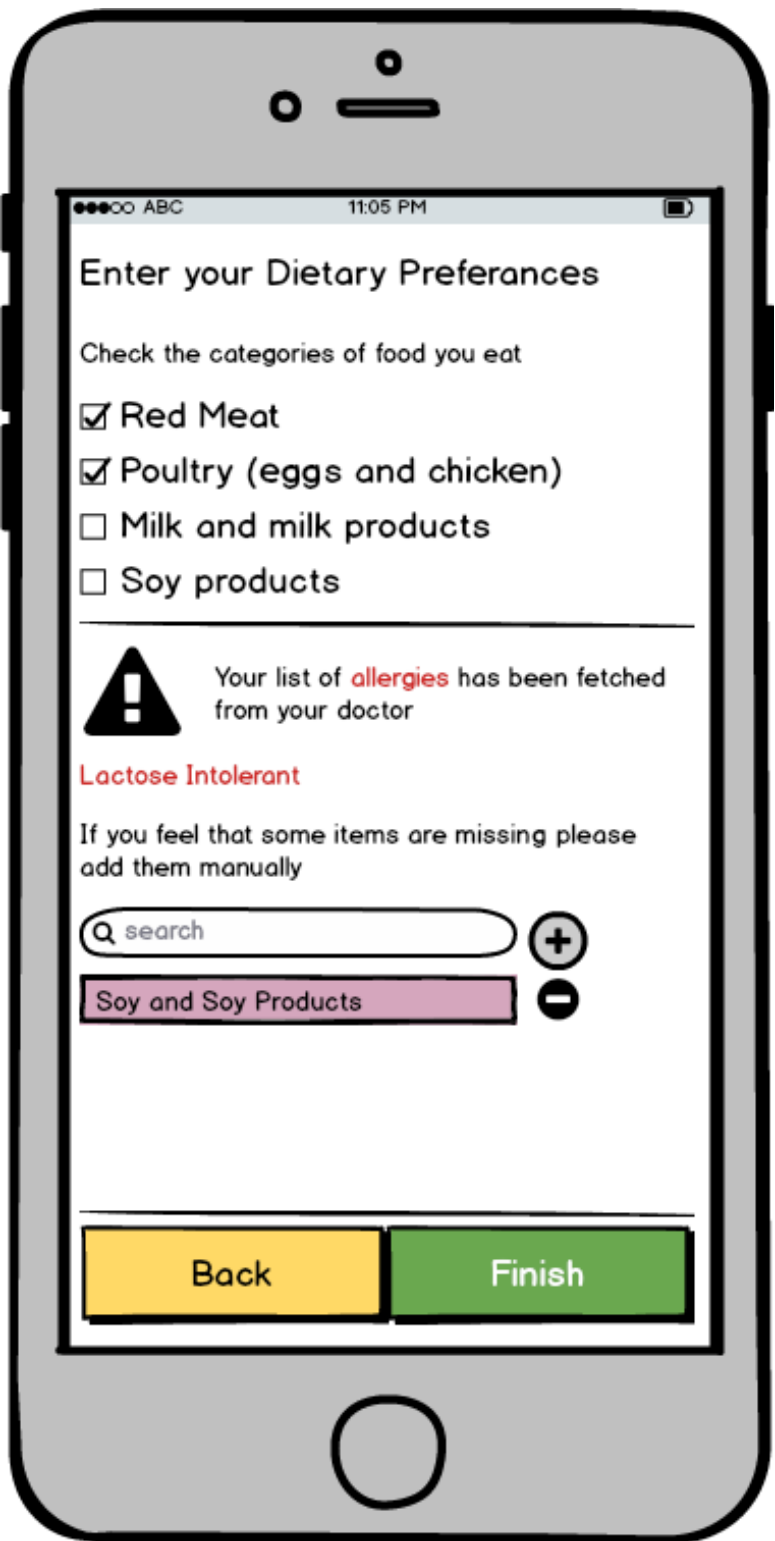


Figure 2.3 SignUp 3/3



Figure 3 Home Screen

