

## Proposal for Independent Study

Student Name: \_\_\_\_\_

Course no. 05-680 Independent Study      Sec. \_\_\_\_\_      Number of Units \_\_\_\_\_

Semester/yr: Spring \_\_\_\_\_      Summer \_\_\_\_\_      Fall \_\_\_\_\_

Instructor(s) \_\_\_\_\_

Instructor(s) email \_\_\_\_\_ Instructor(s) phone no. \_\_\_\_\_

### Proposal:

**Provide below a general overview (2-3 paragraphs) of the Independent Study, including background and an introduction to the problem that will be investigated.**

The project is about cryptocurrency security and how to educate users about basic rules when trading digital currency online. Throughout 10 interviews with users who have various knowledge levels of digital wallet management, the research team was working on examining users' prior knowledge about digital wallet security and evaluating their current user password recovery methods. The overall goal of the project is to conduct multiple studies on diverse populations to probe (1) what modes of wallet key management methods people prefer, and (2) the perceived tradeoffs in these methods.

The previous pilot user studies mainly focus on user perception in evaluating user password recovery methods with a focus on cryptocurrency wallets. These user studies establish a solid foundation for this semester's further user research. Through analyzing these users' responses, the project aims at discovering a mental model related to people's digital asset management methods. Through the comparison between user responses between novice and expert users, the research team tries to discover the misconception of novice users when applying the key management methods and summarizes some high-level insights.

After identifying these users' common needs and confusion during these management methods, the research could develop some new approaches to educate these users to have better solutions to these key management methods, more importantly, it would be beneficial to teach users to know about different key management method and how to choose the more appropriate one based on their current knowledge level. (if time allows, in order to create better online training materials for these users, it would be helpful to conduct cognitive task analysis with novices and experts to find out targeted knowledge components and then decide the learning processes that could be effective to achieve these KCs.)

**Learning Objectives:**

**Provide a description of the learning objectives. The learning objectives should detail what you think you'll better understand (or be able to do) at the end of the Independent Study that you didn't know (or couldn't do) before. Be specific.**

The learning goals of this project are,

At the end of the project, 1) I will be able to explain what is the blockchains and seed phrases.

2) I will be able to compare key management methods and provide suggestions to different users.

Given the previous user study reports conducted by other students, I will be able to analyze and conclude the user interview results from the pilot tests. Then I can classify and interpret some user data by statistical analysis methods into a final report.

Given the opportunity of conducting user interviews, I will be able to draft an interview protocol with related research questions about crypto wallet security like what are people's common misunderstandings when managing their digital assets.

Given the opportunity of conducting user interviews, I will be able to develop and conduct the think-aloud with experts and novice learners about their experiences with general seed phrase-sharing practices with others.

**Deliverables:**

**Summarize the deliverable artifacts. Examples may include: research paper; summary report or documentation; prototype hardware and/or software; tool or application development; extension or enhancement; formal presentation; some combination of these artifacts (please include a complete list of references)**

The deliverables will be

1. A summary report of interview findings and insights. The documentation process book of the methodology. The report might be used for the further research paper.

2. A detailed statistic analysis of collected data and evaluate the interview findings in a quantitative method.

**Work Plan Schedule:**

**Provide a week by week schedule of what you plan to do and accomplish. For each deliverable include the due date.**

Meet with instructors each week

Week 1: Evaluate and study previous students' interviews results

Week 2: Summarize the research findings and analyze qualitative interviews

Week 3: Summarize the research findings and analyze qualitative interviews

Week 4: Literature reviews on digital trading management

Week 4: Based on the users insights, draft a new protocol and survey content for another focus group interviews

Week 5: Based on the users insights, draft a new protocol and survey content for another focus group interviews

Week 6: Publish interviews on prolific or conduct in-person user interviews with selected participant

Week 7: Continue user interviews and start to sort out the raw data

Week 8: Collect and evaluate the user interviews results.

Week 9: Compile and conclude high-level interview insights

Week 10: Compile and conclude high-level interview insights

Week 11: Draft the final report of qualitative research

Week 12: Submit the final report of qualitative research

**Approvals:**

I agree to complete the above-described independent study and provide the final deliverables on the date specified above.

Student Morgan Date 01/23/2023  
Signature

I agree to oversee the above-described independent study and deliver the final grade to the HCI program administrator on or before the above date.

Instructor \_\_\_\_\_ Date \_\_\_\_\_  
Signature

HCI Program Advisor \_\_\_\_\_ Date \_\_\_\_\_  
Signature