



# MOBILE 2024

## 5TH INTERNATIONAL CONFERENCE ON HUMAN-CENTERED DESIGN, OPERATION AND EVALUATION OF MOBILE TECHNOLOGIES

Jointly held under one management and one registration with HCI International 2024

### HCI International 2024

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<https://2024.hci.international/mobile>

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With the rapid advancements in mobile technology, our devices must seamlessly integrate into our lives while catering to our needs, aspirations and behaviours. Human-centered mobile applications bridge the gap between the digital and physical realms, ensuring that technology augments our capabilities while staying within ethical boundaries. As our mobile devices evolve, human-centered design, operation and evaluation of mobile ecosystems empower and enrich our lives and ultimately shape a future that harmoniously intertwines innovation with humanity's intrinsic values.

With a focus on addressing these diverse facets of the mobile ecosystem, MOBILE aims to facilitate the exchange of ideas, insights, and best practices among researchers, practitioners, industry professionals and government to discuss the latest trends, share insights, and showcase innovations that are shaping the mobile landscape and influencing various domains.

**We encourage submissions on any mobile technologies and research that bring relevance to Human-Computer Interaction. Relevant topics include (but are not limited to):**

- **Mobile applications for smart networks and services (5G/6G):** The deployment of 5G networks allows for faster data speeds, and lower latency, and enables new types of real-time communication and interaction in our everyday life.
- **Adaptive user interfaces for mobile displays (smart watches, foldable, flexible screens):** Small, foldable, and flexible screens in mobile devices create new design opportunities, leading to more adaptable user interfaces.
- **Mobile Augmented Reality and Virtual Reality:** Mobile applications are integrating AR and VR technologies to provide immersive experiences in gaming, education, and virtual shopping and mobile commerce, both at specific locations and on the go.
- **Natural interaction for mobile devices:** Natural interaction methods such as gestures and voice commands are becoming increasingly popular, reducing the need for touch-based interfaces.
- **Biometrics:** Mobile devices now have advanced biometric features like facial recognition and fingerprint scanning, creating new opportunities for user authentication, health monitoring, and other applications.
- **Personalized UX for mobile devices:** Use of novel approaches, such as AI and ML, for reasoning on individual user behaviour and preferences, enabling apps to offer personalized content and experiences.
- **Mobile in the edge-fog-cloud continuum:** Mobile devices and software constitute an integral part of the edge-fog-cloud continuum involving processing data closer to the source, reducing latency and enabling faster response times for real-time applications.
- **Internet of Things (IoT) integration:** Mobile devices are becoming more and more like central hubs for IoT devices, enabling users to manage and oversee various aspects of their environment using their smartphones.
- **Mobile energy efficiency:** Optimizing mobile applications to be more energy-efficient is a priority, as it prolongs battery life and reduces environmental impact.
- **Location-Based Services:** Mobile apps are using location data to provide context-aware and location-specific services, improving user experience.
- **Mobile security and data privacy:** New technologies like blockchain and federated learning are being explored to enhance mobile security, improve data privacy, and enable secure transactions.
- **Cross-device experiences:** Transform mobile devices into versatile tools with seamless cross-device experiences, including cross-platform synchronization, context-aware interactions, and enhanced collaboration with larger screens.
- **Autonomous mobile agents:** Indisputably mobile devices constitute a useful assistant in our daily tasks. AI evolution has opened new horizons for autonomous mobile agents to efficiently improve our daily activities.
- **Mobile usability and testing:** Rigorous but in tandem agile usability assessment practices (e.g., AB tests) help identify usability issues early in the design process, leading to more user-friendly mobile applications.
- **Visual analytics of mobile big data:** Collecting, analyzing and visualizing user data provides insights into user behaviour, helping a diversity of practitioners (from developers to marketers) refine their applications or strategies to better meet user expectations.

- **Mobile accessibility:** Ensuring mobile applications are accessible to users with disabilities involves evaluating and improving features such as screen readers, voice controls, and text-to-speech functionality.
- **Mobile application Quality of Experience (QoE):** New methods for measuring the QoE of mobile applications considering the network characteristics and detecting when and where degraded network conditions actually impact UX.
- **Enhanced mobile entertainment:** Creative industry mobile applications based on XR technologies and adaptive content delivery towards new immersive and personalised experiences.
- **Mobile retail and m-commerce:** New methods and tools for enabling immersive shopping (e.g., virtual try-ons) and leveraging mobile transactions (e.g., secure mobile payment methods).
- **Mobile applications for education and e-learning:** Novel approaches such as AR-based learning, on-the-go access to learning materials, etc., can leverage today's education.
- **Mobile applications for manufacturing:** With the abundance of IoT devices in the manufacturing process, mobile applications have become an invaluable tool for shopfloor management, enabling real-time monitoring of production processes, predictive maintenance, and remote management of factory operations through IoT device integration and cloud computing.
- **Mobile emergency services and disaster management:** The evolution of mobile networks and applications can foster disaster relief operations acting as key enablers for a diversity of functionalities which are critical for civilians or the first responders (e.g., alerts and notifications, location tracking, etc.)
- **Mobile applications for travel and tourism:** Mobile devices have become an indispensable assistant for travel planning and cultural expiration, paving the ground for novel approaches in this domain.
- **Mobile communication and social media:** The current capabilities of mobile devices constitute the foundation for new means of real-time collaboration and communication in several different domains, while there is more space for social networking application evolution encompassing new features like live streaming, Stories, and personalized content feeds.
- **Urban mobility:** Mobile applications offering real-time data on public transportation, traffic, and parking, contributing to more efficient urban mobility.
- **Smart control via mobile devices:** Mobile applications that act as central control hubs for managing IoT devices within smart places (home, workplace, factories), including lights, thermostats, security systems, and more.
- **Mobile health care and telemedicine:** Healthcare practitioners can remotely monitor and diagnose patients using mobile devices that collect and transmit vital health data. Additionally, biometric sensors and data analysis can be used to develop new health-related applications that provide insights into fitness, nutrition, and well-being.
- **mGovernment:** Governance can be made more transparent and efficient with novel mobile applications for citizen engagement, digital identification and authentication, mobile-based e-voting systems, and real-time data collection for policy-making, promoting inclusivity and a participatory approach to governance.
- **Mobile marketing:** Mobile marketing has transformed how businesses connect with audiences. AI and immersive technologies offer new opportunities for dynamic approaches, from tailored communication to AR experiences.
- **Mobile finance:** Mobile devices are now the primary means of conducting financial transactions, from digital wallets and contactless payments to mobile banking and micro-investing. Emerging financial trends such as cryptocurrency and NFTs, open banking, embedded finance, etc., pave the way for new innovative mobile approaches to thrive.

Submission deadlines are available at the  
HCII 2024 website:

<https://2024.hci.international/submissions.html>

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