

# Mayhem

## Paper Prototype and Testing Report

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CSE 440  
Department of Computer Science  
University of Washington

## Make a little Mayhem in your world

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### Problem and Solution Overview

Computers aren't just used for writing papers or browsing social networks. Computers can interact with hardware peripherals and other software applications. Computers are seen as a product of the applications that exist on them. Developers see a computer as a tool they can use to make anything happen. Mayhem is our approach to bring that mindset to those who love technology and want to use it to help simplify and automate aspects of their life.

Using Mayhem, you simply select an event and a reaction for that event to create a connection. An event can be anything from when motion is detected with your webcam, the weather changes, you get an email, etc. A reaction can similarly be anything from turning on your lights to going to the next song. Any event can be paired with any reaction allowing the user to effectively tell his computer what he wants it to do, without needing to know how to program!

### Prototype

Because even the most complex automation task can be broken down into sequences of simple event and reaction pairs, our interface does not need to be very complicated. There are three basic tasks that a user needs to be able to easily accomplish:

- Choose/configure an Event
- Choose/configure a Reaction
- Find an existing connection

These three tasks define the home screen (figure 1). On starting the application, the user is shown an alphabetical list of existing connections that s/he has saved, and above them, two big buttons for choosing an event and a reaction.

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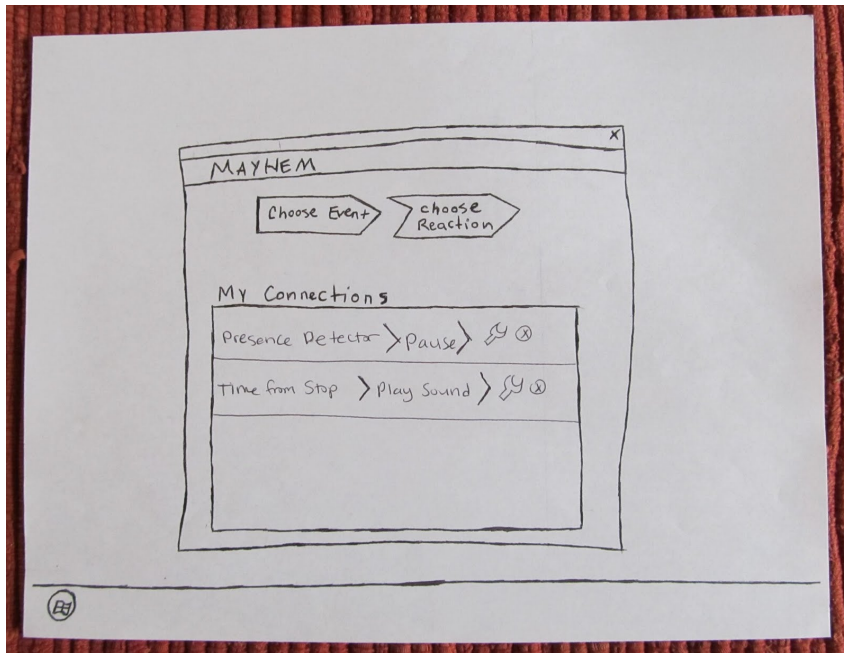


figure 1. Home screen with two connections added.

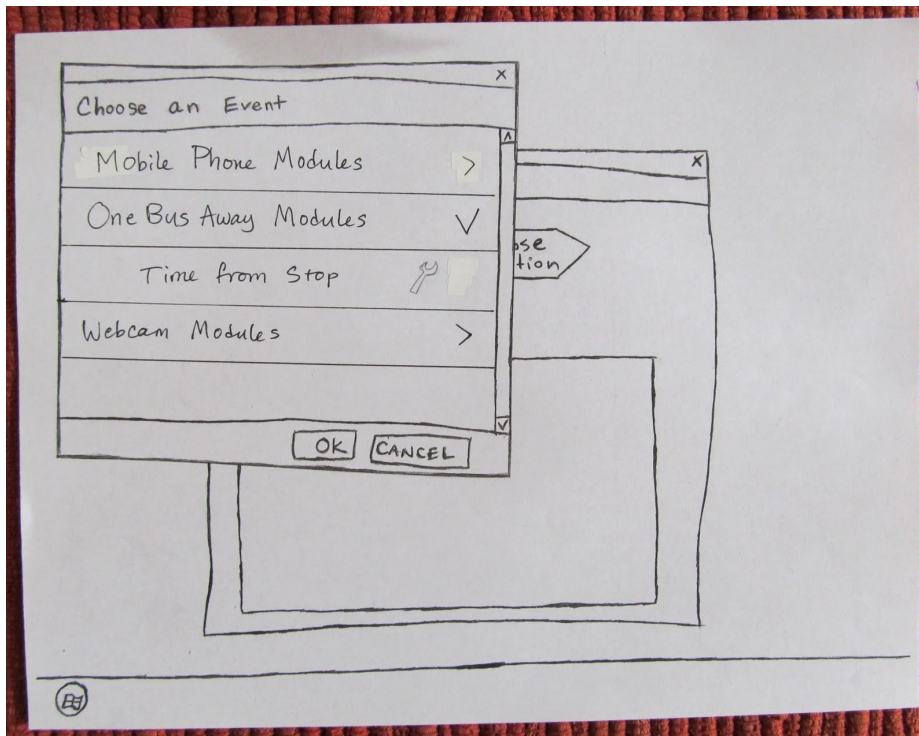


figure 2. Event selection window.

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Clicking the “Choose Event” button opens up a list of events, sorted into packages by application or category. From this list, the user can choose the desired event (figure 2). If the event can be configured, this is indicated by a wrench icon, and another screen will open once the event is selected. Event configuration may vary greatly depending on the desired interaction, so our tasks showcase what we expect to be two common scenarios. In the first scenario, data may be pulled directly from an existing external website and displayed within the application (figure 3).

