

Appendix

Appendix A: User Surveys

Survey 1: User Experience with Parking Systems











-  * What is your age group?
-  * What is your status in the country where you used the parking system?
-  * Which country's parking system have you used?
-  * How would you rate the ease of use of the system?
-  * If you have used similar systems (e.g., parking in other countries), how does this system compare...
-  * How would you rate the time it took to complete the process?
-  * Was the pricing information and availability of vacant spots displayed clearly before completing ...
-  * Did you face any technical difficulties during the process (e.g., bugs, delays) that required you...
-  * Was the system's language support sufficient for your needs?
-  * What improvements would you suggest to enhance the system and user experience?

Figure 1 Survey 1

Survey 2: Design and Impact of Parking Systems











- 1  * Which country's parking system have you used?
- 2  * What was your first impression of the system's design?
- 3  * How important is visual design for the success of a digital system?
- 4  * To what extent were the colors of the system visually comfortable?
- 5  * How would you rate the visual design of the parking system?
- 6  To what extent did the system's design motivate you to complete the process?
- 7  * How inclusive do you think the system was in accommodating diverse users (e.g., language support,...
- 8  * To what extent do you think the number of steps in the process affects your satisfaction?...
- 9  * How important is the integration of other government services within the parking system?...
- 10  How would you describe your emotional state while using the system?

Figure 2 Survey 2

Appendix B: Interview Questions

Questions for Regular Users:

1. How easy was it for you to use the parking system for the first time?
2. Do you think the system provides clear instructions and is easy to navigate? Why or why not?
3. If you could change one thing about the parking system, what would it be?

Questions for Web Designers:

1- Interview 1: Web Designer at VZP, Prague

1. How do you balance aesthetics with functionality in your designs?
2. Why do you think Estonia's parking system is more user-friendly compared to the Czech system?
3. Do you think the Czech and Estonian parking systems meet global accessibility standards? Why or why not?
4. How do design elements like colors and layout influence users' emotions and trust? reduce stress and enhance user satisfaction?
5. The survey showed that 61.54% of users in the Czech Republic experienced technical issues, compared to 0% in Estonia. In your opinion, what could cause such a discrepancy?
6. 23.08% of Czech users said the process took too long. How do you think the system's design contributes to this delay?
7. Why do you think 50% of Czech users rated the color scheme as "Fair" or lower, while 81.82% of Estonian users rated the visual design as "Excellent"? Could this be due to aesthetic preferences, or specific design principles?
8. 90.91% of Estonian users reported feeling "Very Happy," compared to 16.76% in the Czech Republic. How do you think design influences these emotional differences?
9. Looking at the overall results, what do you think is the most critical change needed to improve the Czech system's performance?
10. What are your top recommendations for improving the Czech Republic's parking system?

2- Interview 2: Web Designer for Dubai's Government Parking System

1. What was your role in designing Dubai's government parking system?
2. What were the biggest challenges you faced in designing the system, and how did you overcome them?
3. How did you balance usability and aesthetics to ensure a smooth user experience?
4. What technologies or frameworks were used to develop the parking system?
5. How did you optimize the system for mobile users?
6. How does the system integrate with other smart city services in Dubai?
7. How do you ensure the system is accessible to all users, including tourists and non-Arabic speakers?
8. How does Dubai's parking system compare to those in other countries like Estonia or the Czech Republic?
9. What metrics or user feedback do you rely on to evaluate the system's success?
10. If you had the chance to improve the system further, what would be your top recommendations?

Web Designer at VZP, Prague

1. How do you balance aesthetics with functionality in your designs?

I focus on usability first—clear navigation, intuitive layouts, and accessibility—then enhance it with appealing colors, typography, and visuals. A good design should look great but, more importantly, work seamlessly.

2. Why do you think Estonia's parking system is more user-friendly compared to the Czech system?

Estonia's system is more streamlined, integrates better with other services, and minimizes friction in the process. The Czech system seems to have more technical issues and a less intuitive design.

3. Do you think the Czech and Estonian parking systems meet global accessibility standards? Why or why not?

Estonia's system likely meets standards better—it's cleaner, more responsive, and probably more accessible. The Czech system appears to have usability barriers, which suggests accessibility might not be a priority.

