

React Native 1 β (3 Points)

Prototyping

In this assignment, you will design and prototype how your fitness tracking app will support the core capabilities you will be asked to implement in React Native 2 α , including:

- Creating a day view that shows user meals and exercises and make it the default view,
- Providing the ability to add a meal to a day and foods to meals,
- Creating a section of the day view that allows the user to compare their goals versus the current day's stats (e.g., total calories consumed),
- Developing a view that allows the user to add/edit/remove exercises to the current day,

Definitions

- A meal consists of a name (e.g., "Lunch"), a date, and a list of foods.
- A food consists of a name (e.g., "Whole Wheat Bread") and food "macros," i.e., number of calories, proteins, carbohydrates, and fats.
- An activity consists of a name (e.g., "Jogging"), duration, date, and number of calories burned.

Further details can be found by looking at the API section of the React Native Alpha assignment.

Part 1—Paper Prototyping: In this part, you will engage in paper-prototyping of the four capabilities listed above using paper, pen/pencil, scissors, and tape/glue to develop and test out your ideas about how the user should interact with these capabilities.

Part 2—Visual & Interaction Design: This part will involve using the visual/layout design principles as well as the design patterns we learned in class to build non-interactive prototypes of the capabilities in the form of static screens.

Part 3—Interactive Prototyping: In this part, you will add interactivity to your static screens by implementing an interactive prototype that integrates your designs using Adobe XD.

Submission Details

React Native 1 β will be independent of your React native 1 α assignment. The deliverables for this assignment include the following:

1. A PDF version of this document with your entries, submitted to Canvas;
2. A link to your interactive prototype, submitted to Canvas;
3. A video recording of you demonstrating in MP4 format the intended use of your prototype, saved in your Google Drive folder and shared through a link ([instructions](#)) (as video files can be too large for Canvas to handle).

Part 1: Paper Prototyping (1 Point)

In this part, you will follow the principles and methods we learned in class to develop a paper prototype of each capability listed in the cover page of this document. As we discussed in class, paper prototyping is a powerful tool to rapidly develop and test ideas in an iterative fashion. When you prototype, think about how the user will interact with the capabilities you are devising, how the different screens will progress after user input, and what elements will remain on the screen and what elements will change. Therefore, your prototypes will be much more than a set of static screens.

Note that you are expected to work with real paper, and not in the digital environment, as prototyping in the physical world removes constraints and biases introduced by digital tools that are available to you. You can use white and/or colored paper. You will need scissors to cut paper into components. You can also use post-it notes in various colors or sizes/shapes to represent components. You should not use any stencils or component libraries at this point, and instead draw all the elements by hand. To draw shapes, make outlines, and write labels, using a Sharpie is recommended, although a regular pen or pencil may also be used. You can use glue or tape to attach smaller components to screens. However, note that the paper prototype should allow you to simulate user interaction with your design, which you can achieve by moving components on and off the screen. When you are done with paper prototyping, place your paper prototype on a blank paper, write down simple annotations for each major component, and take a photo of your annotated prototypes for your submission.

There are no hard-and-fast rules, and you can get creative with this activity, but here are a couple of primers on paper prototyping that may be useful: [A List Apart: Paper Prototyping](#), [Patrick Thornton: Paper Prototyping: A Primer](#).

<photos-of-your-paper-prototypes>

Day View

Yushun
Chen

1. Default View

9:25 4G

Fitness Tracker

Meals

Lunch 11/7 foods

Dinner 11/7 foods

Add a meal

Activities

Jogging 60 mins
11/7 69.0 cal Edit Remove

Swimming 30 mins
11/7 121.2 cal Edit Remove

Add an activity

Your Progress: Compare

This is a hover operation to see the details of foods.

2. Compare View

9:25 4G

Fitness Tracker

Did you meet your goals?

	Today	Goal	Met
Calories (kcal)	190.2	100	✓
Protein (grams)	50	40	✓
Carbs (grams)	34	50	X
Fat (grams)	20	30	X
Activity (mins)	90	60	✓

You have met 3/5 of your goals!

This can either be a separate view directed from the Default View or just a component of the Default View. Either way, this is a section of the day view.

3. Add meals

9:52 4G

Fitness Tracker

Add Your Meal

Name

Date

Foods

Name: Bread Protein: 2 grams
Measure: 2 slices Carbs: 24 grams
Calories: 7 kcal Fat: 1 gram

Add a food

Name
Measure
Calories
Protein
Carbs
Fat

Add

Use cards to display foods.

This can either be a modal or a form in the page. It has default values if the user is from the edit button.