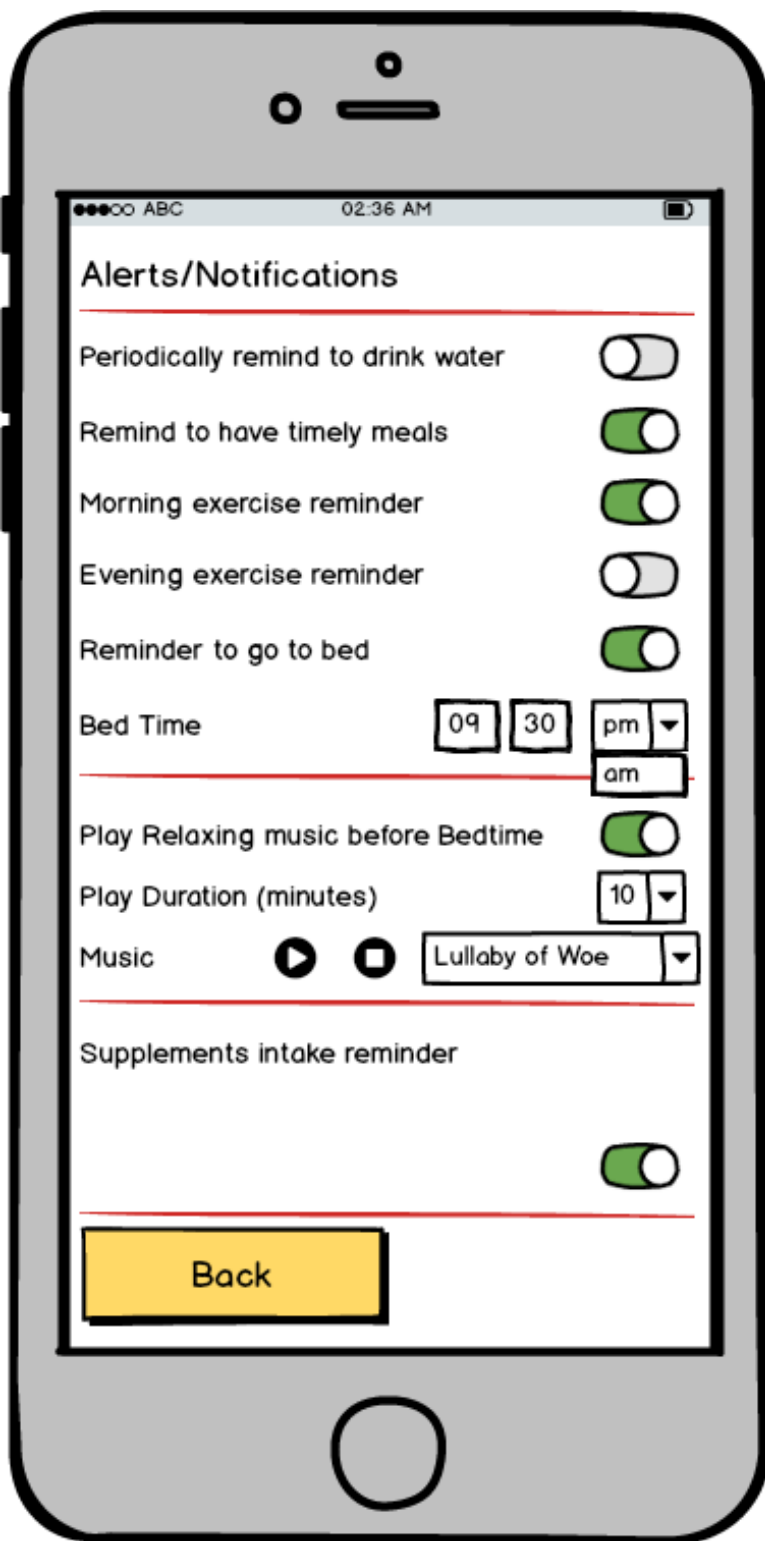


Figure 4 Notifications



Figure 5.1 Set Fitness Goals

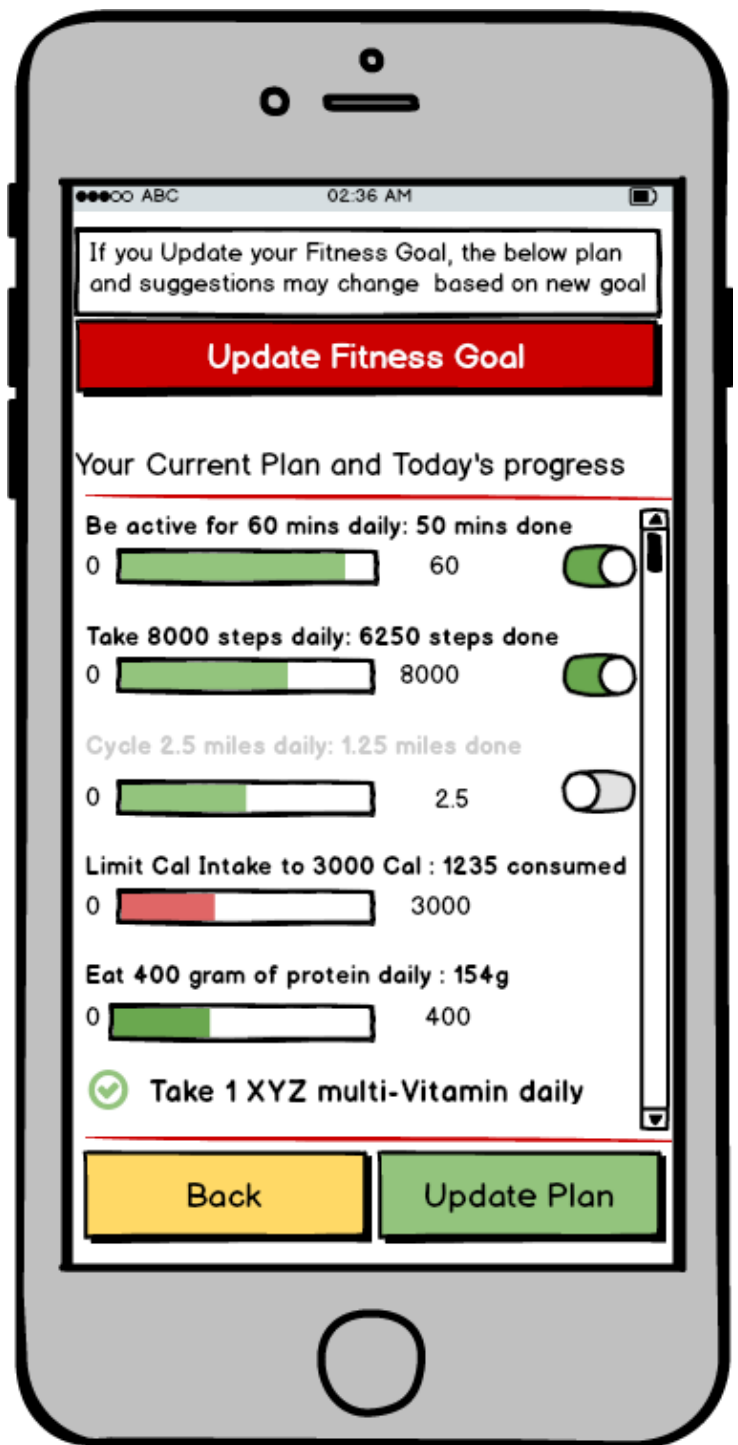


