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CS 402 - Mobile App Development
Homework 2

IDEA 1: TAG

1) This app would be a game of tag that uses location services. Similar to the movie "Tag", where 4 players would join a game for a month (or longer if wanted to depart from the movie); one would be "it", the other three would have to avoid getting tagged. It will get hourly pings of other player's locations, and the other three players would have no indication of where It is. When It is within a certain distance, say, 500 feet, the player will be notified and they have to escape It's radius. While It is close to a player they will get more frequent pings of their target (maybe minute-by-minute or every 5 minutes). It will have to confirm that they indeed tagged the player, and the tagged player will confirm on their device. There will likely not be tag-backs, or maybe it will be unlocked after a set period of time (say an hour or a day).

2)
   a) User accounts and login, game code to join
      i) TIME: This will take at least a week, as much of it is already build and accessible, but from experience building login and user account functionality took me a very long time in my Web Dev course
      ii) TECH: SMS join code API, "sign in with google" API, maybe a "sign in with Apple" API
   b) Get player locations every set time-period
      i) TIME: This should be doable in 1-2 days, the tricky part will be testing it with an iphone simulator
      ii) TECH: Location services and permissions
   c) Display player locations on a map
      i) TIME: This should be fairly quick as well (probably a day), I will just need to display the information from feature B on a map
      ii) TECH: Apple or Google maps (prefer Google but might be more work)
   d) Targeting mode for It
      i) TIME: This would fairly quick (1-2 days) as I will just increase the frequency of the location ping for It and send a notification to both It and the target(s)
      ii) TECH: Notifications
   e) Tag confirmation
      i) TIME: this will be an additional step for feature D, and will take a day probably
      ii) TECH: Notification
   f) Scores and points
      i) TIME: 1 week. This will be little new tech but will involve lot of game design, balancing, and user testing

This would be an interesting app but hard to test. It has a lot of feature to make a good final project.

ii) TECH: no tech explicitly beyond a data being stored and served by a server (likely), but the game design architecture might be eased by APIs I don't yet know exist (will require research)

3)
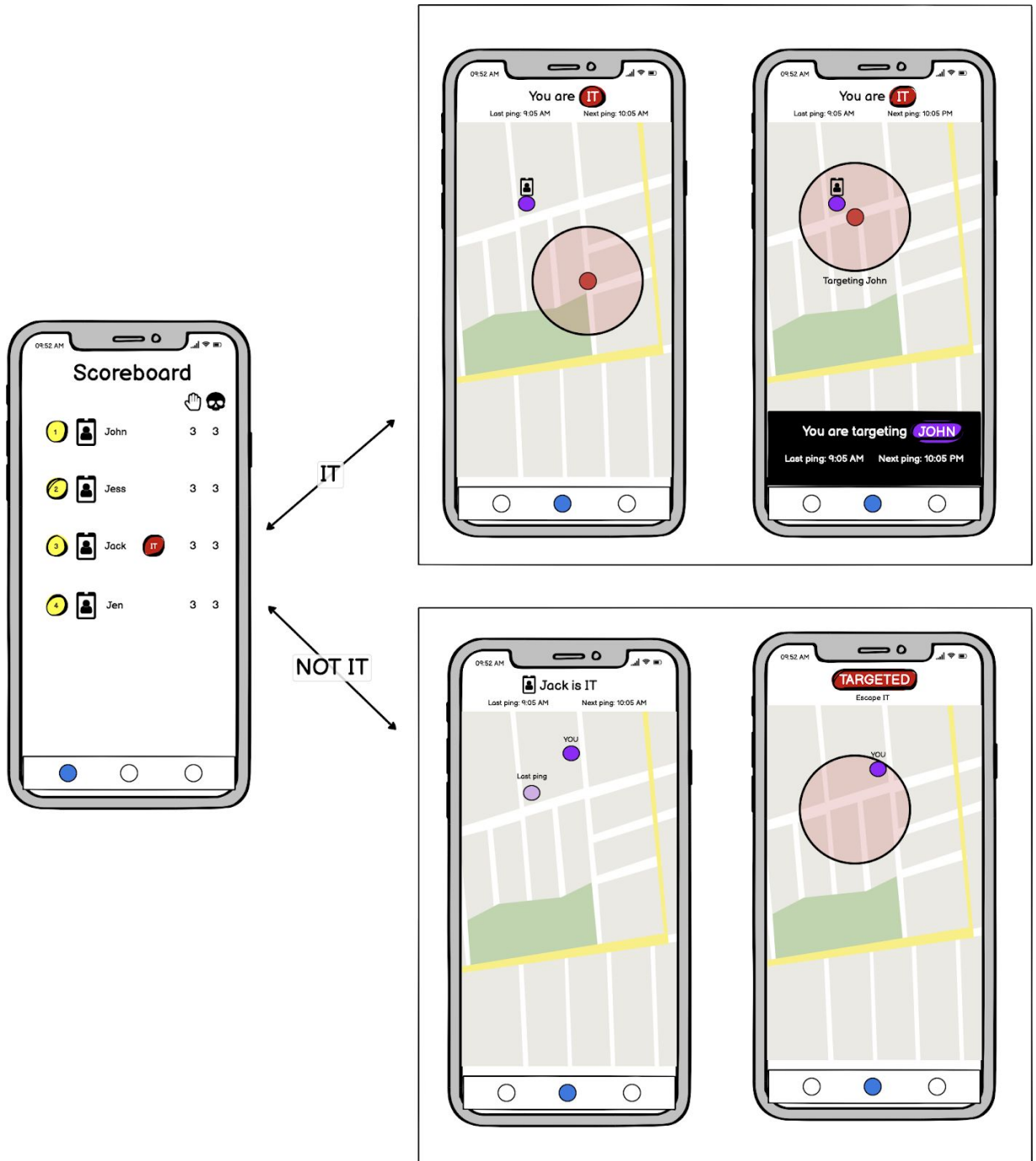
4) There is an app I found called "Game of Tag" that's a similar concept, but it passively picks up local players and shares your location with them. My app is designed for 4 close friends so that your location won't be broadcast to anyone with the app like "Game of

