

# Preliminary Usability Test Results

## Premortem Application

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Michigan Tech

# What is a Premortem?



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# Testing Process

## Structure of the Test Session

### 1. Briefing

1. Purpose of test
2. Procedure
3. Their role (e.g., we are not testing you)
4. Approximate length
5. Their rights (privacy, data handling, stopping)

### 2. Pre-task Interview

1. Participant experience, familiarity with the pre-mortem (if any)

### 3. Task Moderation

1. Participant performs task
2. Moderator listens, takes notes, probes where necessary, and may provide assistance when needed

### 4. Debrief after each task (Not sure if I should do... may bias subsequent tasks?)

### 5. Final Debrief

## Conditions Legend

1. Facilitator-Texas, Team member-Michigan
2. Facilitator-Michigan, Team member-Texas
3. Team member-Texas, Facilitator-Michigan
4. Team member-Michigan, Facilitator-Texas

**Facilitator first:** A, B → **code order 1**

**Team Member first:** C, D → **code order 2**

Monday 4/12 (Richard & Colin)	Tuesday 4/13	Wednesday 4/14 (Scott & Dominic)	Thursday 4/15	Friday 4/15 (Jonah & Richard)
1500 → (A)		1500 → (C) * (Jonah & Dominic)		1700 → (D)
		1700 → (B)		
1700 → (C) *was re-scheduled for Tuesday @ 1400 due to app being down		1900 → (A)		1900 → (B)

# Metrics

- Quantitative
  - Post-Study Satisfaction Survey (Lewis, 1992)
    - I slightly modified the wording to fit an application rather than a system
- Qualitative
  - Probes/Prompts during testing
    - So what happened there?
    - Was that what you expected to happen? (Why or why not)
    - Did you find what you were looking for?
    - Is there anything else you could do at this point?
    - What additional information could have been helpful?
    - Tell me what you're thinking now?
    - Ask them to provide more detail. ("What do you mean by that? Can you tell me more?")



# Data Analysis

- data: data\$Condition and data\$`1`. Overall, I am satisfied with how easy it is to use this app.
  - X-squared = 1.8958, df = 2, pvalue = 0.3875
- data: data\$Condition and data\$`5`. It was easy to learn to use this app.
  - X-squared = 0.875, df = 2, pvalue = 0.6456
- data: data\$Condition and data\$`16`. Overall, I am satisfied with this app.
  - X-squared = 1.5556, df = 2, pvalue = 0.4594
- Also ran a Bayes Factor analysis and found no significant results



# Bug Summary

- No bugs were identified during testing



Facilitator - Google Chrome

Facilitator

hci-dev.cs.mtu.edu:8144/simplepremortem/facilitator/index

### Premortem

- Names
- Discuss Your Plan
- Reasons
- Consolidate Reasons
- Solutions
- Consolidate Solutions
- Review

Wait for the facilitator to start the process.

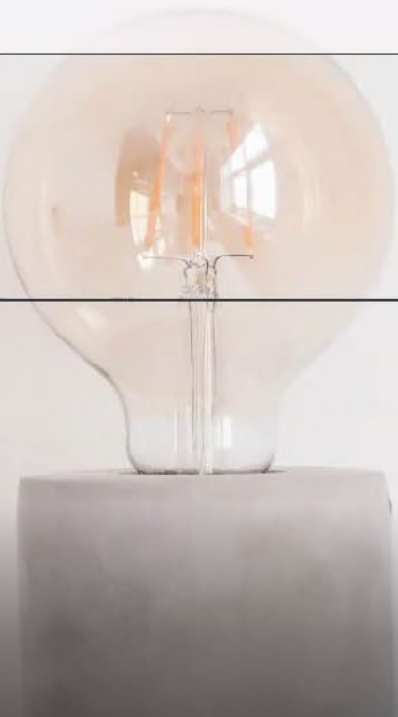
Find out more about the premortem!

Use this button to send responses to the team. Make sure to only type one response at a time.

Send

Use this button to proceed to the next step. Warning: you may not go back.

START Next Step



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Team

https://hci-dev.cs.mtu.edu:8144/simplepremortem/team/index

talk over the plan you intend to use the premortem for as a group

### Reasons:

Instructions: Imagine it is sometime in the future and this plan has completely failed. A catastrophe. Spend a couple minutes and generate as many reasons as you can for why this plan failed. The team will have 2 minutes to submit answers.

