

CSP-588 User Centered Design

Homework - 3

1.Design an optimal UX for the driver

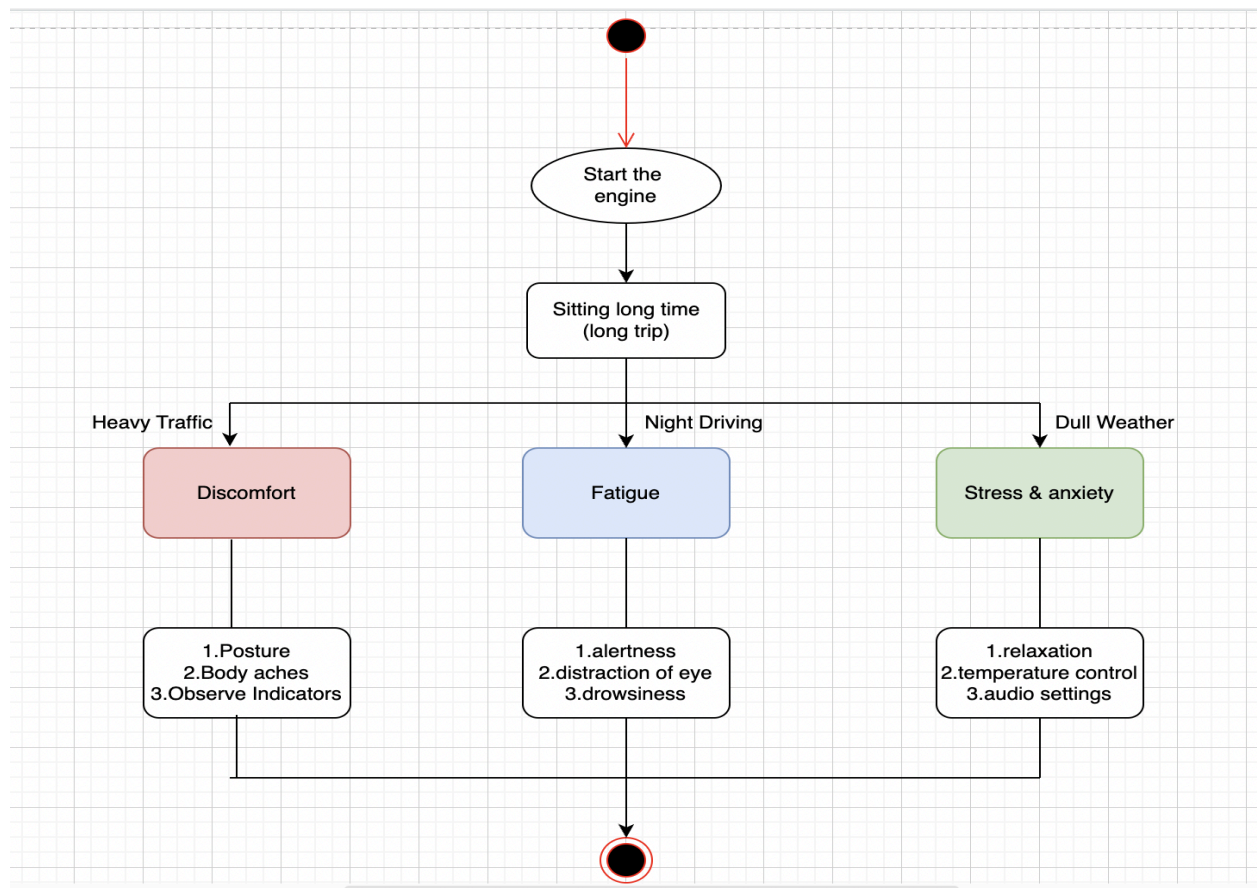
a) Describe pain points: discomfort, fatigue, and 1 more

Discomfort: Driving requires a lengthy sitting posture, which can be uncomfortable. Backaches and stiffness are common among drivers, especially on long trips.

Fatigue: The physical and mental pressure of maintaining constant attention on the road causes fatigue, which reduces awareness and slows reaction times.

Stress and anxiety: Traveling through busy traffic or in strange places can make drivers feel more stressed and anxious. Navigational issues, poor road conditions, and time constraints make driving less enjoyable and may even have an adverse effect on one's general well-being.

b) Sketch displays of information to address pain points



c) Describe driver controls / inputs to address pain points

Discomfort:

Movable Spinal Support: By including an adjustable backrest into the driver's seat, one can adjust the lower back support to reduce pain on long road trips. Drivers can maintain a more healthy sitting position and lower their risk of pain in the back and discomfort by using spinal support that is necessary.

