Product Design Sample Solutions

CMSC389P - "Mastering the PM Interview"

Design a product that makes people become healthier

1. Physical Health
   a. Have an Artificial Intelligence component that can identify what food a user is eating from a picture taken
      i. Will use the AI to give nutritional feedback based on your meal
      ii. Can also calculate calories
   b. Recommendation feature on what you are currently eating that gives a nutritional breakdown and ways to make a meal healthier
   c. Feature to detect frequency of eating a product and suggests recipes based on eating habits
   d. Inputting your favorite healthy ingredients and the app would generate a new recipe every day based on those ingredients
   e. Section on app for quick and healthy meals
      i. To appeal to college students
      ii. Also to appeal to people who cannot cook well
      iii. *Note: could ask users in the beginning how well they cook to determine if this section is necessary*
   f. Feature to assign numerical score based on how healthy your meal is
      i. Have a rewards point for eating healthier meals
         Exchange these points for a reward *(which would incentivize the users as well)*
   g. Visual tracker of progress to motivate people to stick with their goals
   h. Utilize articles of health journey to give a sense of community within the application
      i. Easier to communicate with people going through similar situation and helps alleviate stress
2. Mental Health
   a. User can do daily check-ins
      i. Example: How do they feel today (both mentally and physically)?
         1. Use emojis to depict this
   b. Recommended and tailored resources based on how a user rated their day
   c. Color neutral UI to produce positive emotions

Design a camera for the elderly

1. Big button with audio feedback if camera is on or off
2. Different instructions options for English and Spanish speakers (to make the product more accessible)
3. Have the screen automatically rotate when camera is turned (e.g., landscape or vertical)
4. Potentially one singular bright colored button that would make it easier for the customer to see
5. Simple words that speak to you or quick instructions for users to understand
6. The button would be a small screen itself and when you press it, it notifies you if it is taking a picture or video (e.g., snapchat showing when it is recording)
7. Auditory responses
8. Camera automatically transfers photo to the cloud
    a. Have instructions on the camera on where to find these photos on the cloud so the audience does not have to do extra research
9. Buttons that says words of what it does rather than having the symbols
10. Medical usage for camera, specifically for users with memory loss or any health issues
    a. Pictures can be used to help remember things
    b. Pictures can be sent to hospitals or clinics automatically
11. Making the text larger
12. Stabilizing camera

How would you design a bicycle renting app for tourists?

1. Location services to track nearest bicycle to tourists (GPS)
    a. Should be able to navigate to the bikes
    b. Also show all the parking stations near them so they can easily drop off their bikes
2. Have location services approximate the locations of tourist areas around the area
3. Awards system based on mileage of bike
    a. Could potentially partner with other companies like Uber Eats which will allow the biking company to gain popularity
    b. Also could use Uber Eats with having the bikers receive free meals based on a point system correlated to how much they use the application or the mileage of the bike used
4. Should have multiple languages for accessibility if it is for tourists

5. Should also be able to take various currencies as well
6. Use machine learning to analyze cards and take payments from a picture take so users would not have to physically enter their information, especially if they are interested in renting the bike fast
7. Feature to determine bike accessible tourist locations
    a. Or have bike stations at hotspots for tourists
8. Feature to know if enough bikes are at the location
9. Must ensure the application works on iOS and Android and other types of phones
10. Reservation features to know how many bikes will be there when you get there
    a. Forecast to know if there will be enough bikes - use machine learning (e.g., like what time of day there are a lot of bikes)
    b. Having block purchases to rent out 10 bikes at a time
    c. Rent for longer periods of time (e.g., day, week or longer)
    d. Tourist can reserve a bike ahead of time by receiving a unique code (so no first come first serve, but have a time limit for how long the reservation would be)
11. Scanning QR code on bike and charges based on how long it is ridden
12. Social aspect to the product
    a. Planned events and have offers to ride with fellow bikers
13. Partner with tour guides and do a bike tour (e.g., bar hopping with the bikes)
14. Natives of the area do a bike tour and post it on this app so local tourists can follow

Design a social travel product.

A travel product to make it easier for multiple people to handle all aspects of a planned trip.

1. Integrating/partnering with the other applications (e.g, Yelp or Airbnb)
    a. Could potentially receive information from Google Flights and use their API
2. Functionality to create list of vacation locations
3. Section of application that focuses on food places near the vacation destination areas that would have a ranking from best to worst
4. Sharable link to the application so that there can be collaborations
    a. Look up people by username to add people to vacation plan
    b. Shared itinerary/workspace with drag/drop events (collaborative) similar to Google Calendar with possible upvotes/downvotes for plans
5. Separate tabs of application
    a. Schedule
    b. Budget

6. Real time data for prices to get the ranges
7. Have suggestions on locations to visit from the application
8. Data to check how safe a tourist location would be and rank the location
9. Social Media aspect to it where users can share pictures from the trip on a timeline (similar to instagram feed)