Use this space to add to your personal reasons list

submit

- Virus spread too quickly after the removal of mask mandate
- Places of business allowed to reopen at full capacity
- No punishment for not following covid protocols
- Opened up too quickly
- Didn't wait for vaccinations to become widely available before reopening
- People stopped caring about covid protocols
- Didn't take virus seriously enough

### Consolidate Reasons:

Instructions: When asked, submit your top reason. Click vote on a submitted answer if you had a similar answer.

### Solutions:

Instructions: Based on the generated reasons of failure, list possible solutions for any of the reasons of failure. List as many solutions as possible. You will have 2 minutes.

Use this space to add to your personal solutions list

submit

zoom\_0

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- Reasons
- Consolidate Reasons
- Solutions
- Consolidate Solutions
- Review

Find out more about the pre-mortem!

### Names:

Please enter your name.

- Richard
- Colin Arkens

### Discussion:

Talk over the plan you intend to use the pre-mortem for as a group

### Reasons:

Instructions: Imagine it is sometime in the future and this plan has completely failed. A catastrophe. Spend a couple minutes and generate as many reasons as you can for why this plan failed. 2 minutes to submit answers.

Use this space to add to your personal reasons list

submit

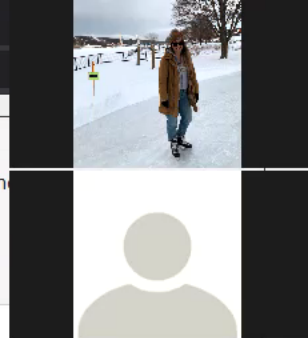
- Public disapproval

Facilitator: Read the above instructions to your team. Make sure team members use the separate input field for this step. Click the timer above to start the two minute countdown.

Use this button to send responses to the team. Make sure to only type one response at a time.

Send

Use this button to proceed to the next step. Warning: you may not go back.



### Reasons:

Instructions: Imagine it is sometime in the future and this plan has completely failed. A catastrophe. Spend a couple minutes and generate as many reasons as you can for why this plan failed. Then submit answers.

Use this space to add to your personal reasons list

submit

- Possibly too quick of a process

### Consolidate Reasons:

Instructions: When asked, submit your top reason. Click vote on a submitted answer if you had a similar answer.

Facilitator:

1) Each person on the team prioritizes the reasons they generated. Then, each team member shares their top reason for failure from their individual assignment. Ask for these to be sent one at a time, one from each team member. After everyone lists their top reasons, you circle again with their next most important reason (that isn't already on the board) and run through the group. Notes: Typically you need to go around the team 2, sometimes 3 times to capture all the reasons from the team.

2) After each reason, ask.. "How many of you also had reason XXXX?" make sure that people with similar reasons click the vote button. Once all of the reasons and votes have been recorded on the board, work with your team to see if any of the reasons can be grouped together (ex: 2 reasons may be grouped as a result of a communication issue). If two or more answers are found to be too similar, keep the best one and remove the others.



Use this button to send responses to the team. Make sure to only type one response at a time.

Send

Use this button to proceed to the next step. Warning: you may not go back.

CONSOLIDATE REASONS

Next Step

# Design Recommendation Summary

- Layout of homepage
  - Needs more information for the facilitator as to what they can expect
  - Should include better information as to what a premortem is and explains the process
- Include a “back” button for the facilitator
- Make the submission boxes more intuitive for users
- Timer should be relocated to better align with the steps in which it is required
- Better layout of next step buttons
  - Suggestions included using popups to aid in recognition
  - Include a bigger buffer at the bottom of the page between the bottom of the page and the next step buttons
- Instruction Overhaul
  - One user remarked that they should be designed as if the user is “dumb”
  - Instructions need to be intuitive enough and act as “handholding” for users, especially if they have had no prior experience with the premortem



# Reference

- Lewis, J. R. (1992, October). Psychometric evaluation of the post-study system usability questionnaire: The PSSUQ. In *Proceedings of the Human Factors Society Annual Meeting* (Vol. 36, No. 16, pp. 1259-1260). Sage CA: Los Angeles, CA: Sage Publications.

**Thank you!**  
Any Questions?