Figure 5.2 Update Goals and View Plan

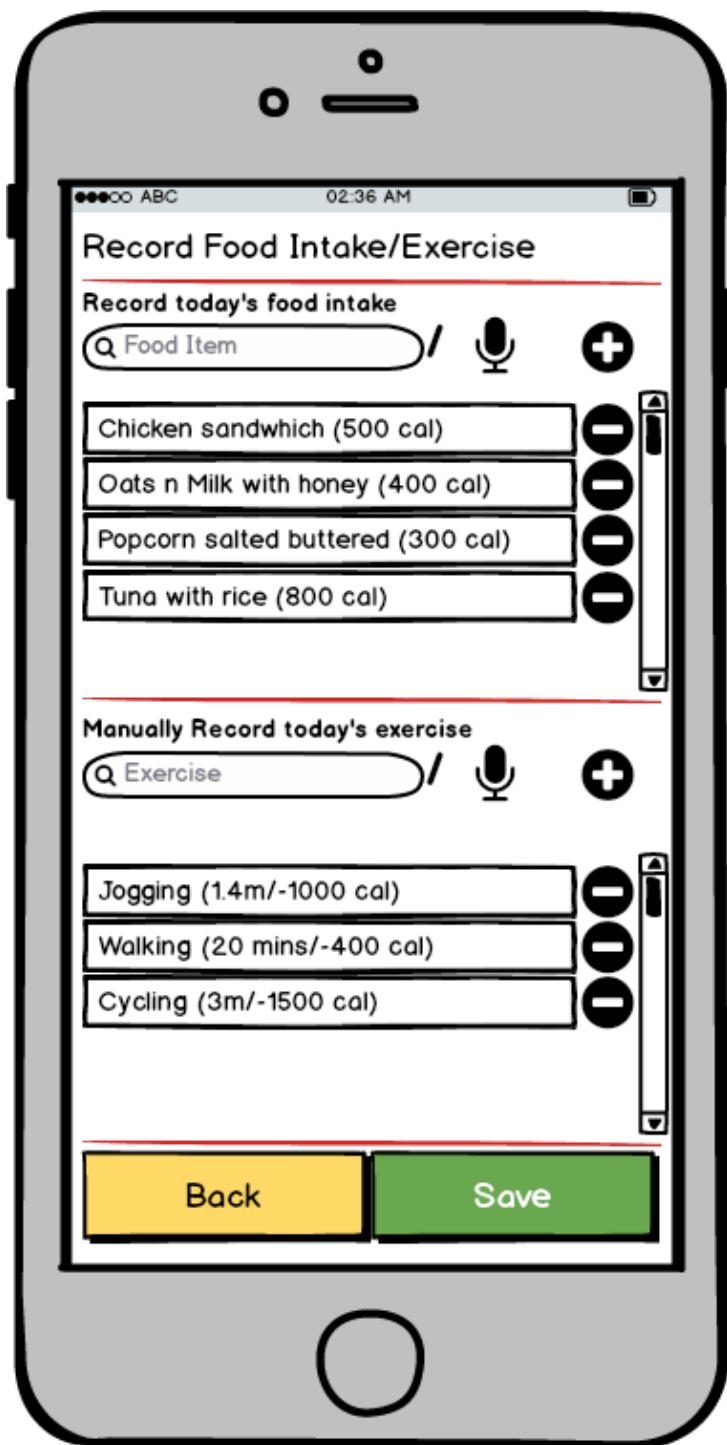