Tag" and will therefore protect privacy of players unlike Game of Tag. Game of Tag's app posting also has very poor english (not always indicative of poor quality, but the marketing is certainly poor) and costs $3.49 which is a high buy in for a game that few people may be playing. The app only has ~100 downloads and 0 reviews on Android (I don't have an iphone so i can't see the iOS download count or reviews).

5) The audience will be groups of 4 physically able people who spend time around each other and trust one another with their privacy -- ideally 4 close friends. I think anyone who has seen the 2018 movie would be drawn to the idea of the app and the movie shows the bond of friendship made stronger by a game like this.

6) My app will be free with ads, though I'm considering a $0.99 or $1.99 price tag to be implemented later if interest in the game grew. It makes more sense for this app to cost money since players know that each player just has to buy once. Paying a small amount might help with player retention because they have "skin in the game", but it's low enough that it's still very welcoming.

IDEA 2: HIDDEN DOMESTIC ABUSE REPORTER

1) This app will provide a way for women to report domestic abuse of themselves or others discreetly. It will be disguised as a menstrual calendar -- an app that abusive partners will be unlikely to investigate -- but will have a secret abuse reporting page hidden in the "help" tab of the app settings. The reporting will include file uploads (photo/video), text description of the details of the abuse, and will timestamp the submission. This will be forwarded to the proper organization/authorities, and a list of hotlines will be available in the help tab as well.

2)
   a) Scaffolding for a menstrual tracker (though none of it needs to function)
      i)   TIME: 1 week
      ii) TECH: Many GUI elements with settings list tab
   b) Photo/video upload and text form
      i)   TIME: 1 week
      ii) TECH: form submissions with GET/POST, file explorer
   c) Forwarding information to authorities and/or organizations
      i)   TIME: 2 weeks
      ii) TECH: I am not sure how I would implement this yet, but some kind of forwarding API to send an email or text from a phone other than the user's number/account
   d) Hotline list
      i)   TIME: 1-2 days
      ii) TECH: Phone call functionality (when a number is tapped it begins a call)

3) -

As sensitive as this topic is, this would make a good final project based on the list of technologies and would potentially help a lot of people out. It would be prudent to do a bit of research on this topic to see how best to help, as even the best intentions could be harmful. I would count that research as a part of the grade for this project, if you choose this idea.

