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:
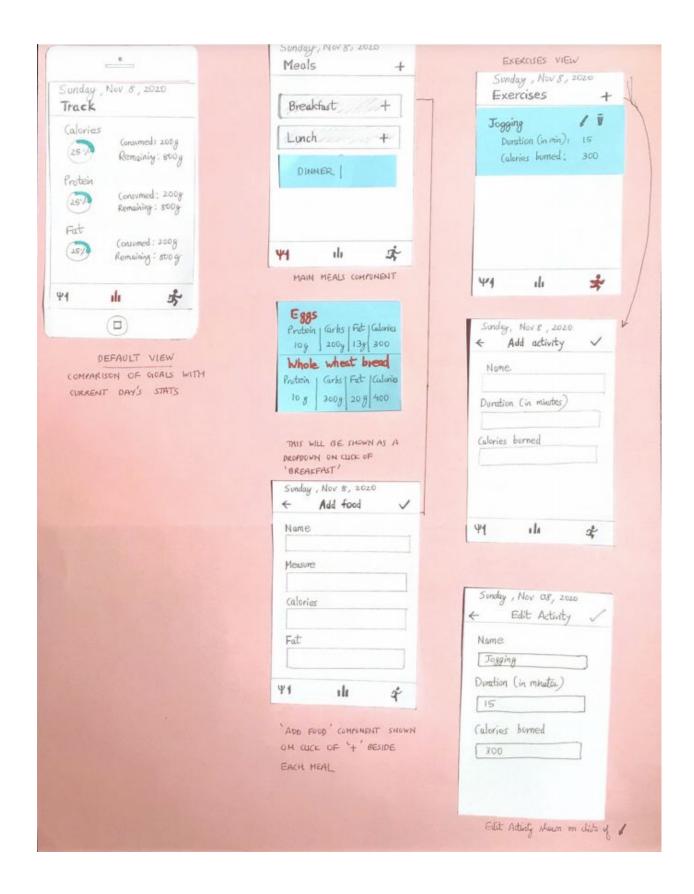1. A PDF version of this document with your entries, submitted to Canvas;
2. A link to your interactive prototype, submitted to Canvas;
3. A video recording of you demonstrating in MP4 format the intended use of your prototype, saved in your Google Drive folder and shared through a link (instructions) (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.

Default View Screen

Sunday , Nov 8, 2020

Track

Calories
(25 %) Consumed: 200g
Remaining: 800g

Protein
(25%) Consumed: 200g
Remaining: 800g

Fat
(25%) Consumed: 200g
Remaining: 800g

DEFAULT VIEW
COMPARISON OF GOALS WITH
CURRENT DAY'S STATS

Meals Screen

Sunday, Nov 8, 2020

Meals +

Breakfast +

Lunch +

DINNER |

MAIN MEALS COMPONENT

Food Dropdown

Eggs

Protein	Carbs	Fat	Calories
10 g	200g	13g	300

Whole wheat bread

Protein	Carbs	Fat	Calories
10 g	300g	20 g	400

THIS WILL BE SHOWN AS A
DROPDOWN ON CLICK OF
'BREAKFAST'

Add Food Screen

Sunday , Nov 8, 2020

← Add food ✓

Name

Measure

Calories

Fat

'ADD FOOD' COMPONENT SHOWN
ON CLICK OF '+' BESIDE
EACH MEAL

Exercises View

EXERCISES VIEW

Sunday , Nov 8, 2020
Exercises +

Jogging ✎ 🗑
Duration (in min): 15
Calories burned: 300

Add Activity Screen

Sunday, Nov 8 , 2020
← Add activity ✓

Name

Duration (in minutes)

Calories burned

Edit Activity Screen

Sunday , Nov 08, 2020
← Edit Activity ✓

Name
Jogging

Duration (in minutes)
15

Calories burned
300

Edit Activity shown on click of ✎

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 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.

1. Default View: Comparison of goals vs current day's progress

Calories

25%

Consumed: **200 g**

Remaining: **800 g**

Protein

25%

Consumed: **200 g**

Remaining: **800 g**

Fat

25%

Consumed: **200 g**

Remaining: **800 g**

Carbs

25%

Consumed: **200 g**

Remaining: **800 g**

Exercise

25%

Completed: **15 min**

Remaining: **45 min**

2. Main Meals component

Sunday, Nov 8, 2020
Meals +

Breakfast +

Lunch +

3. Main exercises component

Exercises +

Jogging ✏️ 🗑️

　　Duration (in min):　15

　　Calories burned:　300

🍴　　📊　　🏃

4.　View on click of 'Breakfast':

Sunday, Nov 8, 2020
Meals +

Breakfast +

Eggs

Protein	Carbs	Fat	Calories
10 g	25 g	8 g	100

Whole wheat bread

Protein	Carbs	Fat	Calories
10 g	25 g	8 g	100

Lunch +

5. View on click of add meal:

Sunday, Nov 8, 2020
Meals ＋

Breakfast ＋

Lunch ＋

| |

🍴   ▥   🏃

6.   'Add food' component

← **Add food** ✓

Name

Measure

Calories

Fat

Protein

Carbohydrates

7. 'Add activity' component

Sunday, Nov 8, 2020

← **Add activity** ✓

Name

[   ]

Duration (in minutes)

[   ]

Calories burned

[   ]

8. View after deleting all activities:

Sunday, Nov 8, 2020
Exercises   +

No exercises to show.

9. Edit activity component

Sunday, Nov 8, 2020

← **Edit activity** ✓

Name

Jogging

Duration (in minutes)

20

Calories burned

450

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).

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.