Figure 6 Record Food and Exercise

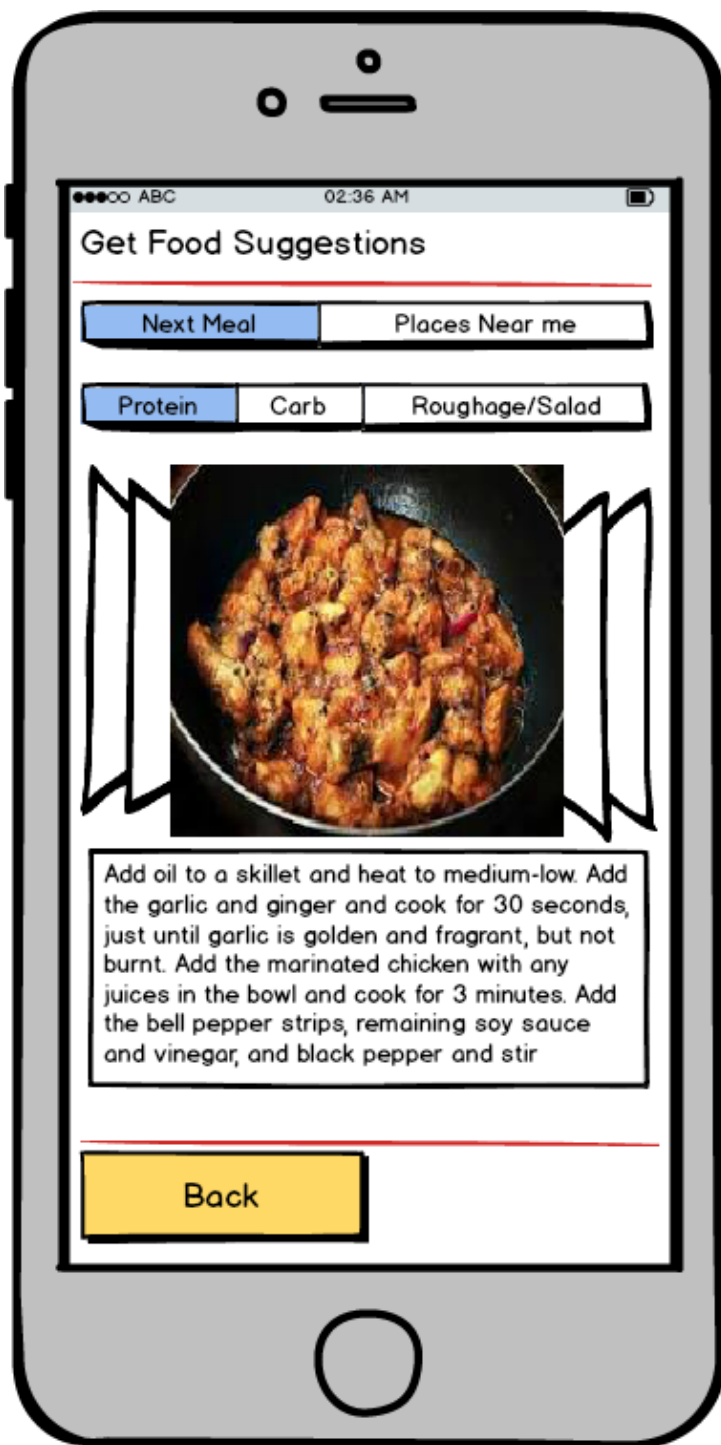


Figure 7.1 Get Food Suggestions



