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Application: Social Compass

The technique of using Personae and Scenarios are a lightweight adaptation of [Contextual Design](#)

[Links to an external site.](#)

Julia finds connection with her parents and best friend while away at UCSD

Julia clammers off the Campus Shuttle at the Price Center. Wow, just so many people. Julia missed her family, even though they weren't that far away. She really missed Emma, too, who was still at Miramar CC. She was just so busy with classes, and living on campus was a totally new experience. Julia had heard about Social Compass, an app that would help her feel more connected with her friends and family even while she was away, without any distracting messaging. After Julia installed the app, she launched it. It prompted her for the GPS locations of her current home, her family home, and her best friend's home. She jumped on Google maps, navigated to her apartment's location, right-clicked on it, and selected the latitude/longitude displayed at the top of the pop-up menu. She returned to the app, pasted the lat/long into the box for her home. She repeated the sequence for her parents' house and her best friend's apartment. She was also able to put in a name/label for her family home, as well as her friend's. She entered "Mom and Dad's" and "Emma's". Julia clicked "Submit" on the app's entry page. She was taken to a view that was kind of circular, a bit like a compass. She could see her own apartment, her parents' house, and Emma's apartment on the perimeter of the circular view. As she turned her body (and her phone), the display rotated as well. It was cool to be able to see when she was facing her parents' house. She had never thought about the direction her parents lived compared to the university. She could almost see them in their house, missing her and concerned for her success.

Personas

Junior Julia

Julia is a 20-year-old Latinx woman who grew up in San Diego. She grew up in a tight-knit family and has close friends from the neighborhood and high school. Because of the pandemic, she attended community college at nearby Miramar College, and then decided to attend UC San Diego, rather than go far away to UCLA. Her parents insisted that she live on campus rather than stay at home, though, so she could get more of the campus experience. After living at home for 20 years, home and old friends seemed far away.

Risk Analysis (Try to complete by 2/1):

You have a risk analysis requirement for this milestone. You need to spend a chunk of time brainstorming on your risks. Remember, risks are anything that could derail your project in terms of time, deliverables, or correctness (bugs or wrong features). Each risk should have:

Risk: [name]

Description: [narrative]

Severity: [Low | Medium | High]

Resolution: [plan]

Status: [Resolved | In progress]

For example:

Risk: Not meeting enough

Description: We have only 3 hours a week in common where we can all meet

Severity: High

Resolution: We have blocked off those three hours in our schedules. We will do our stand-ups daily after class.

Status: resolved

Team Risks: these have to do with the nature of your team, for this project. These include your skills, schedules, etc. But for this project only. I don't want to hear about your lack of Ruby skills, because you don't need Ruby for this project.

Project Risks: these are direct risks to your project. These include things like schedule. Not very distinct from "team risks for this project". It's the combination that really matters. In this category are technology risks, which you could think of as being separate, if you like. Technology risks interact with teams risks, so don't get too carried away with the categories.

Additionally, we should have:

- Estimation of initial Velocity with justification
- Iteration length

Risks:

Risk 1: Missing Members/Time Conflicts

Description: Email issues, finding a meeting time when everyone can meet, midterms

Severity: High

Resolution: Send multiple emails, Discord, meeting scheduling apps

Status: In progress

Risk 2: Familiarity of Using Android Studio

Description: It is many people's first time using Android Studio, and we are not familiar with it. It will be our main development tool so figuring out how to use it will take extra time. Android studio also has its own problems and is slow.

Severity: Medium

Resolution: Do more in-class labs, mess with Android studio during free time, watch online tutorials

Status: Not solved

Risk 3: Poor Coordination / Unfamiliarity with Agile

Description: We're new to the Agile method, and so we might make mistakes when planning work or dividing tasks, leading to confusion about tasks and potential duplicated work.

Severity: Medium

Resolution: Gain experience with Agile through lectures and by working on the project

Status: In progress

Risk 4: Github Issues

Description: We may run into issues with Github pushing and organization of code. Merge conflicts and separate branches might also occur.