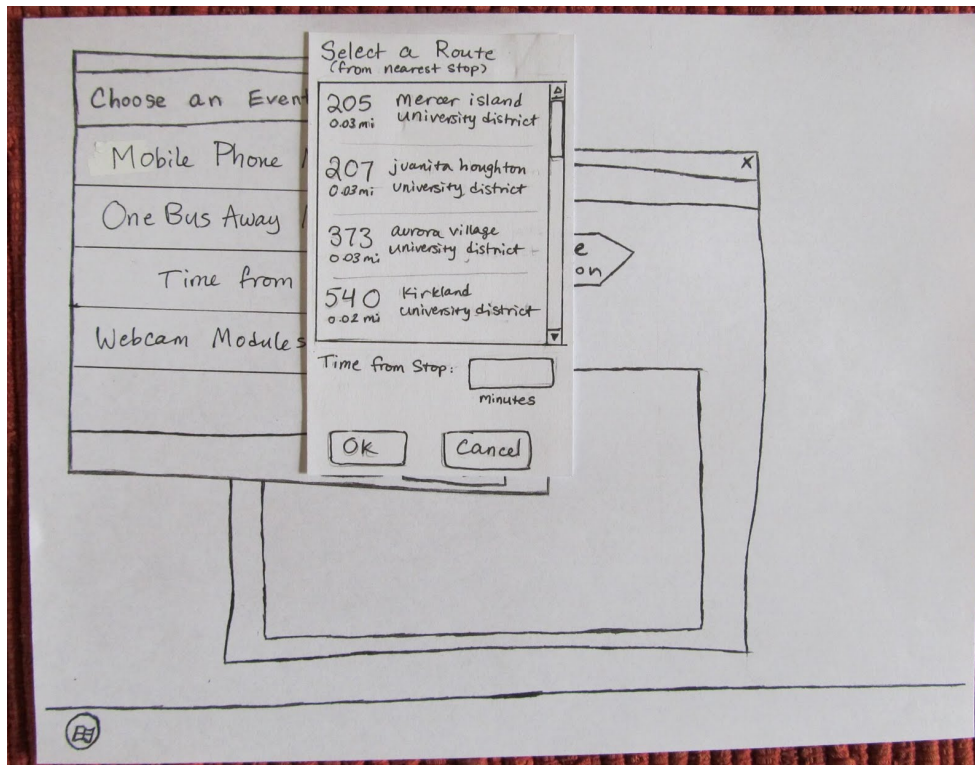


figure 3. Selecting a bus route. Data is pulled directly from the OneBusAway API.

Second, since we expect that many users will want to set up connections that involve the use of their smartphone, configuring a phone-related event on the Mayhem desktop will generate a QR code that users can capture to sync the event to their phone (figure 4).

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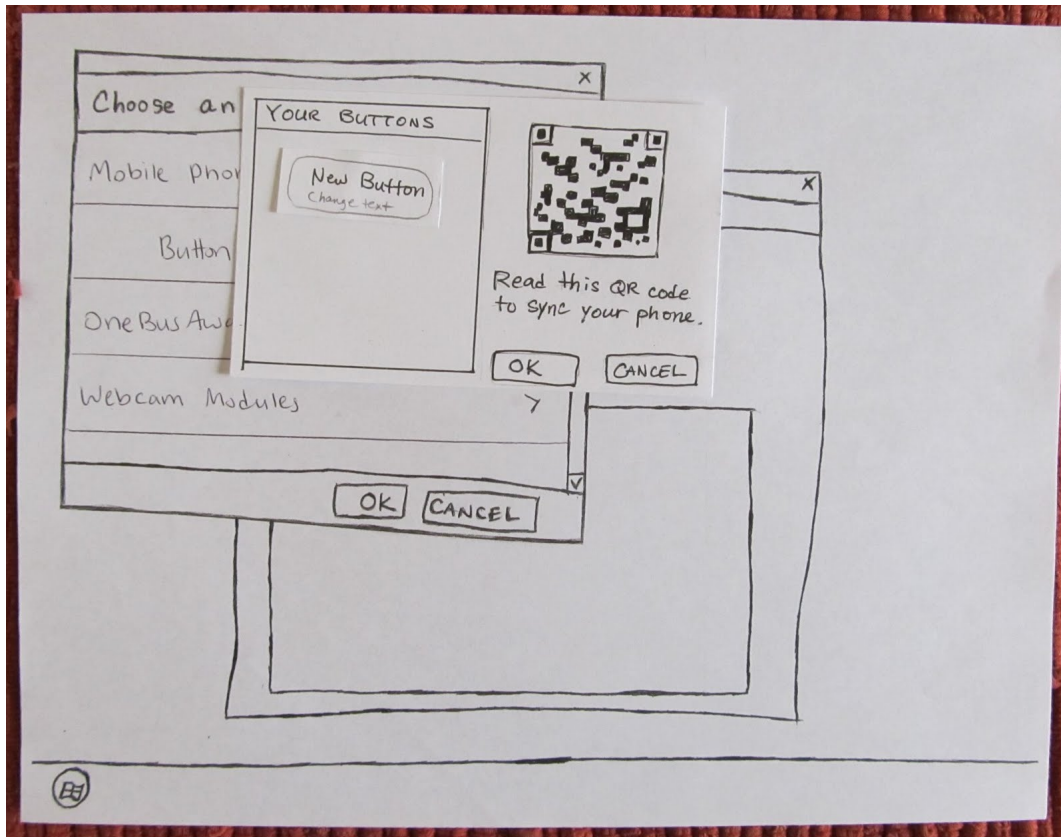


figure 4. Creating a button event for a mobile phone. The button will be created on the phone's screen once the user captures the automatically-generated QR code.

Once the event is selected and configured, the user is taken back to the home screen, where the "Choose Event" button updates to indicate the selected event. The steps for choosing a reaction are the same as the steps for choosing an event, with the exception that once the reaction has been selected and configured, the new connection appears in the "My Connections" window. Here a user can configure the connection (turn it on/off, or add it to a folder) or delete it.

