HOW CRYPTOCURRENCY USERS CHOOSE & SECURE THEIR WEBSITE

THE UNIVERSITY OF THE WEST INDIES

BACKGROUND:

THIS STUDY INVESTIGATES HOW CRYPTOCURRENCY USERS SELECT AND SECURE THEIR WALLETS, FOCUSING ON USABILITY AND SECURITY. PRESENTED AT CHI 2024, THE RESEARCH CONTRIBUTES TO THE HUMAN-COMPUTER INTERACTION (HCI) FIELD BY ANALYZING THE SELECTION BEHAVIORS AND SECURITY PERCEPTIONS OF DIFFERENT WALLET TYPES.

METHODOLOGY:

INTERVIEWS: CONDUCTED WITH 24 CRYPTOCURRENCY USERS RECRUITED FROM SOCIAL MEDIA AND DISCORD CHANNELS.
FOCUS AREAS: WALLET CHOICES, SECURITY MEASURES, AND USABILITY CHALLENGES. DATA COLLECTION: INTERVIEWS LASTED 60–90 MINUTES, ANALYZING WALLET USAGE ACROSS DEVICES

RESULTS:

WALLET CHOICE FACTORS: USERS OFTEN CHOOSE WALLETS BASED ON TRANSACTION COMPLEXITY.
SECURITY CONCERNS: PHISHING AND USABILITY ISSUES INFLUENCE CHOICES.
SOCIAL FACTORS: SOCIAL INFLUENCES PLAY A SIGNIFICANT ROLE IN WALLET SELECTION.

DISCUSSION:

SECURITY VS USABILITY: USERS BALANCE THESE FACTORS DEPENDING ON TRANSACTION TYPE. HARDWARE WALLETS ARE SECURE BUT LESS USABLE WHILE MOBILE WALLETS OFFER CONVENIENCE AT THE COST OF SECURITY.

SMART CONTRACT WALLETS: PROVIDE SOCIAL RECOVERY BUT PRESENT CHALLENGES IN TRUST AND DELEGATION OF FINANCIAL ASSETS.

CONCLUSION:

USERS DIVERSIFY THEIR WALLETS TO MINIMIZE RISKS, USING DIFFERENT TYPES FOR VARIOUS PURPOSES.

RECOMMENDATIONS:

IMPROVE SECURITY ALERTS IN SELF-CUSTODIAL WALLETS.
ENHANCE SOCIAL RECOVERY MECHANISMS.
IMPROVE USER INTERFACES FOR HARDWARE WALLETS TO BOOST USER CONFIDENCE.

Cheat Codes Supporting Player Fear & Self-regulation

1 BACKGROUND

The study, by leading HCI researchers from universities in Germany, the Netherlands, the UK, and Canada, was presented at CHI '24, a top HCI conference in Honolulu.

2 METHODOLOGY

Participants were divided into two groups—those who used cheat codes and those who didn't. Stress and satisfaction were measured using surveys and regression analysis.

3 RESULTS

Cheat codes reduced stress for state-oriented players but didn't affect enjoyment or skill. Cheat users had better overall performance.

4 DISCUSSION

Cheat codes helped manage stress without impacting enjoyment or performance, especially for players struggling with self-regulation.

5 CONCLUSION

Cheat codes support stress reduction without compromising enjoyment or performance, benefiting players with self-regulation challenges.

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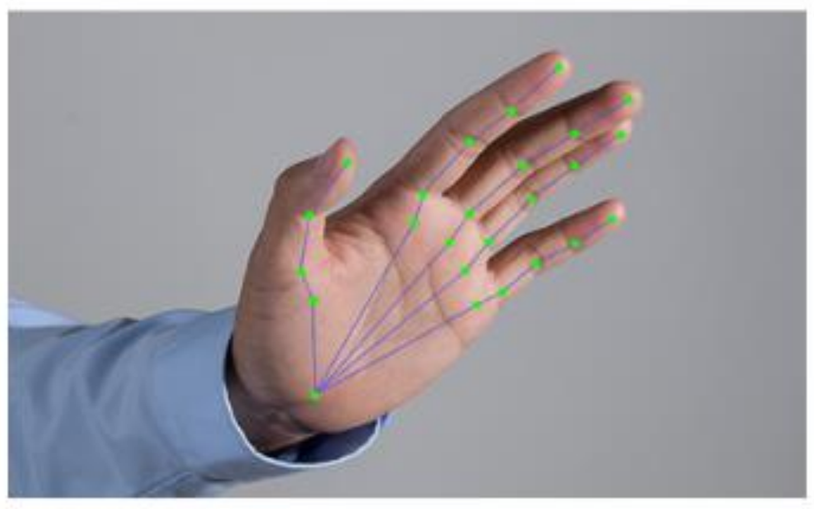
EITPOSE: WEARABLE AND PRACTICAL ELECTRICAL IMPEDANCE TOMOGRAPHY FOR CONTINUOUS HAND POSE ESTIMATION