Fatigue:

System for Monitoring Driver Attention: Integration of a driver attention monitoring system with sensors and cameras can identify signs of driver fatigue, such as tiredness or irregular driving. In order to limit the risks associated with reduced awareness and delayed reactions, the system can detect fatigue and send notifications, such as visual or audio signals, encouraging the driver to take breaks or rest.

Stress and anxiety:

Effective Navigation Support: Reducing the stress and anxiety that come with navigating through new or crowded locations can be achieved by putting in place an advanced navigation system that offers real-time traffic updates, alternate route recommendations, and predictive analysis capabilities. In order to improve general well-being and driving satisfaction, timely and exact support can help drivers feel more confident and in charge of their travel.

d) Assess driver's UX w.r.t. the pain points

Discomfort:

- Get opinions from drivers regarding how well aspects like spinal support that may be adjusted work to relieve stiffness and pain in the back during long rides.
- Ask drivers to rate how comfortable they felt utilizing the recommended driver controls or inputs in comparison to more usual arrangements.
- Watch drivers during user testing to discover whether they change settings or controls to enhance practical position and comfort.

Fatigue:

- Assess the effectiveness of the driver attention control system in reducing driver fatigue by gathering information on the frequency of signals and the actions taken by drivers.

- To find out if drivers feel more focused and alert when utilizing the recommended fatigue-reducing features, perform surveys.
- To evaluate how well the features keep drivers attentive, measure reaction times and driving performance in actual situations.

Stress and anxiety:

- Utilize pre- and post-drive surveys to evaluate drivers' opinions on stress and anxiety levels before and after utilizing enhanced navigation support features.
- Examine driver comments regarding how accurate and beneficial real-time traffic notifications and suggested other routes are at easing driving stress during navigation.
- Look for indicators of reduced fear or increased confidence in drivers by observing their actions and reactions when they are driving in unfamiliar or busy locations.

2. Design an optimal UX for a passenger

a) Develop a user persona for the typical passenger

Name: Sai

Characteristics:

- Age: 23
- Gender: Female
- Occupation: Software Engineer
- Marital Status: Single
- Education: Master's degree in Computer Science

Background: Sai is a working professional who travels regularly for conferences and business meetings in addition to her everyday drive to work. She uses a variety of forms of transportation to move about her busy city. Sai promotes comfort, ease, and efficiency when traveling despite her busy schedule. She likes to make the most of her travel time by doing things like checking her emails, downloaded podcasts, or just relaxing with her favorite music.

Goals and Needs: Sai is looking for a comfortable and stress-free travel experience, particularly on lengthy trips or when stranded in traffic. She likes having a range of media at her disposal to pass the time on her rides, including podcasts, music, and films. Whether she's reading emails, going over presentations, or coming up with ideas, Sai wants to make the most of her travel time as a working professional.

Challenges:Sai could become tired or restless, especially when she doesn't have access to attractive media.She might experience trouble maintaining an internet connection or encounter technical issues with the entertainment tools placed in her car.If Sai has unexpected problems or delays while traveling, it could adversely impact her experience in general and make her feel nervous or scared.

b) Describe pain points: boredom, uncertainty, and 1 more

Boredom:

- Passengers often experience boredom during long journeys, especially when the scenery remains unchanged or there are limited entertainment options available.
- Lack of engaging activities or distractions can lead to feelings of restlessness and dissatisfaction, diminishing the overall enjoyment of the journey.

Inconsistency:

- Travelers could be unsure about how long the trip will take, when they will arrive, and whether there will be any delays.
- Anxiety and discomfort might be increased by unplanned route modifications or a lack of real-time information regarding the status of the journey.
- Passengers may also be concerned if they are unsure about the vehicle's safety or situation, especially when they are sharing rides.