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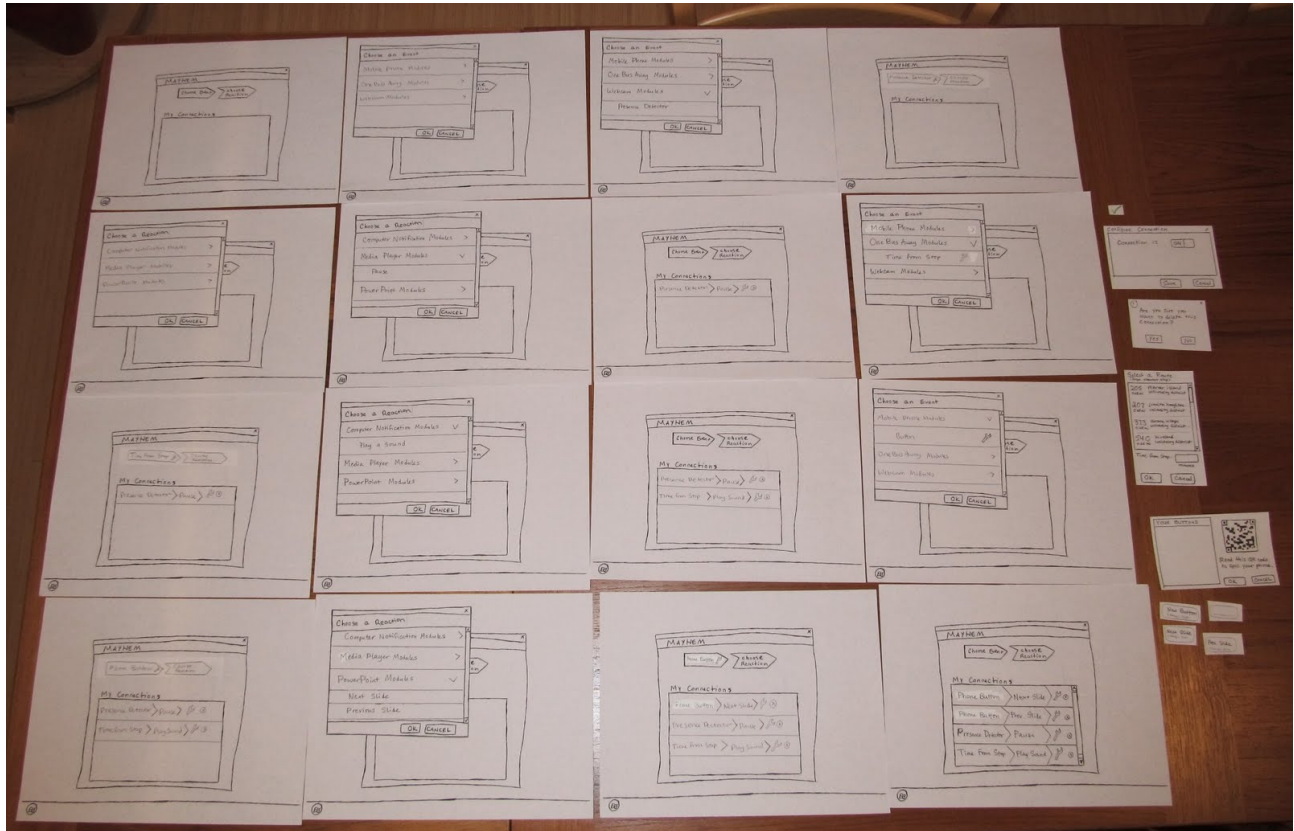


figure 5. Paper prototype.

Obviously, the more someone uses Mayhem, the longer their lists of events, reactions, and connections will be. We chose not to include this in the prototype since we weren't sure how to test it on paper, but we need to ensure that users are always able to easily find their desired modules and connections. Thus, we will add the ability to dynamically filter any list by title, event/reaction name, or keyword/tag. Users will also have the ability to sort groups of connections into custom folders, and be able to download more event and reaction modules through a marketplace-like website. However, since none of these enhancements were integral to our tasks, they were left out of the prototype.

## Testing Method

### Participants

We wanted to find participants that fulfilled two criteria; they should be tech savvy, but not necessarily people who know how to write software. Our first thought was to find people in the

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Allen center, since people there are definitely tech savvy, but they are also very likely to be software developers, so instead we went to the business school building (Paccar Hall) and focused on finding people that were using smart phones, since smart phone users are at least familiar with some new and cool technologies. We also chose people who were not studying with other people, since we didn't want to have them do our test with other people watching or prompting them. Our first participant was a male in his early 20s who was studying Information Systems at UW. He had a smart phone and laptop with him when we approached him. Our second participant was a female in her early 20s who was not in the business school. She said that she had an interest in technology and that she had a smart phone and would like to have more ways to use it. Our third participant was also a female in her early 20s. She was studying with a laptop and using a smart phone when we approached her. She was a marketing major who used technology a lot for school.

### Environment

We tested the participants in Paccar hall at UW. We made sure to tell all of the participants that they did not have to participate in the study if they were too busy or did not want to, since many people in Paccar are there to study. We gave the participants the option of coming to a study room to do the study in a more private location, or to just do it where they were sitting when we approached them. We did this because we didn't know if convenience or privacy was more important to them. The first user chose to come to the private study room, and the second and third users chose to just stay where they were. During the test, we had the person who was running the prototype sit next to the user, and the two people taking notes sat across from the user.

### Task Scripts and Descriptions

Mayhem is a system that empowers users to be able to fully control the world around them using their computer. Any task can be broken down into an event and reaction: when something happens, do something else. Events and reactions can be either physical or software-based. For example, a user might use Mayhem to tell his house lights to turn on when the sun sets, or to check himself in on Facebook when he walks into his favorite local coffee shop.

Mayhem events and reactions are stored in the program as packages of modules. You know that you have installed the following event and reaction packages: Webcam Modules, Media Player Modules, Mobile Phone Modules, Computer Notification Modules, PowerPoint Modules, and OneBusAway Modules.

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### Tasks

Task 1: You are watching a movie on your laptop and don't want to miss a minute of it, even if you have to get up to answer the phone. You know that Mayhem can talk to your webcam to sense when you are not in front of the screen. Set up your computer to automatically pause your movie when you are not there.

Task 2: You are constantly missing the bus because you forget to leave your house in time to make it to the bus stop. Set up your computer to notify you when your bus (207) is 10 minutes away from your stop.

Task 3: You are giving a PowerPoint presentation and would like to control the slides from your smartphone. Use Mayhem to allow you to use your phone to change to the next and previous slides in the presentation.

### Procedure

During the user testing, Jen facilitated the prototype, while Jabili and Meaghan took notes. Jabili took notes on the computer, using the notes form we made, while Meaghan took handwritten notes and added them to the form later.