4. Add/Edit/Delete activities

9:52 4G

Fitness Tracker

Add Your Activity

Name

Date

Duration

Calories

Add

This is a form which would have default values if the user is editing an existing activity, otherwise it is blank. The delete functionality is achieved on the higher level.

Day View

Yushun Chen

1. Default View

9:25  

Fitness Tracker

Meals

Lunch 11/7  

Dinner 11/7  

Activities

Jogging 60 mins
11/7 69.0 cal  



Swimming 30 mins
11/7 121.2 cal  

Your Progress: 

This is a hover operation to see the details of foods.

This button takes the user from home view to the view of comparing stats of the day.

2. Compare View

9:25  

Fitness Tracker



Did you meet your goals?

	Today	Goal	Met
Calories (kcal)	190.2	100	✓
Protein (grams)	50	40	✓
Carbs (grams)	34	50	✗
Fat (grams)	20	30	✗
Activity (mins)	90	60	✓

You have met 3/5 of your goals!

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Name
Measure
Calories
Protein
Carbs
Fat

Use cards to display foods.

This can either be a modal or a form in the page. It has default values if the user is from the edit button.

4. Add/Edit/Delete activities

9:52  

Fitness Tracker

Add Your Activity

Name

Date

Duration

Calories

This is a form, which would have default values if the user is editing an existing activity, otherwise it is blank. The delete functionality is achieved on the higher level.

Part 2: Visual & Interaction Design (1 Point)

This part will involve building on the paper prototypes you created in Part 1 to develop hi-fidelity visual designs of your screens for each capability. In designing your screens, you are expected to employ the visual and layout design principles we learned in class as well as the mobile design patterns we reviewed in class, although you are not bound by these patterns and can explore different visual arrangements. Your hi-fi prototyping will also involve choosing color schemes, typography, and image use that are consistent with the conceptual design for your app. For example, what color schemes, what images, if any, and typefaces would promote healthy nutrition and exercise? Alternatively, what design choices would motivate users to meet the goals that they set for themselves?

Your visual prototype does not have to look photorealistic and employ the look and feel of native OS elements, but you are free to use stencils or standard elements from libraries or UI kits as well as icons, shapes, and images (e.g., from online libraries such as [freepik](#)).

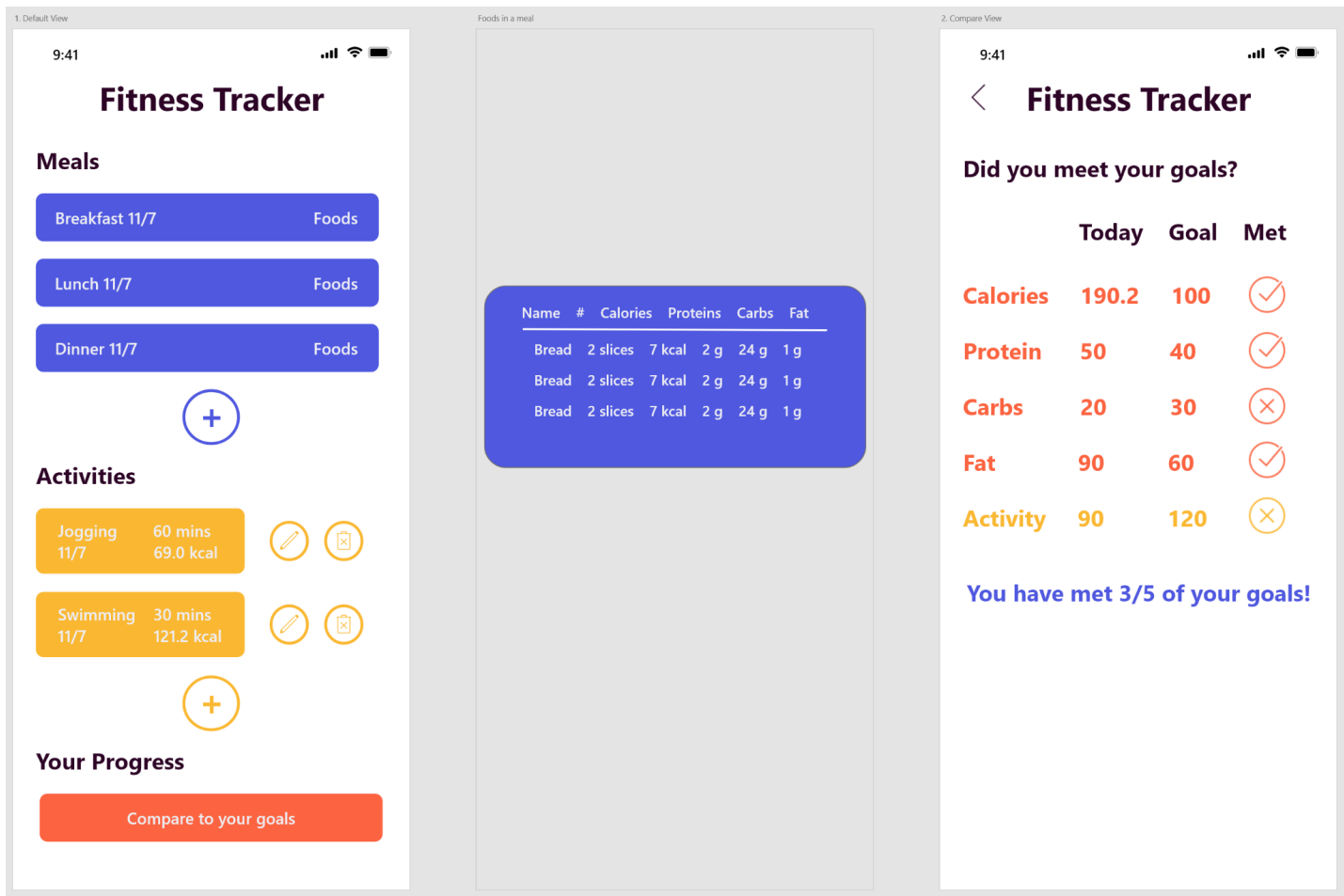
You will complete this part of the assignment using [Adobe XD](#) (you do not need to purchase it, as the assignment can be completed using its free features). If you are unable to use Adobe XD, e.g., if you only have a Linux computer, you can use alternative prototyping tools like [Figma](#), or create your visual prototype using Microsoft PowerPoint, Keynote, or alternative presentation software that has basic drawing and interactive capabilities as well as the ability to export presentations as videos (as needed for Part 3).