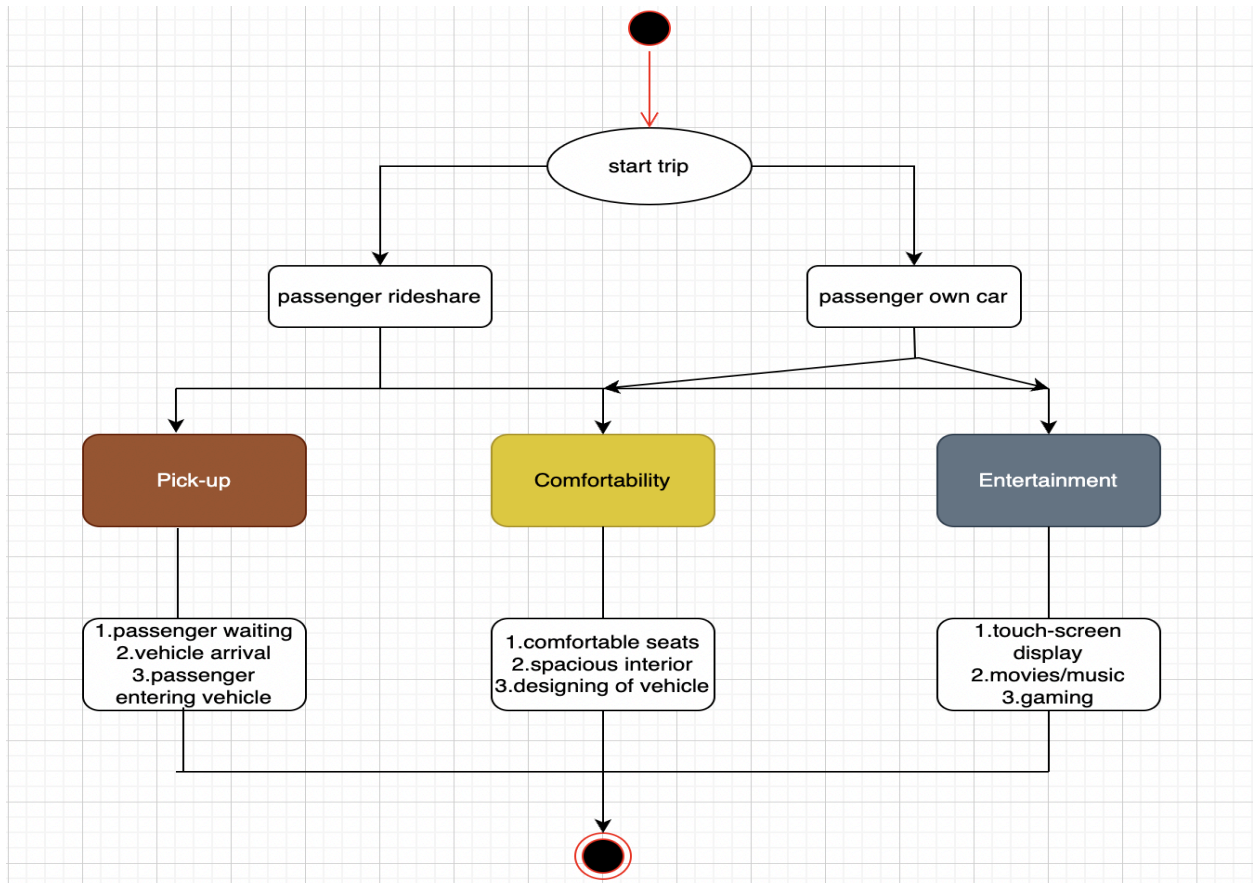
Physical Discomfort:

- Things like small room for legs, uncomfortable sitting, and inadequate airflow in the car can cause physical discomfort for passengers.
- During long trips, in particular, difficult seating positions or a lack of good support can result in headaches, painful muscles, or even problems with posture.
- Passengers may feel uncomfortable and unsatisfied due to inadequate temperature control or poor air quality in the car, which may impact their experience on the trip as a whole.

c) Storyboard the passenger environment / experience

Case1-(passenger rideshare): After leaving her flat, Sai uses the app to find a rideshare.She gets a notification with her driver's information and her expected arrival time.

Case2-(passenger own car): Sai can use her own car/vehicle to start and reach the destination at expected time.



d) Assess the passenger's UX w.r.t. the pain points

Boredom:

- Get feedback from travelers regarding the music, movies, podcasts, and interactive games that are offered for entertainment throughout the trip.
- The entertainment system's design and access should be taken into account, along with the range and quality of the programming given.
- Check whether passengers were entertained and involved the entire way by assessing their degree of involvement and satisfaction with the entertainment offerings.

Inconsistency:

- Determine how uncertain the passengers feel about the length of the trip, the arrival schedules, and any potential delays.
- Examine how well real-time updates and communication tools work to give passengers accurate and timely information about the status of their trip.
- Get input on how comfortable and confident passengers feel about the navigation system's ability to get about in unfamiliar or busy regions.

Physical Discomfort:

- Assess how comfortable the seats are for the passengers during the ride, taking into account things like space for legs, temperature control, and the quality of the air in the car.
- Get input on any uncomfortable experiences that travelers may have had and how they affected their overall travel experience.
- Evaluate the usefulness of things or features, such as climate control systems, designed parts of design, or adjustable seating, that are intended to improve passenger comfort.