Jabili read our script to the users to tell them what our application does, and what we hoped to accomplish with it. The script then explains what we hope to accomplish by doing the test, encourages the user to think aloud while using the interface, and assures the users that they are not being tested, that the interface is being tested. We then showed the users the prototype and explained how to interact with it.

After this, Jabili read the first task to the user and showed them where they could reference the task if they needed to. The user performed the first task before being told the second task, and performed the second task before being told the third task, as to not overwhelm them. If the users got confused, we would answer their questions, and ask them what they would expect to happen instead of what did happen.

After the test, we asked the users if they would tell us what they thought of the interface, and what things they thought were good or bad. We then thanked them for their time and concluded the test.



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### Test Measures

The goal of our testing was to see how users interact with our interface. We really wanted to see if the interface was intuitive for users, if they understood what they needed to do to accomplish the tasks. We also used the user testing to find better and more intuitive ways to do things, we would ask the users what they thought should have happened instead of what did happen. We took notes about every click on our interface so that we could easily find recurring problems between users. After the tasks were all completed we asked for the users thoughts to get more general feedback, which would accompany the specific feedback we got during the tests.

### Testing Results

#### Main Framework

Navigating from one screen to another seemed trivial to most of the users. One user did have trouble at first, selecting their event again instead of selecting Choose Reaction. She was very confused until she saw the Choose Reaction button and then understood how to navigate from then on. She did however note that she did not feel that she had wasted any time doing this because she always plays around with an application to figure out how it works.

#### Application Terminology and Messages

Most of our users had trouble with the terminology that we are using in our interface. Mainly they did not understand how to split their tasks into events and reactions, and said that they did not know what an event or a reaction was. Although they figured it out based on what happened when they clicked on Choose Event or Choose Reaction, they said it would make more sense if it was called something else. One of the users did not understand that she would have to input the reaction for the second task because it was OneBusAway, she thought just the event was all that was necessary. From this we learned that we need to be clearer about what an event or reaction is, or change the names to something more intuitive. We also will need to name our packages and modules something more intuitive.

We saw a problem with users not understanding that once the event and reaction had been chosen and it appeared under My Connections that anything would happen. One user said that she did not know what she had done and could only assume that the connection would actually work. We need to find a way to communicate to the user that once it appears in My Connections the connection will work and they have completed their task.

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### Phone Configuration Screen

The biggest problem that we found from our user testing was on the phone button configuration screen. One user thought that clicking New Button should then prompt him to select a button on his phone instead of making a button that will go on his phone. The other two users thought that it was confusing as well but didn't give as specific of feedback, they all got to the correct behavior of making the button in the end, but this was not at all intuitive for them. Additionally, two of the users completely ignored the scanning of the QR code, and the user that did see it wasn't very familiar with how QR codes work. The results from this screen were consistently negative, we need to make it easier to understand how to add a button to the screen, and make is clear what adding a button to the screen means. We also need a more obvious way to tell the user to scan the QR code, we need to do this in a way that they cannot ignore.

### OneBusAway Configuration Screen

This configuration screen wasn't as confusing to users as the phone configuration screen. Most users did not have a problem using this screen, but we did have one problem, one of the users was confused why the screen did not ask her for her stop, she didn't know if it would know where she is, but assumed that it just knew where she was and would use that information. This is something we did not consider and should have. It would make more sense to have a field for this since some users will be looking for a different bus stop than the computer might guess.

## Interface Revision

After doing our user testing we found that there were a few things that we needed to revise on our interface.

One problem we saw is that people were surprised after they selected the event and reaction and it was magically put into the list and enabled. They didn't expect for the connection to actually work. In order to fix this, we are adding a "success" popup that contains a checkbox to allow the users to "never show this again" (figure 6b).

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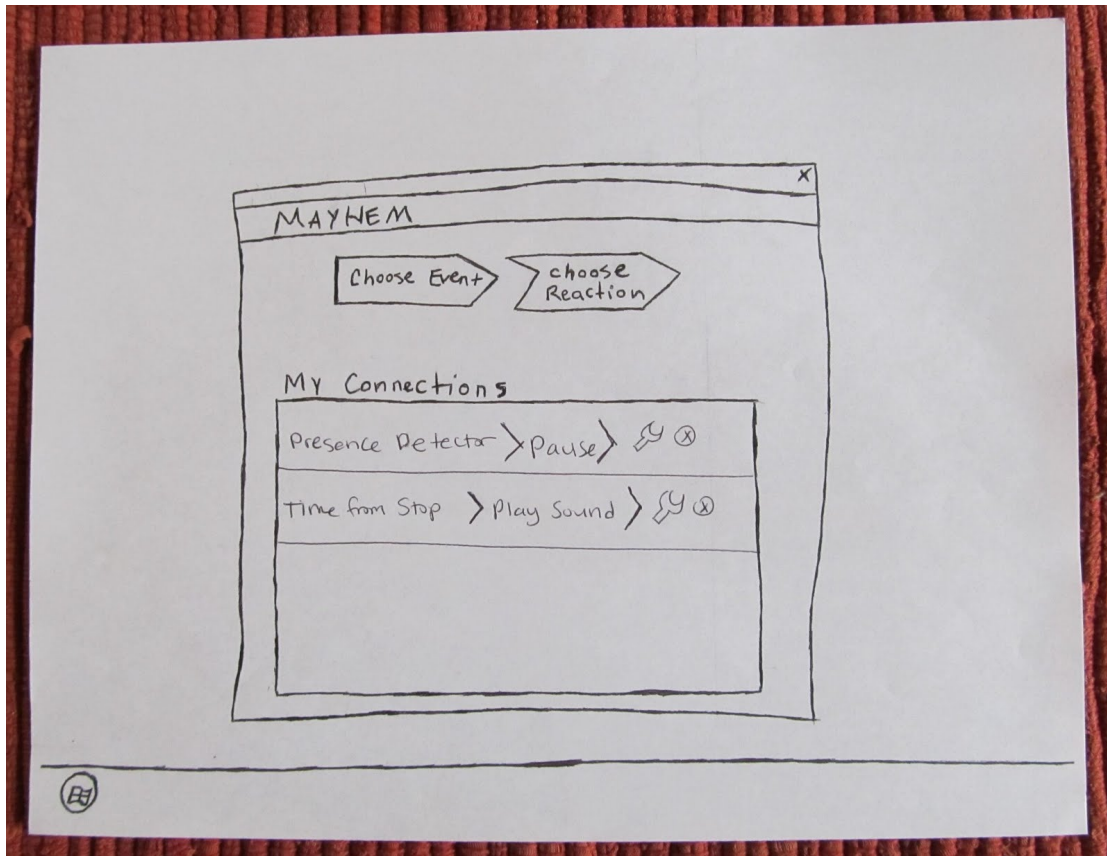


Figure 6a. Original home screen.