Figure 7.2 Cuisine based Suggestions



Figure 7.3 Nearby Places Suggestions

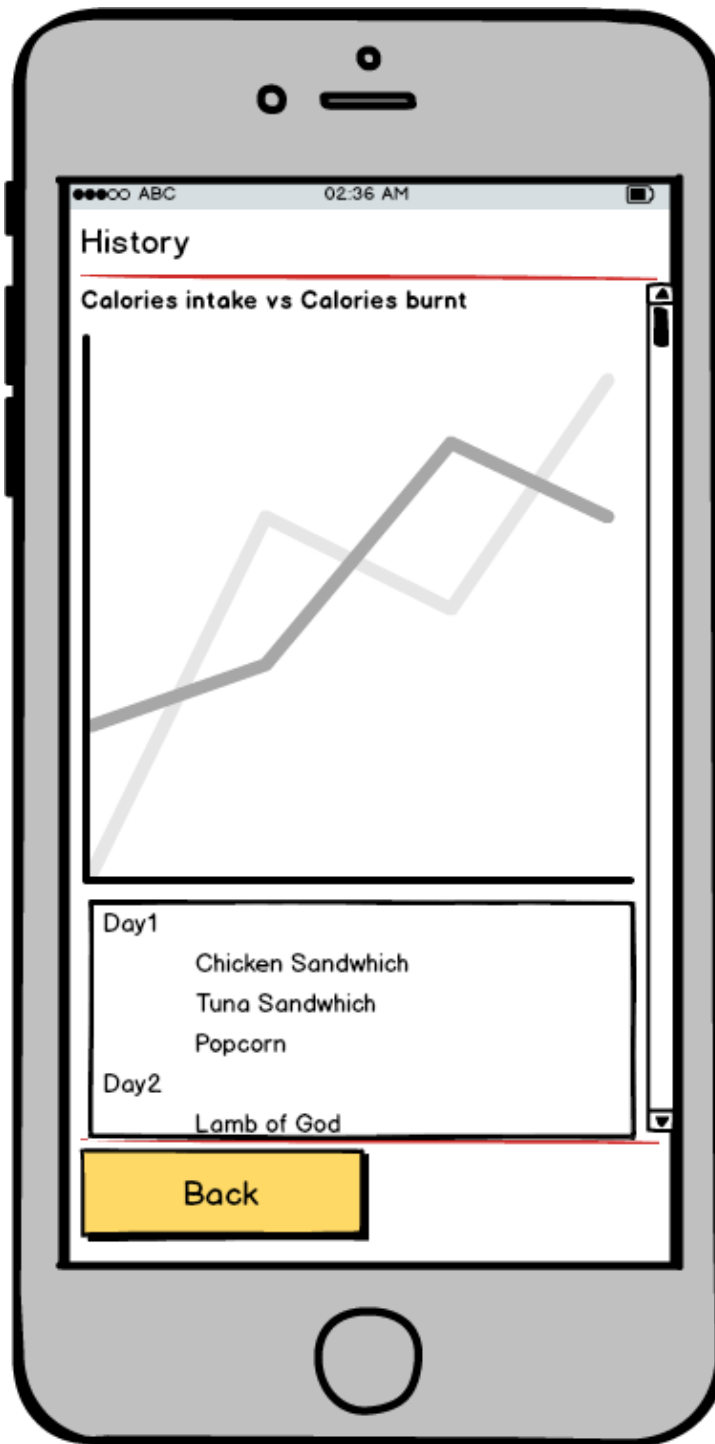