4) There is an app called Aspire News that has a <u>very</u> similar concept, though the news facade doesn't appear to be functional at all and is not convincing as a real news app. It's also very poorly rated, with the reporting function not working and frequent freezes reported. My app will have a more convincing facade of a menstrual tracker and conceptually makes more sense if you didn't want an abusive partner snooping. If my app was stable it would also be a better option out of the gate.

5) The audience for this app is any woman who doesn't feel safe or fel at risk of domestic abuse. Additionally, anyone who fears for a woman they know might be getting abused could download it as a resource. I would open the audience to anyone experiencing abuse, but the concept of a menstrual tracker would reasonably only apply to biological women.

6) The app would be free, as it's more of a humanitarian cause than a business idea. I don't want to give women at risk any reason to avoid getting help.

IDEA 3: PAPER CLIP/TRADE UP

1) This will be like classified ads but just for trading items. Every user will start with a paperclip and trade up to something better (like the Ted Talk in case you're familiar). It will have the accounts with a trade history of how far a user has come. I don't plan to have extensive social media functions, but maybe a simple global feed like Venmo. The tabs will be Account, Local Trades, and Feed (or something similar). There will be a built in messenger like Offerup where users can discuss trading their items.

2)
   a) User accounts and login, game code to join

    i) TIME: This will take at least a week, as much of it is already build and accessible, but from experience building login and user account functionality took me a very long time in my Web Dev course

    ii) TECH: sign in with google" API, maybe a "sign in with Apple" API, maybe an SMS sign up API

  b) Upload photo and description of a user's current item

    i) TIME: 1 week

    ii) TECH: text and photo/video forms with GET/POST

  c) Messenger for two users to talk about trading their items

    i) TIME: 1 week

    ii) TECH: Notification services. Private messaging between users like a social media platform will probably have API's available but I am not familiar with any yet. The backend here will be fairly expansive

  d) Local listings

    i) TIME: 3 days

    ii) TECH: Gather local trade options (photos, title), link to messenger. Add functionality for submitting a trade between two users. Location services

  e) Global feed

    i) TIME: 2 days

    ii) TECH: gather all trades and just put who traded with who for what item (with photos). Add links to the names to see individual's trading journey

3) -
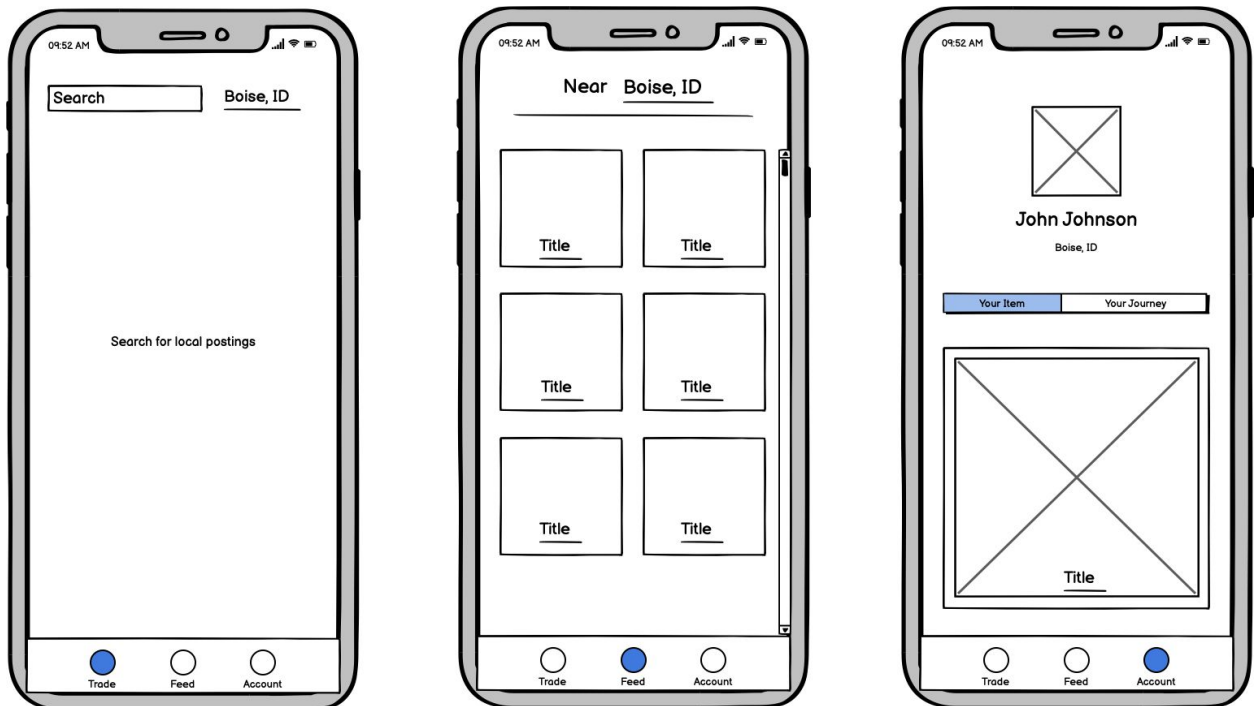
4) I have looked high and low and all I find in the app store is the sea of craigslist/offerup clones for classified ads. Given, the same function of trading a paper clip is easily achievable on those classified ad apps, but this app would make it into a social game