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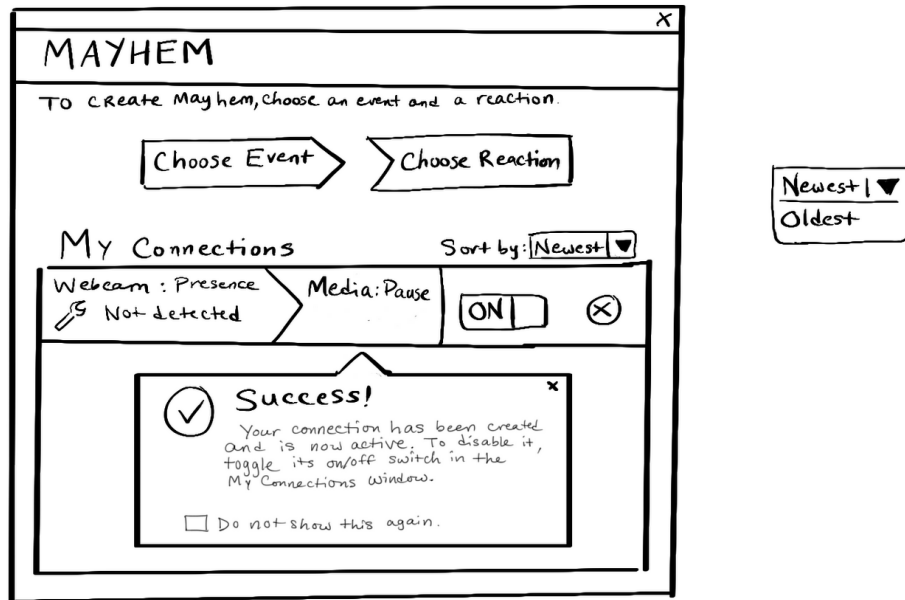


Figure 6b. Revised home screen with notification after a new connection has been created.

Also, nobody clicked on the wrench to open the connection configuration screen to enable or disable the connection. We decided that since there was only the on/off toggle in the configuration screen, we would just put it on the main screen where the wrench icon was (figure 6b).

We noticed that when we asked people to complete a task, they didn't know where to begin. In order to streamline the learning process, we are adding a simple line of explanatory text on the main screen.

We found that when users added connections, it didn't make sense to them to have the list of connections be sorted in alphabetical order. We are changing the order to be newest first by default, but having a switch that allows the connections to be ordered by oldest first (figure 6b).

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In the event list we are also taking all the available modules out of the packages they are part of. The names of the packages were distracting and it was confusing what the terms “package” and “module” meant, while not being a useful thing for users to know. This will also improve usability, since users will now be able to find events and reactions without needing to know what package it came from.

We also drastically modified the experience of pairing phones and adding buttons. In our tests, users consistently overlooked the fact that buttons wouldn't be created on their phones until they scanned the QR code. We realized that we needed to provide a better call to action to prevent users from being able to set up phone button events without ever actually pairing their phones. In our revised interface, if you are opening a phone event configuration dialogue for the first time, then the save button is disabled. Instead of immediately showing the QR code, there is a button that says “Pair with Phone”. When you click on that, another window pops up with some text explaining what you need to do on the phone, and presents the QR code (figure 7b). Clicking “Done” on that window will take the user back to the previous configuration

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screen, where the save button is now enabled.