3. Design an optimal UX for a passenger in a ride-share**a) Distinguish from #2's experience using pain points****Privacy Problems:**

Compare it with regular passenger travel, when people could go alone or with known friends, ride-sharing usually involves riding in a car with strangers. This may give rise to worries about personal space and privacy, particularly for travelers who value their privacy or would rather be alone themselves.

Customer Service Quality Factor:

Passengers using ride-sharing services may see variations in the level of service given by various drivers and cars. A variety of factors, including driver authority, vehicle cleanliness, and respect to safety regulations, can differ, resulting in uneven experiences and possibly passenger dissatisfaction.

The routes Uncertain and Delays:

Multiple pick-up and drop-off locations may be included in ride-sharing trips, which could lead to irregular trips and possible delays. Travelers may feel anxious or frustrated if they are unsure of the route's duration or the arrival timings, particularly if they have activities that need efficiency.

b) Describe an innovative experience and assess UX

In order to give ride-share users a unique experience, we can include a function that improves convenience, privacy, and customisation:

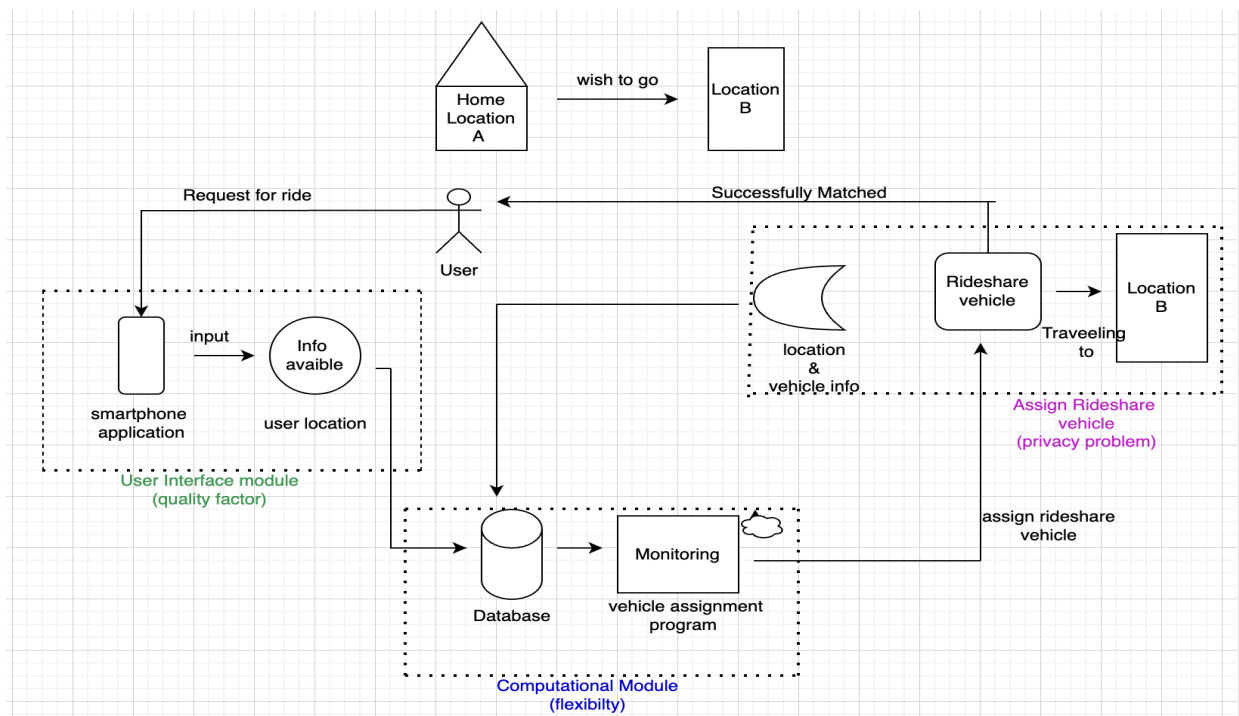
Evaluation of User Experience:

Privacy & Customisation: Whether they would rather be alone to unwind, have a quiet place to work, or engage in social activities with other travelers, travelers can alter their privacy module to suit what they want.

Enhanced Comfort: The privacy pod's movable elements, such temperature and lighting adjustment, make for a more cozy and customized travel experience that decreases discomfort and increases satisfaction levels all around.

Convenience and Flexibility: Throughout the trip, passengers can easily switch between private and shared areas by adjusting the privacy module as needed.

UX Feedback: To learn more about ride-share passengers' experiences with the custom privacy module, do surveys and interviews with them. Analyze user satisfaction, its perceived worth, and any areas that could want improvement so that future versions of the feature are informed.



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