4. How do design elements like colors and layout influence users' emotions and trust?

Good design reduces cognitive load. Warm colors and a structured layout can make users feel comfortable, while messy or dull designs create frustration and distrust. A well-designed system makes users feel in control.

5. The survey showed that 61.54% of users in the Czech Republic experienced technical issues, compared to 0% in Estonia. In your opinion, what could cause such a discrepancy?

Probably outdated infrastructure, poor optimization, or lack of proper testing. Estonia invests heavily in digital solutions, while the Czech system might be using older technology.

6. 23.08% of Czech users said the process took too long. How do you think the system's design contributes to this delay?

A clunky interface, too many steps, or slow responsiveness could be the issue. A well-designed system minimizes user effort and speeds up interactions.

7. Why do you think 50% of Czech users rated the color scheme as "Fair" or lower, while 81.82% of Estonian users rated the visual design as "Excellent"?

Could be poor color contrast, outdated aesthetics, or lack of visual hierarchy. Estonia likely follows modern design principles, making the UI more pleasant and engaging.

8. 90.91% of Estonian users reported feeling "Very Happy," compared to 16.76% in the Czech Republic. How do you think design influences these emotional differences?

A smooth, hassle-free experience makes people happy. If the Czech system is frustrating to use, that naturally affects how people feel about it.

9. Looking at the overall results, what do you think is the most critical change needed to improve the Czech system's performance?

Fix technical issues first—bugs, slow response times, and crashes. Then focus on making the UI more intuitive and visually appealing.

10. What are your top recommendations for improving the Czech Republic's parking system?

Simplify the user flow—reduce unnecessary steps.

Improve system stability and performance.

Modernize the UI—better contrast, layout, and colors.

Integrate with other government services for a seamless experience.

Web Designer for Dubai's Government Parking System

1. What was your role in designing Dubai's government parking system?

I was part of the UX/UI design team, responsible for creating an intuitive and user-friendly interface. My main focus was on user journey mapping, accessibility, and ensuring seamless mobile usability.

2. What were the biggest challenges you faced in designing the system, and how did you overcome them?

One of the biggest challenges was catering to a highly diverse user base, including residents, tourists, and business professionals. To overcome this, we conducted extensive user research, implemented a multilingual interface, and ensured the design was accessible and responsive across devices.

3. How did you balance usability and aesthetics to ensure a smooth user experience?

We followed a minimalist approach, keeping the UI clean and avoiding clutter. Functionality was the priority, so we focused on clear navigation, easy payment processes, and real-time parking updates, while using Dubai's smart city aesthetic to maintain visual appeal.

4. What technologies or frameworks were used to develop the parking system?

The system was built using React.js for the frontend due to its flexibility and speed. We also used Node.js for backend services, integrated with cloud-based APIs to ensure real-time data synchronization with other smart city services.

5. How did you optimize the system for mobile users?

Since most users rely on mobile devices, we prioritized a mobile-first design. This included adaptive UI elements, touch-friendly navigation, and integration with e-wallets like Apple Pay, Google Pay, and Dubai's Smart Wallet.

6. How does the system integrate with other smart city services in Dubai?

It's fully integrated with Dubai's smart government infrastructure. Users can link their parking payments with Salik (toll system), RTA services, and public transport cards for a seamless experience.

7. How do you ensure the system is accessible to all users, including tourists and non-Arabic speakers?

We implemented a multilingual system, supporting Arabic, English, and additional languages like Hindi and Chinese. The UI was designed with high contrast, easy-to-read fonts, and clear icons to make navigation effortless for all users.

8. How does Dubai's parking system compare to those in other countries like Estonia or the Czech Republic?

Dubai's system is highly automated and integrated with AI-driven solutions, making it smoother and more efficient. Compared to Estonia, which has a strong digital governance foundation, Dubai offers a more mobile-centric approach. In contrast, the Czech system seems to lack integration and experiences more technical issues, based on what I've seen.

9. What metrics or user feedback do you rely on to evaluate the system's success?

We track user engagement, payment success rates, average transaction time, and error reports. Surveys and heatmap analysis help us understand pain points and optimize the user flow.

10. If you had the chance to improve the system further, what would be your top recommendations?

Enhancing AI-driven parking predictions to reduce search time.

Expanding integration with ride-hailing services like Uber and Careem.

Using blockchain for secure and transparent payment processing.

Implementing AR navigation to guide users to available parking spots.