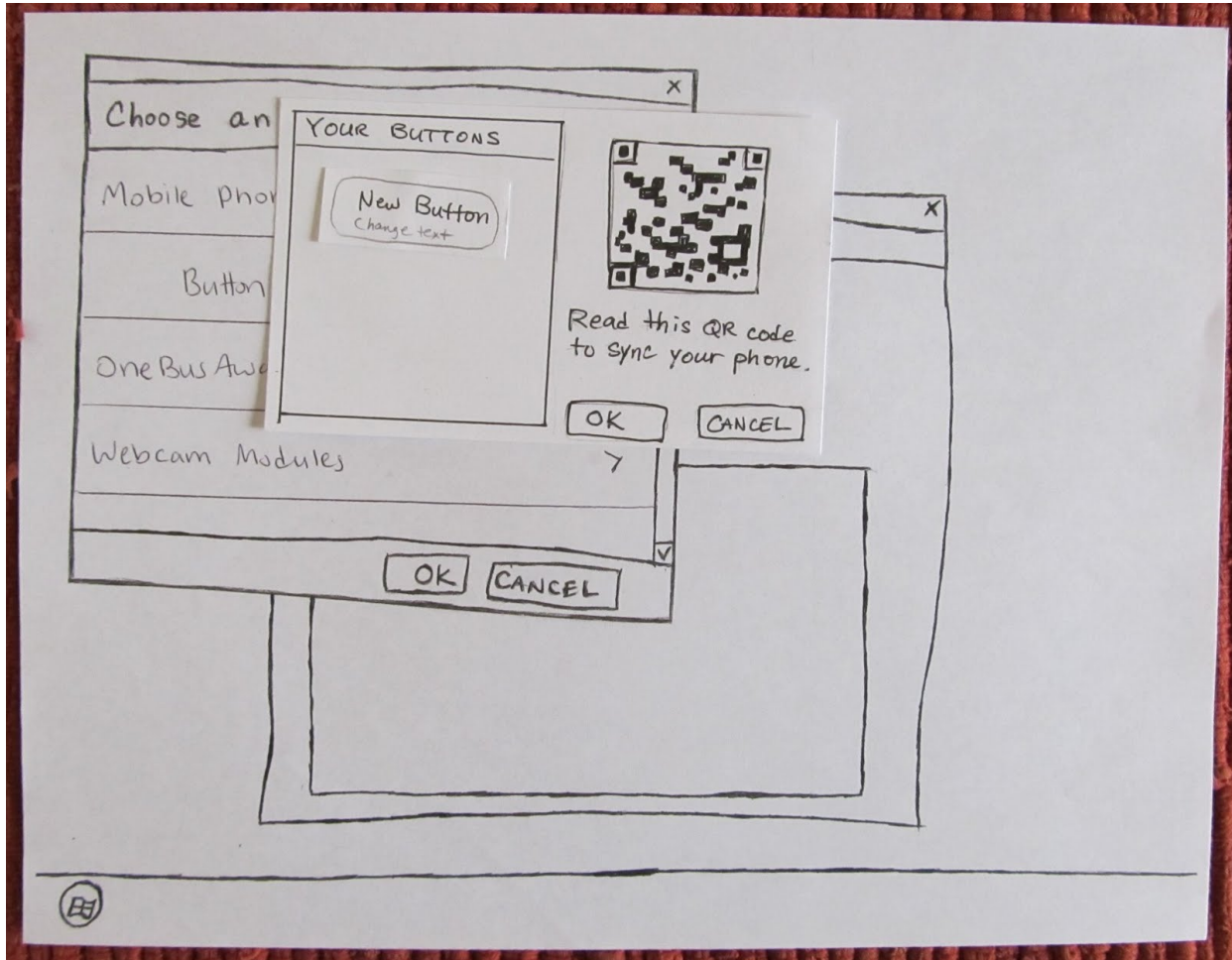


Figure 7a. Original interface for creating a phone button. Users did not understand that they needed to scan the QR code in order to sync the button to their phone.

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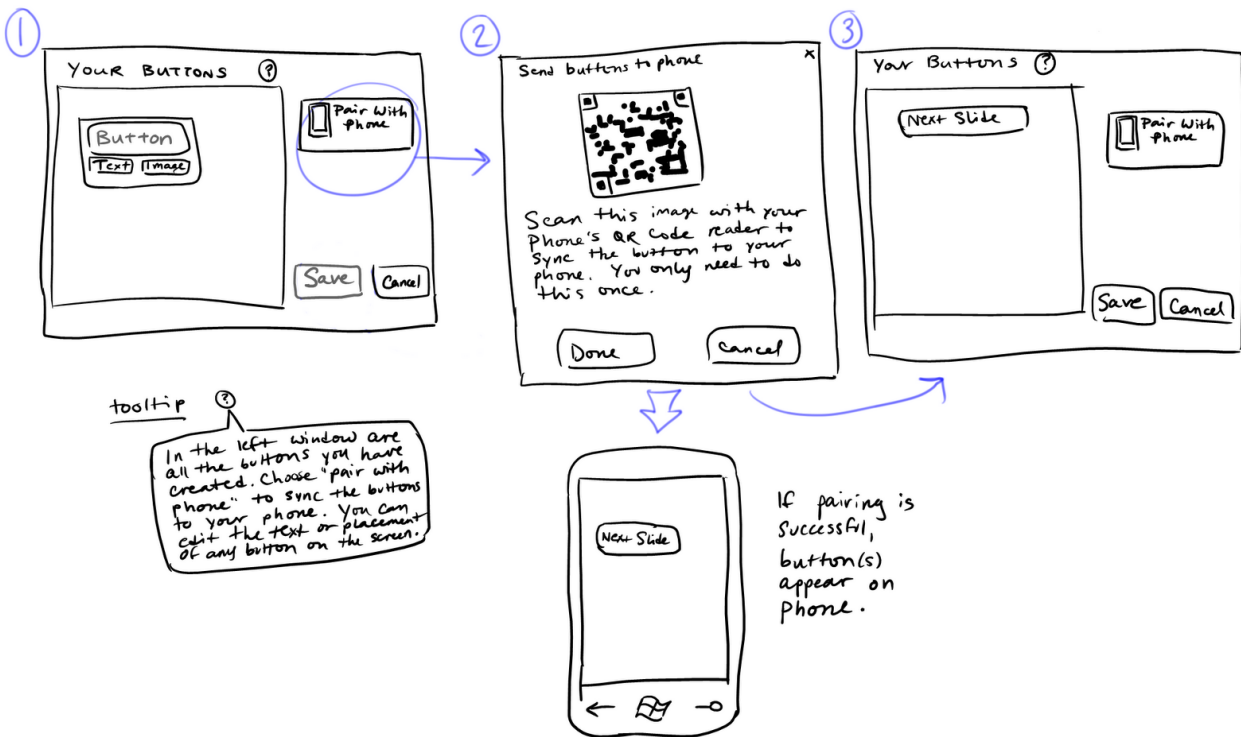


Figure 7b. Revised flow of creating a mobile phone button and syncing it to a phone.

## Discussion

Overall, the actual testing process and the results we have come upon have been very useful in helping to sculpt our design moving forward and to generally solidify our understanding of how users will interact with Mayhem. Strictly looking at the learning opportunity, it has been very valuable to receive direct feedback about certain features as well as the general flow of our design. Even looking completely aside from the information we gained relating to Mayhem, the experience of actually running through the tests has been insightful in and of itself. For example, it was very interesting to see how much a facial expression, small sigh, or shift in body weight from one of us could redirect a test subject to a different path. We learned quite quickly that it was very important to not show any kind of emotion in response to the user's action as to not influence how s/he proceeded. Also, we found it both surprising and enlightening that the problem areas were not necessarily where we expected them to be. For example, despite the simplifications we were forced to make to the main screen to fit it into a paper model format, some of the users still struggled in navigating the window. We had all

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assumed that this step would be trivial to the users, but learned quickly just how hard it is to step back and predict problems when you are so heavily tuned into the designs development.