Figure 8 View History and Progress

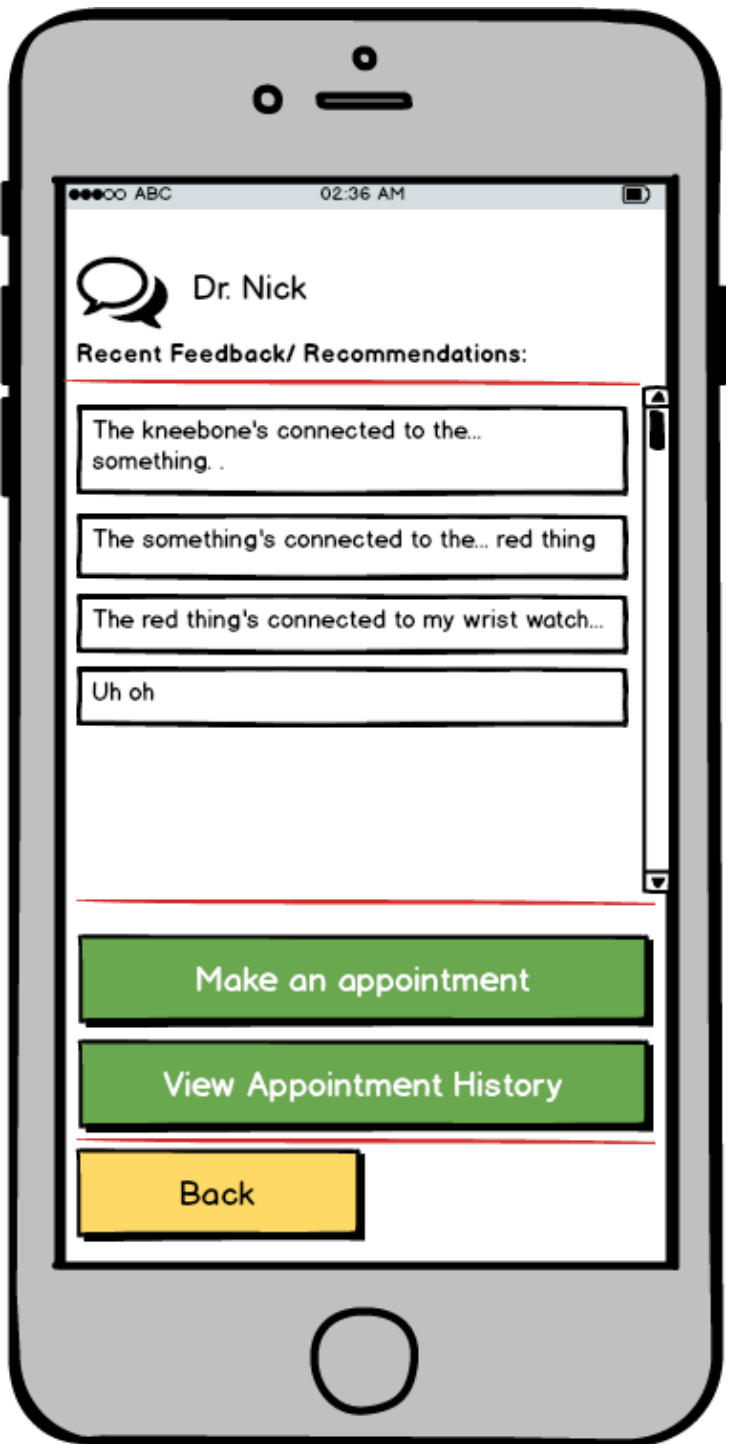


Figure 9.1 Doctor's Recommendation