The deliverable from this part of the assignment will be screenshots of the screens from your hi-fidelity prototype. You can paste cropped screen grabs or exported screens in image format.

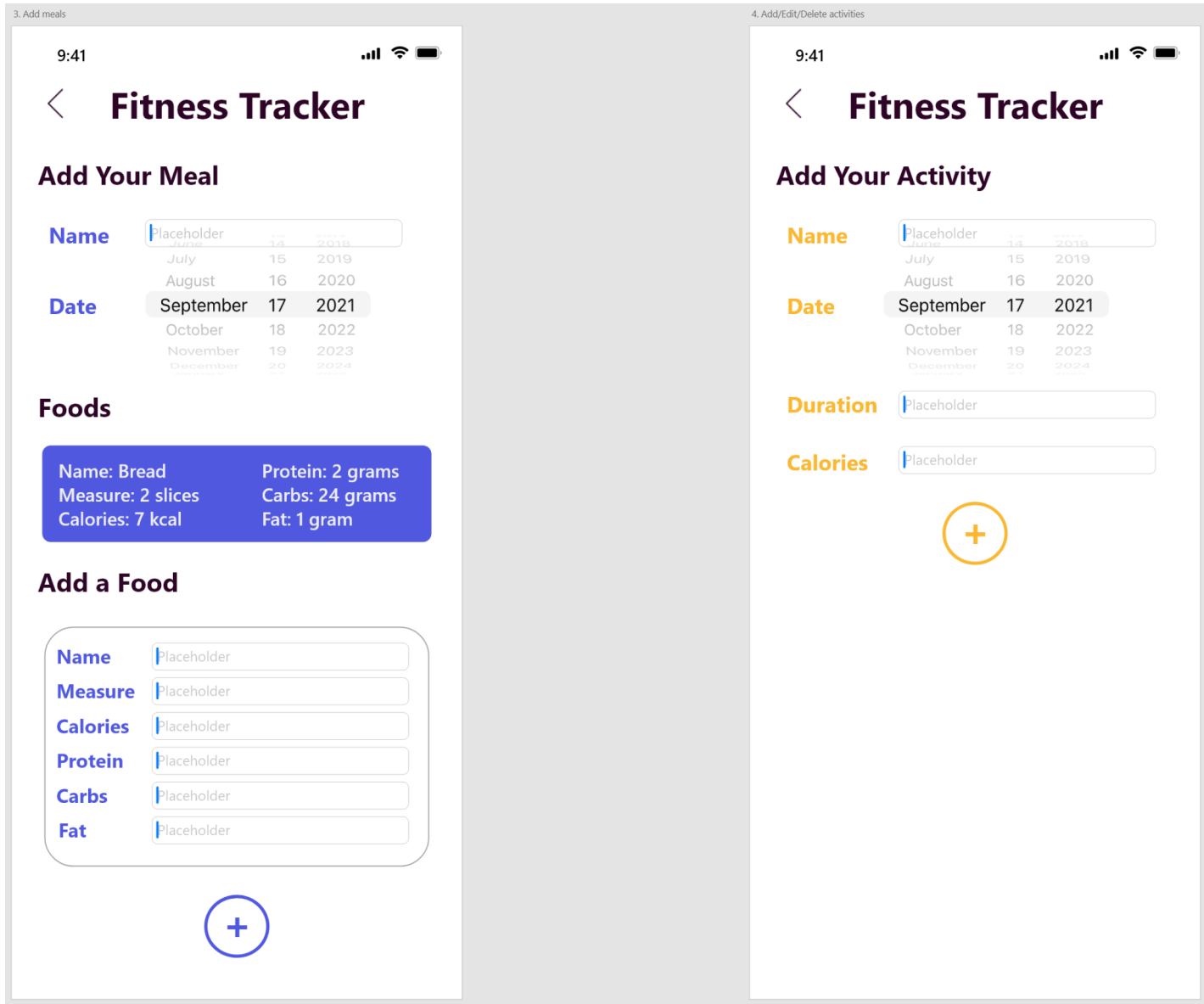
<screenshots-of-hi-fi-prototype>

On the default view, I used mainly some shades of three colors: blue, yellow, and red (triadic colors). The blue color represents the meals that the user has had during the day. Blue gives the user a sense of calmness and stability, as intaking food should give humans a sense of safety and satisfaction. The yellow color represents the activities that the user has undergone in the day. Yellow means happiness, optimism, and enlightenment. Yellow can also correspond to the sunshine, which can be experienced by users when they are doing outdoor activities. Lastly, the red is used to keep track of the user's progress. Red means power and energy, which the user needs to complete their goals everyday. The typeface I used is SF Pro, which should be the default font for iOS. This font is both friendly and energetic. The color I used for this main font is a darker shade of purple. Overall, the colorful scheme attracts the user and promotes fitness as a fun and rewarding activity. The user interactions are simple, straightforward, but powerful. The user is able to compare their current day to their goals clearly in a table, which motivates them to complete their goals. Principles of design involved: Pattern, balance, and unity. There is a pattern when displaying user's meals and activities by using card-like rows. There is also balance in the page since each section of the view is properly divided and spaced. Moreover, the unity comes from the consistency of the

design components and also the color choices of the triadic colors (blue, yellow, and red). Principles of layout involved: Effectively using grids, grouping using Gestalt theory (similarity and proximity), creating visual hierarchy, and exploiting visual scan patterns. Grids are effectively used here in the views since there are clearly rows and columns in the design. They are properly spaced and aligned. Grouping using Gestalt theory can be demonstrated through the card components that have the same color and design. They are also grouped together to achieve the principle of proximity. The visual scan pattern of the screens is basically a combination of the F-pattern. There is a heading on the left and the following content of the heading is on the right side.