Looking now more specifically to the feedback relating to our system, the results immediately influenced portions of our design as has been noted throughout this report. Specifically the impact of the user testing has been discussed in the changes we have made to our feedback systems, the phone pairing windows, and some of our general terminology. Our test subjects had very specific comments about each of these features and this provided both a note of what needed to be repaired as well as often a suggestion about what might be a better approach. Even just being able to watch test users think their way through each situation was a very useful tool in evaluating which steps might need additional explanation. This was exemplified well by the third test user re-selecting the “choose an event” tab a second time as a way of playing around with the interface rather than being sure where to go next. The slight surprise on her face made it readily apparent that she knew something wasn’t right, and her thought process to backtrack was made clearly visible by her examination of the window before finding a way to go back. This observation directly led us to include a small line of instructional text directed at helping first time users understand the intended flow of our system. Also, to help these problems more broadly, we broke down several of our steps (including our phone pairing flow) into multiple windows so that each required step must be completed before moving onto the next. As part of this break down process, we also included new feedback popovers to signal to the user when they had successfully created a new connection and that it was now indeed active.

All of that being said we do feel that there were some shortcomings to the paper method that did not allow us to uncover all of the potential flaws with our system. For example, since we were using paper models to display all of our event and reaction choices, it was impossible to clearly present lists of choices to choose between. Instead we were only able to display three events and four reactions and we believe that this may have been overtly leading to our test users. We often got the impression that a user would pick an option not because they felt it was right, but because everything else presented to them was obviously wrong. If their options were not so limited we feel like this may not have been such an easy task and some additional flaws with our terminology would have been pointed out. Regardless, the exercise as a whole has been very insightful both in helping us make design decisions about the interface for Mayhem and enlightening us in general about the testing process.



# Mayhem Usability Test Booklet

This usability tool kit seeks to evaluate the usability of the Mayhem interface. Mayhem is an program than allows you to control the devices in your world to

Fall 2011  
CSE 440  
Department of Computer Science  
University of Washington

Participant #

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## Facilitator Script

Hello,

Welcome to our Mayhem usability study, and thank you for taking the time to participate and assist us.

We are researchers at the University of Washington enrolled in CSE 440. Today you will help us determine the usability of the interface for a program called Mayhem. Mayhem is a system that empowers users to be able to fully control the world around them using their computer. Any task can be broken down into an event and reaction: when something happens, do something else. Events and reactions can be either physical or software-based. For example, a user might use Mayhem to control his house lights and set it up so that they turn on when the sun sets, or to check himself in on Facebook when he walks into his favorite local coffee shop.

Mayhem events and reactions are stored in the program as packages of modules. You currently have the following event and reaction packages: Webcam Modules, Media Player Modules, Mobile Phone Modules, Computer Notification Modules, PowerPoint Modules, and OneBusAway Modules.

Our goal is to gain feedback from participants on ease of using the program, the clarity of the interface, the completion of common tasks, and understand issues that may arise for users. We are studying the design and performance of the program, not your knowledge or skills. We hope to gain data from these studies that will allow us to make informed recommendations for how to improve the program. To help us understand your actions, please talk aloud as you complete tasks to explain your thinking.

At this point, we'd like to ask you to sign a consent form to participate in this study. We'll be taking notes on your interaction with the program but will not retain any identifying data, and the information we collect will only be used by us to improve the program and not for any other purpose.

If you have any questions, direct them to the facilitator at this time. Otherwise, if you are ready, we will begin the study.

Participant # \_\_\_\_\_

## CONSENT FORM

### INVESTIGATORS' STATEMENT

We are asking you to be in a usability study. The purpose of this consent form is to give you the information you will need to help you decide whether or not to be in the study. Please read the form carefully. You may ask questions about the purpose of the study, what we would ask you to do, the possible risks and benefits, your rights as a volunteer, and anything else about the study or this form that is not clear. When all your questions have been answered, you can decide if you want to be in the study or not. This process is called 'informed consent.'

### Purpose and Benefits

The purpose of this study is to identify issues of usability within the interface of the Mayhem program.

### Procedures

Participants in the study will be asked complete tasks on a paper prototype of the Mayhem program.

### Other Information

The names of individual participants will not be used in the tabulation of the results in order to ensure both anonymity and confidentiality. You are free to refuse to participate in the study and may withdraw at any time without penalty.

\_\_\_\_\_  
Signature of Facilitator

\_\_\_\_\_  
Date

\_\_\_\_\_  
Signature of Facilitator

\_\_\_\_\_  
Date

### SUBJECT'S STATEMENT

This study has been explained to me. I volunteer to take part in this research. I have had a chance to ask questions. If I have questions later on about the research I can ask one of the investigators listed above. I will receive a copy of this consent form.

\_\_\_\_\_  
Signature of Subject

\_\_\_\_\_  
Date

Participant # \_\_\_\_\_

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## **Task 1.**

*Please remember to think aloud as you complete the task so we can understand your thought process and rationale.*

You are watching a movie on your laptop and don't want to miss a minute of it, even if you have to get up to answer the phone. You know that Mayhem can talk to your webcam to sense when you are not in front of the screen. Set up your computer to automatically pause your movie when you are not there.

**(When you are done with your task, please say "Done")**

Participant # \_\_\_\_\_

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## **Task 2.**

*Please remember to think aloud as you complete the task so we can understand your thought process and rationale.*

You are constantly missing the bus because you forget to leave your house in time to make it to the bus stop. Set up your computer to notify you when your bus (207) is 10 minutes away from your stop.

**(When you are done, say “Done”)**

Participant # \_\_\_\_\_

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### **Task 3.**

*Please remember to think aloud as you complete the task so we can understand your thought process and rationale.*

You are giving a PowerPoint presentation and would like to control the slides from your smart phone. Use Mayhem to allow you to use your phone to change to the next and previous slides in the presentation.

**(When you are done, say “Done”)**

Participant # 1

Task 1	Do they know what to do?	Do they see how to do it?	Do they understand the feedback?	Comments/ Observations
1. Click on "Create Event"	yes	yes	yes	
2. Choose "Webcam Modules" from list	yes	yes	yes	
3. Click "Presence detector" and "Ok" to confirm	yes	Yes	yes	
4. Click on "Create Reaction"	yes	yes	yes	
5. Select "Media Player Modules" from list	yes	yes	yes	
6. Select "Pause" and "Ok" to confirm	yes	yes	yes	

Subject comments:

- o The task was clear, but the "Choose Reaction" button shouldn't be available initially.
- o A more sequential process would make more sense, so there is only ever one path to create a connection.

