Design Brief IV

Digital Mockup Prototyping

Design challenge II: Change

Punctuality

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1 Introduction

During the previous design brief, we defined several context scenarios that covered different user experiences and activities, and we exploited them to build our user's task tree and extract data and functional requirements.

In this report, we take advantage of the work done previously to build an interactive prototype. The development of this digital mockup is supported by two key path scenarios that focus more specifically on user interactions with the product. The final prototype is based on interaction and visual design principles seen during the lectures.

The rest of the report is organized as follows. In Section 2, we present several key path scenarios. In Section 3, we provide examples in our prototype demonstrating our understanding and application of different interaction design principles. In Section 4, we describe the problems emerging from our peer evaluation and how we addressed them.

2 Key path scenarios

In this section, we define the two key path scenarios on which we based our prototype.

We chose the first one because it exemplifies our app's main usage. We are in a collaborative setting in which different people have to meet on time. It shows the novelties of our product: the collaborative approach in which people "race" to the meeting and the use of peer pressure, based on leaderboards and punctuality points.

The second one was chosen because we wanted to display, even though it is not the primary focus of the app, a more individual usage and how a morning routine was handled. Moreover, it demonstrates two other novelties: the use of suggestions based on statistics and the use of a calendar combined with user's notes to better visualize his punctuality.

2.1 Meeting with friends

While texting with her university friends in their group chat, Julia and her friends decide to meet this evening at 7 pm for dinner. Since PunctuAll is connected to her messaging app, it creates an alert in her messaging app suggesting to schedule a new event for this evening and automatically fills in the time and location details for her and all of her friends that also use the app. She accepts to create the meeting by clicking on "Yes".

Since the app knows her available and most commonly used transportation options, entered from the Settings page previously, it automatically sets the transportation method to public transport and shows her the time she needs to leave her house, which is 6:30 pm. The app knows her evening meeting scenario, entered previously, so it automatically sets her reminder for an hour before the event. Julia had entered her evening meeting scenario previously by clicking on the Preparation tab, clicking on the plus button to view the Add Preparation page, and then clicking on the Prep. name field and entering "Evening scenario". She had then clicked on the plus button to add a new checkpoint, entered the name and duration from the pop-up and clicked on Add to add one of her checkpoints for her typical evening scenario and repeated to add all of her checkpoints.

Later in the day, she receives a reminder on her lock screen that her first checkpoint, showering, is starting in 15 minutes.

After taking her shower, Julia opens the app, clicks on the "Dinner with friends" task to see the Event Dashboard, and taps on the checkbox to the left of the "Shower" checkpoint to notify that she is finished with this task. The app congratulates her by informing her that she accomplished this checkpoint 1 minute early to the right of the checkpoint name. The next checkpoint of her preparation scenario is displayed on her screen as well as the amount of time left to complete it to the right of the checkpoint name.

Julia gets another reminder by the time she has to leave in 15 minutes and receives a notification that her friend Jessica has already completed her "leaving the house" checkpoint for the event.

Before leaving the house, she clicks on "Dinner with Friends" on the Events page and clicks on "Get directions" on the Event dashboard to check the directions and manages to catch the bus right on time by following the navigation.

As Julia is riding the bus, she wonders if any of her other friends are currently running late. She clicks on the "Dinner with friends" event from the Upcoming Events page to go to the Event Dashboard to check their status from the Ranking section on her screen and sees that all of her friends except for Michael have completed their last checkpoint on time. She sends a notification to him from the app by clicking on the megaphone icon next to his progress bar to urge him to get there on time.

When Julia arrives at 7 pm, she sees that Jessica and Frank have already arrived and have seated at their table. She feels good to not be at the last place in the leaderboard, displayed in the app when all participants have arrived at the destination, and to have gained punctuality points in her profile unlike Michael.