Severity: Low

Resolution: Coordinate who is doing what, communicate when someone is adding, merging, or pulling something.

Status: Unresolved

Risk 5: Familiarity of Using map API

Description : lack of experience to use a Map API (maybe access the location and orientation information from user), unsure about longitude & latitude

Severity: Low

Resolution: Research how to use a map API on google

Status: Unresolved

Risk 6: Computer/Internet Connection Issues

Description: PC we are working on might have issues pop up and school wifi is often down/really bad

Severity: Low

Resolution: Local saves and remembering to save progress after working a while is good.

Status: Unresolved

Velocity Estimation:

Our estimated velocity will be: 0.5

The reasoning is that first, we will be taking a lot of time to familiarize ourselves with using AS and we will be looking things up about library documentation in our project. Another reason our velocity would decrease is the amount of team meetings and coordination issues would take time. There are also expected absences or time conflicts leading to group members missing.

Iteration Length:

Our iteration length will be 5 days (1 week). This time length will fit decently well with the length of time left in the quarter.

Planning Poker:

[Planning Poker documentation](#)

S#	Name	Hand	False Assumptions Uncovered
1	See waypoints on display	8 16 16 8 16 16	(none)
2	Add waypoints	2 2 4 4 16 2	Map work not needed to add waypoints
2	Add waypoints	2 2 4 4 4 2	(none)
3	Customize waypoints	2 4 2 4 3 4	(none)
4	Update display while moving	16 4 8 16 8 4	A lot of work assumed to be done for this might already be in story 1
4'	Update display while moving (after planning poker discussion)	4 4 3 8 5 4	



User Stories:

User Stories (in BDD style, named, estimated, prioritized, and wire-framed UI screens).

Tasks for the Stories in your *first* Iteration (assigned to Stories as appropriate, and estimated)

As a ___, I want ___ so that ___.

Scenario 1: Title

Given [context]

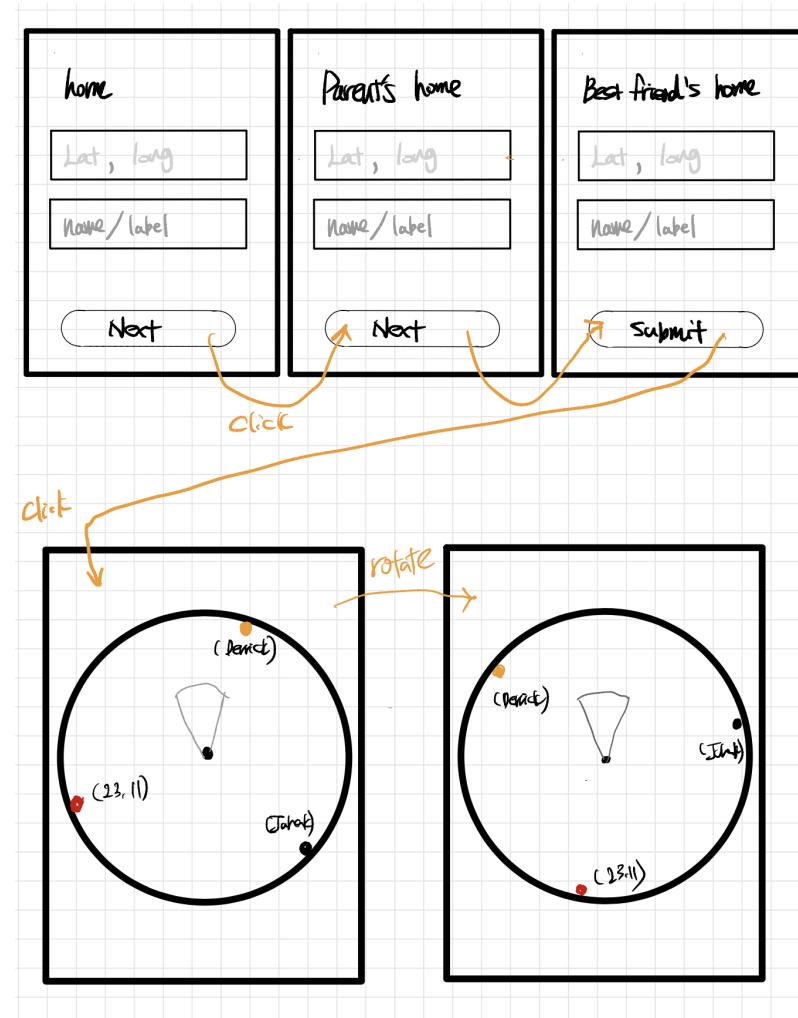
And [some more context]...