Figure 9.2 Appointment History

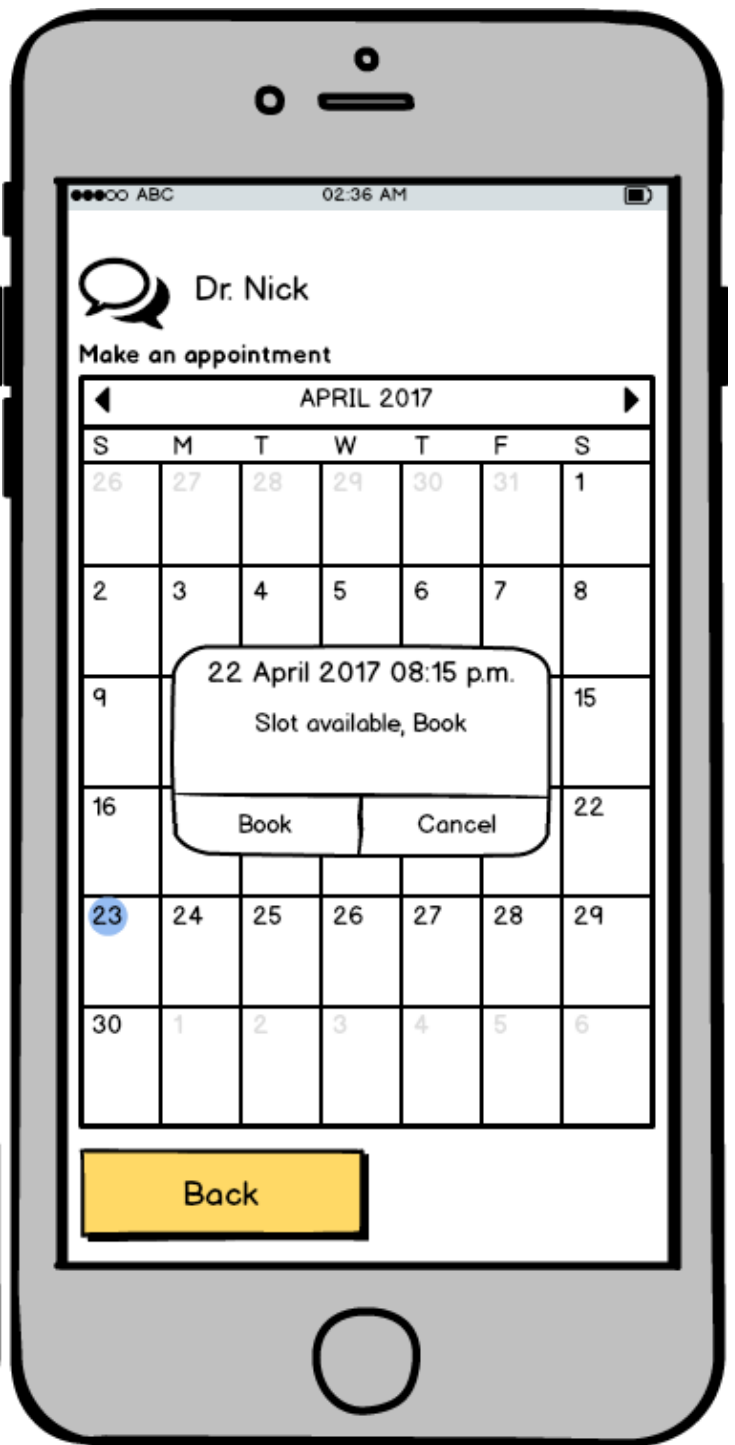


Figure 9.3 Make an Appointment