1. Default View and 2.Compare Section



3.Add meals and 4.Add/Edit/Delete activities

Part 3: Interactive Prototyping (1 Point)

In this part, you will build on your hi-fidelity prototype from Part 2, which consisted of a set of static screens, and the ideas you developed in Part 1 for how the users will interact with the capabilities in order to develop an integrated, interactive prototype. You will continue using the same software environment and its capabilities to link screens, simulate scrollviews, etc. Adobe XD has the capabilities to create interactivity out of the box, although modern presentation packages can be used to achieve most of these capabilities (e.g., see this [tutorial on how to use PowerPoint for prototyping](#)). To get started with making interactive prototypes with Adobe XD, you might find [this tutorial from Adobe XD](#) or [this video tutorial](#) useful.

After you complete your interactive prototyping, you will create a video demonstration of how users will interact with the prototype. Again, Adobe XD has the capability to record a demonstration of your prototype, if you are not able to use Adobe XD, you can achieve the same goal using Zoom (see this [tutorial on how to record a presentation using Zoom](#)).

Your submission will include (1) a PDF of this document, including pictures of your paper prototype from Part 1 and screenshots of your hi-fi prototype from Part 2, (2) a link to your interactive prototype that you can obtain from Adobe XD (the free version allows sharing one public link), and (3) the recorded video of your demonstration in MP4 format, shared through a Google Drive link. If you did not use Adobe XD, submit a copy of your PowerPoint (or alternative) file in Canvas.

Link to the interactive prototype:

<https://xd.adobe.com/view/e14db88b-a86d-44fb-b2a6-4ea1c85a60d8-b41e/>

Link to demo video:

https://drive.google.com/file/d/1i2wlhYaPK7fcCrNf_c6ksle0ioFP6mph/view?usp=sharing