BACKGROUND



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Affiliations: The authors come from prominent institutions, such as Carnegie Mellon University, MIT CSAIL, Northwestern University and are active in fields related to Human-Computer Interaction (HCI)

Publication: This paper was presented at CHI 2024, a prestigious conference focused on Human Factors in Computing Systems.

Focus: Hand pose estimation using Electrical Impedance Tomography (EIT) in a wrist-worn device.

METHODOLOGY

Electrical Impedance Tomography (EIT):
- Uses 8 electrodes on the forearm to track hand pose by measuring internal impedance changes.
- 12 hand poses were tested with ground truth verified using a camera-based system.

Sensing Board & Wristband:
- 8-electrode setup for accurate signal capture, with noise reduction filters and an adjustable wristband for consistent contact.

Data Collection:
- Tested on 22 participants performing 12 hand poses.
- Data collected in single, cross-session, and cross-user scenarios.

Machine Learning:
- Processes signals to predict hand joint positions and recognize gestures.

RESULTS

- EITPose achieved a mean per-joint positional error (MPJPE) of 11.06 mm for within-session hand pose estimation, 17.81 mm across sessions, and 18.91 mm across users.
- It outperformed other non-optical systems like Tomo (which achieved 38.8% accuracy) in cross-user gesture recognition with 67.3% accuracy.
- The device demonstrated low power consumption (0.3W) and a slim form factor, making it practical for real-world applications.

Actual Class (%) \ Predicted Class (%)	Relax	Fist	Stretch	Right	Left	Thumbs Up	Spiderman	OK
Relax	98.5	0.0	0.0	1.5	0.0	0.0	0.0	0.0
Fist	0.0	94.5	0.0	0.0	0.0	5.5	0.0	0.0
Stretch	0.0	0.0	90.1	0.0	1.4	0.0	0.0	8.5
Right	1.4	0.0	0.0	98.6	0.0	0.0	0.0	0.0
Left	0.0	0.0	0.0	0.0	98.5	0.0	0.0	1.5
Thumbs Up	0.0	11.3	0.0	0.0	0.0	88.7	0.0	0.0
Spiderman	1.3	0.0	0.0	0.0	0.0	0.0	97.4	1.3
OK	1.4	0.0	12.7	0.0	0.0	0.0	1.4	84.5

Actual Class (%) \ Predicted Class (%)	Relax	Fist	Stretch	Right	Left	Thumbs Up	Spiderman	OK
Relax	82.4	0.0	0.0	1.5	0.0	0.0	11.5	4.6
Fist	0.5	59.0	0.0	3.8	0.0	33.1	3.6	0.0
Stretch	0.3	0.0	50.0	0.0	2.7	0.0	10.7	36.3
Right	1.5	0.0	0.0	73.3	0.0	17.8	3.7	3.7
Left	2.3	0.0	0.0	0.0	83.5	0.0	0.0	14.3
Thumbs Up	1.6	16.9	0.0	4.4	0.0	76.6	0.5	0.0
Spiderman	6.7	1.6	4.8	2.2	1.1	2.4	69.1	12.1
OK	3.0	0.0	15.7	0.3	1.7	0.0	10.8	68.5

DISCUSSION

EITPose demonstrates the potential for privacy-preserving hand pose estimation in wearable devices. Its low-power consumption and slim design make it viable for consumer products, especially in applications like virtual reality, gaming, and healthcare. However, Performance drops in cross-session and cross-user scenarios, with limitations in spatial resolution due to the limited number of electrodes. Further improvements in machine learning models and electrode design could enhance accuracy.

CONCLUSION

EITPose offers a promising approach to continuous hand pose tracking without relying on cameras, combining privacy, accuracy, and power efficiency. Its development sets a new direction for wearable sensing in HCI. The research is crucial for advancing privacy-conscious wearable technologies and could influence future designs in wearable computing and human-computer interaction fields.

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