Lab 1: Problem Discovery and Need Identification

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Topic: Booking at Kiosks

Step 1: Observation

The observation phase of this study was conducted at various self-service booking kiosks installed in public locations such as railway stations, metro stations, shopping malls, cinema halls, and government service centers. These kiosks are primarily used for ticket booking, bill payments, service registrations, and appointment scheduling. Observations were carried out across multiple locations to ensure diversity in user behavior and system conditions.

The study was conducted during both peak hours (9:00 AM–11:30 AM and 5:00 PM–8:30 PM) and non-peak hours to capture differences in queue length, system performance, and user stress levels. During peak hours, kiosks experienced heavy usage, leading to long queues and increased pressure on users to complete transactions quickly. In contrast, non-peak hours showed fewer users but still revealed usability challenges.

It was observed that a significant number of users struggled to understand the kiosk interface. The menu structure was often complex, with multiple nested options that confused first-time users. Instructions displayed on the screen were text-heavy and not intuitive, making it difficult for users with low digital literacy to proceed confidently. Elderly users and people unfamiliar with technology were frequently seen seeking help from security personnel, staff members, or fellow users.

Technical issues were also commonly observed. Touchscreens occasionally failed to register input accurately, causing users to repeat actions multiple times. Payment-related problems such as transaction failures, delayed confirmations, and printer malfunctions were frequent, resulting in user frustration and increased waiting time. In some cases, users abandoned the process midway due to fear of being charged incorrectly or losing money.

Language accessibility was another major concern. Most kiosks primarily supported English and one regional language, which was insufficient for users from different linguistic backgrounds. This limitation significantly reduced usability and confidence among users who were not fluent in the available languages.

Step 2: User Identification (Stakeholder List)

The kiosk booking ecosystem involves multiple stakeholders who interact with the system in different capacities and possess distinct expectations. Identifying these stakeholders is crucial for understanding the complexity of the problem.

Primary users include daily commuters, shoppers, and individuals who rely on kiosks for quick service access. These users expect fast, reliable, and error-free transactions. Elderly users and first-time users are dependent stakeholders who require simple interfaces, clear instructions, and assistance when needed.

Service providers and kiosk maintenance staff are responsible for ensuring system uptime, payment integration, and hardware functionality. Government authorities and private organizations oversee deployment, cost efficiency, and reduction of manual service counters.

Conflicts arise due to differing priorities. While users demand simplicity and reliability, authorities often prioritize automation and cost reduction. Maintenance staff face challenges due to limited resources and delayed issue reporting.

Step 3: Interviews / Surveys

To supplement observational findings, interviews and surveys were conducted with 25 users from different age groups and occupational backgrounds, including students, office employees, shop owners, senior citizens, and daily wage workers.

Most respondents reported confusion during the payment and confirmation stages of the booking process. Many users expressed anxiety about making irreversible mistakes, particularly when handling digital payments. Elderly respondents highlighted fear of losing money due to incorrect input or system malfunction.

Several users mentioned that unclear error messages increased stress and reduced trust in the system. A majority stated that they preferred human assistance when available, despite kiosks being designed for convenience.

Step 4: Pain-Point Analysis

Functional pain points include complex navigation, slow system response, payment failures, and printer malfunctions.

Emotional pain points involve anxiety related to digital payments, fear of making mistakes, and frustration caused by long queues.

Systemic pain points include poor maintenance, limited language options, and lack of on-site support.

The most critical pain point identified is the lack of user-centric design, which leads to confusion, stress, and reduced trust in kiosk-based booking systems.

Step 5: Root Cause Identification (5-Why Analysis)

The root cause of kiosk booking issues is inadequate user-centric design. Interfaces are developed with a focus on automation rather than inclusivity.

Lack of usability testing, limited user research, and prioritization of cost reduction contribute significantly to these challenges.

Step 6: Wicked Problem Understanding

Booking at kiosks represents a wicked problem due to the involvement of multiple stakeholders, varying levels of digital literacy, and rapid technological change.

Solutions that benefit one group may negatively impact another. Continuous adaptation is required, making permanent solutions difficult.

Step 7: Reflection

This exercise highlighted the importance of empathetic design and thorough problem analysis.

Understanding real user difficulties before proposing solutions is critical. The study reinforced the principle that technology must serve people, not overwhelm them.