2.2 Going to work

PunctuAll imports Jonathan's schedule from his calendar and asks him (with a notification) the night before if he wants to use the app for going to work tomorrow and he accepts it by clicking on the "Yes" button. PunctuAll wakes Jonathan at the optimal hour with its integrated alarm so that he has the right amount of preparation time. He then receives a reminder from PunctuAll to start his first checkpoint "breakfast". Jonathan clicks on the "Events" tab, and opens the Event Dashboard screen by clicking on the item corresponding to the event in the "Today's events" box to reveal his typical work-day morning routine tasks, composed of several checkpoints. As he progresses in his preparation, Jonathan validates the checkpoints by clicking on the checkboxes next to them in the "Checkpoints" box in the Event Dashboard.

Unfortunately, Jonathan decides to watch an episode on Netflix during his breakfast, and he runs late for the next checkpoint. The app communicates the amount of time Jonathan is late in the Event Dashboard, under the Checkpoints section. He speeds up his pace by taking a quick shower and dressing up fast, and manages to leave the house on time.

Jonathan gets in his car and sets up the navigation system of PunctuAll to display the suggested route, by tapping on the "Get directions" button in the Event Dashboard.

In the end, Jonathan arrives just in time to get a cup of coffee and review his material before his morning meeting starts.

Nevertheless, PunctuAll registers his 15 minutes delay during breakfast on the day's page in the Calendar screen (in the "Overview" box). Jonathan writes down a note explaining he was watching Netflix by clicking on the Edit button, and adds it to the "Notes" box of the same screen.

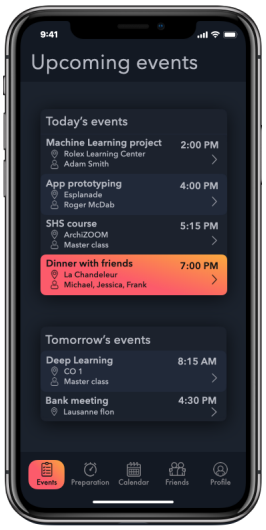
At the end of the day, the app displays him the sum of his punctuality points for the day in the Calendar screen. He clicks on the current date to display the Overview page. Displayed to the right of each task, he sees that he has spent 15 minutes more on breakfast than the allocated time in his checkpoints. He clicks on the light bulb icon to view PunctuAll's suggestion to change his morning routine by allocating more time for breakfast. Jonathan knows that he should not have watched Netflix and therefore declines the suggestion by hitting on "No".

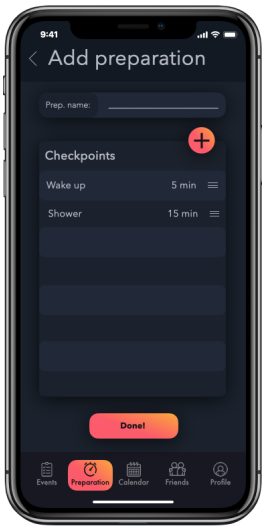
3 Application of interaction design principles

In this section, we provide examples in our prototype demonstrating our understanding and application of different interaction design principles.

3.1 Provide clear visibility of user actions in the UI

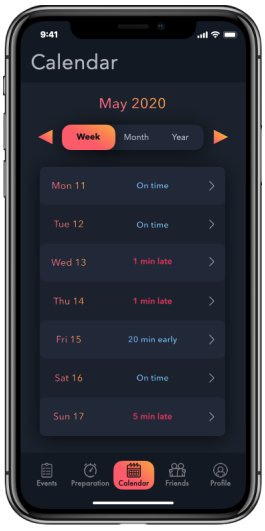
Throughout the app, the gradient provides the indication that an event is clickable. In the Upcoming Events page, the clickable next task, i.e. "Dinner with friends", is indicated through the use of a gradient. The arrow on the right side of each task indicates that there are details to view for that task. Add Preparation page is another example for clickable events with the plus and done buttons.





