User Studies

Study Section 1: Survey Research

Methodology

An online survey collected responses from 10 participants using multiple-choice questions, Likert scale ratings, and open-ended questions to understand registration frequency, frustrations, abandonment rates, and desired features.

Key Findings

Registration Patterns: Most respondents register infrequently—40% only 1-2 times per year, 30% register 3-6 times annually. They typically register for conferences/workshops (8 respondents), sports/fitness events, concerts, and community events (6 each).

Satisfaction and Pain Points: Overall satisfaction averaged 3.80 out of 5, suggesting users find current systems merely adequate. The overwhelming frustration was creating accounts and logging in (8 of 10 respondents). Other issues included navigating registration forms (4 respondents) and repeatedly entering the same information across different events.

Critical Finding: 90% of respondents abandoned a registration process because it was too difficult or time-consuming, representing a major usability failure.

Desired Features: Participants requested (1) a centralized platform aggregating events from multiple sources with filters, and (2) automatic form population using saved profile information to eliminate repetitive data entry.

Limitations

With only 10 responses from a similar academic background, the sample lacks diversity in age, technical skill, cultural background, and geographic location. Self-selection bias likely inflated negativity. The findings should be interpreted as preliminary insights rather than definitive conclusions.

Study Section 2: User Interview with Wireframe Evaluation

Methodology

A semi-structured interview was conducted with a student-athlete who regularly participates in endurance races. The participant reviewed mock-up screens and answered three questions about the platform's functionality, their impulses, and ideal features.

Key Findings

Problem Validation: The interviewee immediately recognized the platform's purpose and spontaneously remarked that "the user interface seems better than the usual web platforms." He explained that most current platforms "do the minimum" and are "not intuitive at all," validating the core problem statement.

Feature Suggestions: The interviewee suggested several improvements that became core to the prototype:

- **Cart-Based Registration System:** The ability to browse and add multiple races before committing, mirroring familiar e-commerce patterns
- **Intelligent Event Discovery:** Enhanced filtering and search capabilities to help users find appropriate races

The Amazon Model: When asked about ideal functionality, the interviewee articulated a clear vision: registration should work like Amazon—"allow users to register and pay for a race with just one click." His specific requirements included persistent user profiles, pre-filled forms with stored information, and a streamlined review-and-pay flow where users "simply have to review the information and then proceed to payment" rather than complete lengthy forms.

Design Implications

The interview validated that regular race participants are acutely aware of poor registration UX and naturally conceptualize improvements through familiar e-commerce experiences. Previous negative experiences have created user skepticism that must be overcome through demonstration. Time savings through information reuse matters more than feature richness or visual polish.

Study Section 3: Literature Review

Five papers from the ACM Digital Library were selected to ground the prototype design in established HCI research.

1. Web Form Usability (Seckler et al., 2014): Provided empirical data showing that proper error message placement, clear field labels, and effective input validation measurably improve form completion speed and reduce errors. Since registration is fundamentally a multi-step form, these evidence-based guidelines directly address user complaints about "navigating the registration form."

2. UX Evaluation Framework (Nur et al., 2021): This systematic review established the importance of using multiple evaluation methods—task completion time, error rates, and satisfaction surveys—rather than relying on a single metric. The findings guided the evaluation strategy for validating whether the prototype actually improves upon existing systems.

3. Sports Technology Design (Elvitigala et al., 2024): Identified that poor registration UIs reflect systemic problems in SportsHCI, including the challenge of serving multiple stakeholders (athletes, organizers, coaches).

This validated that the problem space is recognized within the academic community and emphasized the need for human-centered design.

4. Participatory Design Methods (Qi & Yu, 2025): Highlighted that true participatory design means having users help make design decisions, not just testing predetermined prototypes. The paper's emphasis on "designing-by-doing" suggests future iterations should move toward co-design sessions where athletes actively participate in creating solutions.

5. Personalization in E-commerce (Adaji, 2017): Explored how different user types want different experiences—some want extensive details while others prefer quick checkout. This insight could enable offering different paths for analytical runners versus experienced racers. The paper also cautioned about the ethical line between helpful recommendations and manipulative nudging.

Conclusion

The three research methods converged on consistent themes: users are frustrated with repetitive data entry and poor navigation (90% abandonment rate), they want an Amazon-like streamlined experience with saved information, and the literature confirms these aren't just local complaints but recognized systemic issues in SportsHCI. The research established both the problem validation and solution direction while providing evidence-based methods for implementation and evaluation.