When [event]

Then [outcome]

And [another outcome]...

+ We should add wire-framed UI screens.



US1: See waypoints on display

As a traveler, I want to be able to see the direction of waypoints on the border of a circular view so that I can see what direction is a waypoint in general. [Priority HIGH, 16hr]

Scenario 1: in same direction

Given User's waypoint is to the North of User's current position

When User is facing North

Then the waypoints should appear at the top position of the compass

Scenario 2: in different direction

Given User's waypoint is to the North of User's current position

When User is facing South

Then the waypoints should appear at the bottom position of the compass

Scenario 3: at waypoint

Given User is currently at a waypoint location

When user checks compass

Then it should behave as usual with any arbitrary position for the waypoint that the user's currently at

Scenario 4: waypoints close to same direction

Given more than one of User's waypoints have approx. same direction on compass

When user checks compass

Then both of the waypoints should appear at similar positions on the compass

And they should stack with 1 being closer and 1 being farther from the center of the compass.

US2: Add waypoints

As a traveler, I want to put in the GPS coordinates of my waypoints so that I can be able to work with the locations I want in the app. [Priority HIGH, 3hr]

Scenario 1:invalid input

Given User type lat/long without comma

When click on the button "next"

Then send error message "check your lat/long"

And let user type again

Scenario 2:valid input on first and second page

Given User type lat/long separated by comma

```
When click on the button "next"
Then shows next screen that let user enter lat/long again for
different location
```

```
Scenario 3:valid input on third page
Given User type lat/long separated by comma
When click on the button "next"
Then shows circular compass view page
```

```
Scenario 1:Skip all locations
Given User skip all of 3 lat/long on the third page
When click on the button "next"
Then send error message "you must input one location"
And let user type again
```

US3: Customize waypoints

As a user, I want to be able to name my waypoints so that I know which waypoint I'm looking at.
[Priority MEDIUM, 3hr]

```
Scenario 1: no input / empty string
Given User provided no label
When click on the button "next"
Then send error message "check your label"
And let user type again
```

```
Scenario 2: normal string with content
Given User provided a string label
When click on the button "next"
Then set the particular data point to that label
And change its display name on screen to the new label
```

US4: Update display when moving

As a user, I want the compass view to rotate with me so that I can feel more connected with the app and those my waypoints are referring to. [Priority LOW, 5hr]

```
Scenario 1: rotate in place
Given User is on compass view
When User perform rotation in place
Then the waypoints should also rotate on compass to still show the
correct directions
```

Scenario 2: moving around facing same direction

Given User is on compass view

When User is moving to a different location while facing same direction

Then the waypoints should also change position on compass to still show correct directions

Scenario 3: moving and rotating

Given User is on compass view

When User performs a combination of moving and rotating

Then the waypoints should also rotate on compass to still show the correct directions

Scenario 4: vertical rotations

Given User is on compass view

When User performs a vertical rotation of the phone (tilting phone up or down)

Then the waypoints should not have any notable changes in positions

Scenario 5: no movement or rotations

Given User is on compass view

When User stands still while holding the phone

Then the waypoints should not have any changes in positions

Tasks:

(Iteration 1)