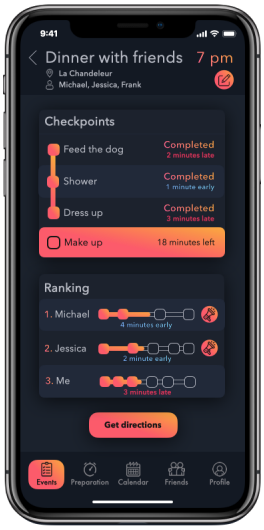
3.2 Design constraints to offer visual mapping between tasks and controls

In the Calendar page, the mapping between the goal of changing week (or month/year) and its actions is constrained with two gradient-colored arrows, in such a way that the user does not need to choose: there is just one possible mapping.



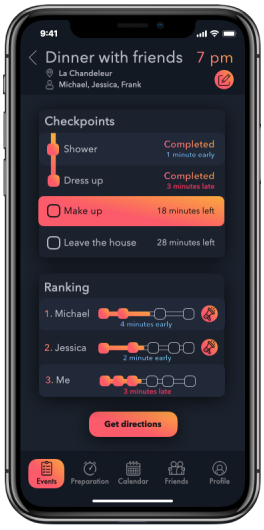
3.3 Meaningful feedback to ease evaluation

We provide meaningful feedback to the user in the Event dashboard by displaying the progress he has made in his preparation through a gradient-colored progress bar.



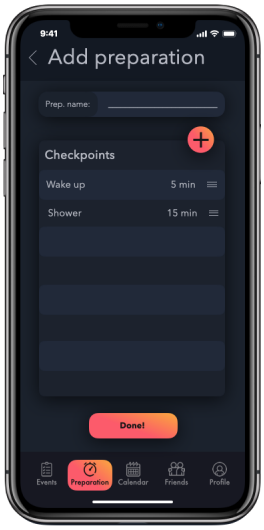
3.4 Piece-wise problem solving

We help users accomplish their preparation in time by breaking it down into checkpoints, as shown in the Event dashboard.



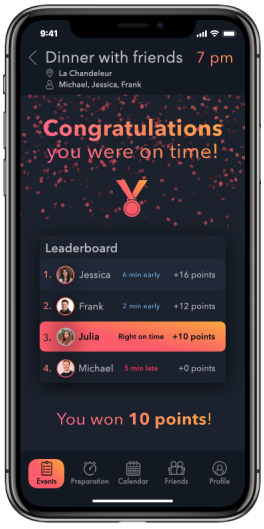
3.5 Task closure

The creation of a new preparation scenario is completed by pressing the obvious "Done!" button. The UI explicitly provides task closure by using this simple mechanism already known by most of the users and easily understandable by inexperienced ones.



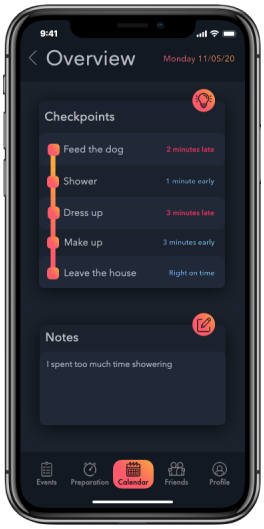
3.6 Congratulate the user

If the user is on time or early for an event, he is congratulated with a message, an animation and some "punctuality" points.



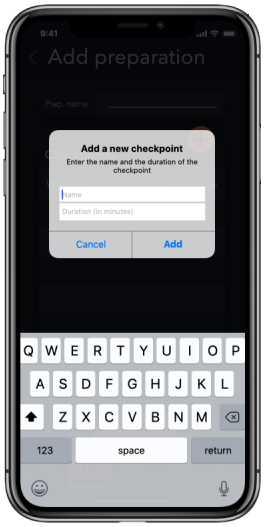
3.7 Provide clear exit marks

A back button is provided on the upper-left corner of every sub-page which returns the user to their previous page. The consistent use of the back button provides a clear indication of an exit for each page.



3.8 Allow errors

We provide preemptive exits in dialogs waiting for user input through a cancel button.



4 Peer evaluation

Our peers during the cross-validation pointed out that we might have too many clickable interfaces, and that the text is sometimes too small. We addressed these problems in our final version by reducing the clickable interfaces and increasing the font size.