with a global feed. Additionally my app's requirement that you consistently trade up from a paper clip/starter item will keep people honest (relatively).

5) My audience will probably be younger people who have means of transportation (teenagers, young adults) though older demographics with extra time on their hands might also be interested. Ted Talks are shown a lot in educational systems and on youtube where the user base is usually younger for frequent users, and people who have seen the paperclip Ted Talk will probably be a significant portion of users.

6) The app would be free with ads like most classified ad apps to maximise the user count.

I remember when this first came out about. Definitely a lot of fun and having an app around that would be great. This seems to have enough technology to make a good final project.

IDEA 4: GOOGLE TRENDS STOCK TRADING

1) This will be a simulated stock market game for Google Trends (popular searches). Users can invest in a search term (eg. "election" or "COVID" would be good choices right now) and compete worldwide to become the richest person on the app. Players will start with a set amount of in-game currency (they can purchase more with real money if they run out or need more) and can then buy stocks in popular or soon-to-be-popular search terms.

2)
   a) Search for term and invest in it
      i) TIME: 5 days
      ii) TECH: G Trends API, in game economy, reasonably efficient search algorithm will be needed.
   b) Display of top trends
      i) TIME: 3 days (this should be easy, but it will be the first part of the project and I will have to research how to use the API)
      ii) TECH: G Trends API, assigning cost/share of a term might be difficult
   c) Account page with current wealth and performance
      i) TIME: 3 days
      ii) TECH: in game economy
   d) Global player wealth leaderboards
      i) TIME: 3 days
      ii) TECH: gather global data and display
   e) In-app purchases
      i) TIME: 1 week
      ii) TECH: Purchases, refunds, and valid exchange of funds will need to be secure and work without a hitch. This will take the most time probably

3) -

4) I've seen games in the vein of "guess which of these two terms is more popular" powered by Google trends (Google themselves even released a quiz game like this). There is a steam game called "Trends" that does something similar. I haven't, however, seen a mock stock market using google trends where you can invest in a search term's popularity. This app would be different than any Google Trends game I could find.

5) My audience is broad; someone who has free time to play a game, and is probably a teenager or older (children will probably not be interested in a mock-stocks game). Adults and young adults are far more likely to be active or at least aware of the stock market (I am not in the stock market myself but would still know enough to play the game). The app would be very introductory-level with stock market terms and operations so stock trading experience would not be required or expected of my users.
6) The app would be free with ads and in-app purchases. I want to maximise users and simple banner ads will suffice. I would add "remove ads" in app purchase for a few dollars.

This is a fun idea. The in-app purchase would be interesting if you can get it to work but the app in general lacks enough mobile technology to do as a final, unless you add some more in. Personally, I'd use an app like this. If you want to do this idea, think about what you could add to make it more of a mobile app instead of just a web app on a phone.