Make a screen displaying the empty compass. (US1 See waypoints on display) [2 hr]

Design or import GPS function to determine which direction a point is from you (US1 See waypoints on display) [4 hr]

Testing (US1 See waypoints on display) [2 hr]

Create a structure to save coordinates mapped to a name. (US2 Add waypoints) [1 hr]

Create option or prompt to take in user input/coordinates for adding waypoints (US2 Add waypoints) [2 hr]

Testing (US2 Add waypoints) [2 hr]

Integration testing [1hr]

(Not in iteration 1)

Make it possible to name a newly created waypoint with a name function. (US3 Customize Waypoints) [2 hr]

Add the names to the compass next to the points (US3 Customize Waypoints) [2 hr]

Testing (US3 Customize Waypoints) [2 hr]

Track which way the user is facing (US4 Update display while moving) [4 hr]

Adding rotation function to the compass (US4 Update display while moving) [8 hr]

Show the direction of a point on the map on the edge of the compass according to where you are facing (US4 Update display while moving) [8 hr]

Testing (US4 Update display while moving) [2 hr]

Iterations/Milestone:

User Story Iteration 1:

Finish (US1 See waypoints on display) and (US2 Add waypoints)
We will have run an integration test as well.

User Story Iteration 2:

Finish all 4 user stories, do (US3 Customize Waypoints) and (US4 Update display while moving)
We will have run an integration test as well.

Scenario-Based Tests (Complete after user stories):

- [Scenario-Based System Tests](#) [4%]
 - These are based on the end-to-end scenarios given in the requirements
(plus removed assumptions and details of UI interaction).
Scenarios must be added for implied end-to-end Scenarios.
 - Annotated with User Stories covered (should cover all, of course)

A BDD scenario is for a single story. A scenario-based system test is a full "end-to-end" scenario; it is long-running. So it starts with opening the app, and ends with leaving the app. In fact, a full scenario might even continue on to allow for resuming use of the app (to ensure that desired state is preserved). You "cover" a bunch of BDD scenarios in the process. You might even want to explicitly construct your scenario-based system tests from the BDD Scenarios.

Here is an example scenario-based system test from myCity: (Each line is a test: instructions to perform an action with specific values or states, with an expected output of specific values or states.)

1. Start the app by tapping the app icon. You should see a map with your ID in the center.
2. Login a couple of "friends" with location nearby (1/4 mile or less). Assuming there is network, you should see the friends showing on the map.
3. Click a friend and a text window should pop up.

It should be something like a long combined test for all of the user story

New User Test:

(US1 See waypoints on display) covered by 4-5

(US2 Add waypoints) covered by 1-4

(US3 Customize Waypoints) covered by 2-4

(US4 Update display while moving) covered by 5

1. Start the app by tapping the app icon. You should be prompted to enter GPS coordinate and label name for your home
2. Paste in GPS coordinate from Google maps, enter label, and click next. You should be prompted to enter GPS coordinate and label name for your parents' home
3. Paste in GPS coordinate from Google maps, enter label, and click next. You should be prompted to enter GPS coordinate and label name for your best friend's home
4. Paste in GPS coordinate from Google maps, enter label, and click next. You should see the compass with the 3 waypoints showing on the parameter corresponding to the directions they are to your current location and orientation.
5. Move around with the app and rotate the phone to face different directions. You should see the 3 waypoints change position on the compass following your movements.

Returning User Test:

(US1 See waypoints on display) covered by 1-3

(US2 Add waypoints) not covered, should have been done only once on starting app??

(US3 Customize Waypoints) not covered, same as US2?

(US4 Update display while moving) covered by 2-3

1. Start the app by tapping the app icon, and you should be taken straight to the compass screen.
2. On the compass screen, you should be able to see the 3 coordinate locations you input, and their directions from you relative to your location.
3. Move around and rotate the phone, the icons should move and change direction on screen as you move.

Github Link:

<https://github.com/orgs/CSE-110-Winter-2023/projects/42/>