Task 2	Do they know what to do?	Do they see how to do it?	Do they understand the feedback?	Comments/ Observations
1. Click on "Create Event"	yes	yes	yes	
2. Choose "One Bus Away Modules" from list	yes	yes	yes	
3. Click "Time from Stop"	yes	yes	yes	
4. Click on bus "207" and write in "10" for time from stop and select "Ok" to confirm	yes	yes	yes	
5. Select "Ok" on the event screen to confirm	yes	yes	yes	
6. Click on "Create Reaction"	yes	yes	yes	
7. Select "Computer Notification Modules" from list	yes	yes	yes	



8. Select "Play a Sound" and "Ok" to confirm	yes	yes	yes	
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Task 3	Do they know what to do?	Do they see how to do it?	Do they understand the feedback?	Comments/ Observations
1. Click on "Create Event"	yes	yes	yes	
2. Choose "Mobile Phone Modules" from list	yes	yes	yes	
3. Name the button	no	no	no	
4. Scan the QR code using your phone	no	no	no	
5. Click "Ok" to confirm	yes	yes	no	Clicked "OK" before syncing phone.
6. Click on "Create Reaction"	yes	yes	yes	
7. Select "PowerPoint Modules" from list	yes	yes	yes	
8. Select "Next"				

- Didn't understand what "Change Text" meant on the button.
- Unsure what is supposed to happen after changing text - was confused when the button went blank.
- Had to ask if "Change Text" actually meant "rename button"
- Didn't understand that syncing was necessary
- Didn't read explanatory text under QR code.

Slide" or "Previous Slide" from list and click "Ok" to confirm	yes	yes	yes	
9. Repeat steps 1-8 with either the reaction that hasn't been created yet.	yes	yes	yes	Did not scan QR code the second time around either

Participant comments:

- o Phone button screen was very confusing - when he was given the phone button configuration screen, he didn't understand what clicking the "New Button" was supposed to do.
- o Expected that clicking "New Button" would open a new window where he could configure/select the actual hardware buttons on his phone. He didn't understand that the button was software-based and had already been created for him.
- o There was no feedback given after configuration was complete (both on task 2/select route and task 3/edit phone button), and no help text or messaging to indicate whether he was doing something wrong.
- o The order in which connections are displayed in the My Connections window is confusing. (For example, after completing the final task) Connections are displayed alphabetically, but that wasn't immediately clear -- he assumed they would display in the order he created them.

Participant # \_\_\_\_\_

<b>Task 1</b>	Do they know what to do?	Do they see how to do it?	Do they understand the feedback?	Comments/ Observations
1. Click on "Create Event"	Yes	Yes	Yes	
2. Choose "Webcam Modules" from list	Yes	Yes	Yes	Paused for a bit looking at the options a little confused
3. Click "Presence detector" and "Ok" to confirm	Yes	Yes	Yes, green check mark indication	
4. Click on "Create Reaction"	Yes	Yes	Yes	
5. Select "Media Player Modules" from list	Yes	Yes	Yes	
6. Select "Pause" and "Ok" to confirm	Yes	Yes	Yes, "because it came up on my connections."	

Participant # \_\_\_\_\_

<b>Task 2</b>	Do they know what to do?	Do they see how to do it?	Do they understand the feedback?	Comments/ Observations
1. Click on "Create Event"	Yes	Yes	Yes	
2. Choose "One Bus Away Modules" from list	Yes	Yes	Yes	
3. Click "Time from Stop"	Yes	Yes	Yes	
4. Click on bus "207" and write in "10" for time from stop and select "Ok" to confirm	Confused	Didn't select 207 First wrote in 10:00 minutes - asked	Yes because of the green check mark	"I'm Assuming it knows where I am?"
5. Select "Ok" on the event screen to confirm	Yes	Yes	Yes	
6. Click on "Create Reaction"	Yes	Yes	Yes	
7. Select "Computer Notification Modules" from list	Yes	Yes	Yes	

Participant # \_\_\_\_\_

8. Select "Play a Sound" and "Ok" to confirm	Yes	Yes	Yes	
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<b>Task 3</b>	Do they know what to do?	Do they see how to do it?	Do they understand the feedback?	Comments/ Observations
1. Click on "Create Event"	Yes	Yes	Yes	
2. Choose "Mobile Phone Modules" from list	Yes	Yes	Yes	
3. Name the button	"Only option, so I'm going to pick button."	No, doesn't initially understand that she has to click it and name the button	Yes	Too complicated
4. Scan the QR code using your phone	Is pretty sure you have to take picture of it, but not sure	No	No	She has seen/heard of what to do with QR code because you can add Black Berry Mobile pins with it – but has never done it before.
5. Click "Ok" to				

Participant # \_\_\_\_\_

confirm				
6. Click on "Create Reaction"				
7. Select "PowerPoint Modules" from list	Yes			
8. Select "Next Slide" or "Previous Slide" from list and click "Ok" to confirm	Yes			
9. Repeat steps 1-8 with either the reaction that hasn't been created yet.				

**Participant Comments Post Study:**

Events and Reaction – I wouldn't call it reaction – confused

Phone button – naming of things is confusing

Time from stop – making assumption that the computer knows where I am.

Presence detector was easy enough.

Previous slide – didn't want to go back through doing the same thing again.

My connections is nice – tells me everything Mayhem is doing.

Participant #

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Participant # \_\_\_\_\_

<b>Task 1</b>	Do they know what to do?	Do they see how to do it?	Do they understand the feedback?	Comments/ Observations
1. Click on "Create Event"	Yes	Yes	Yes	Event because the event would be me not being in the room I think, but I wouldn't call it an event.
2. Choose "Webcam Modules" from list	Yes	Yes	Yes	Webcam because you said it is hooked up to a webcam
3. Click "Presence detector" and "Ok" to confirm	Yes	Yes		
4. Click on "Create Reaction"	Yes, but after going through events again.	Yes	Yes	Mistake – she went back to create event but eventually got back to the home screen to and clicked create reaction
5. Select "Media Player Modules" from list	Yes	Yes	Yes	
6. Select "Pause" and "Ok" to	Yes	Yes	Yes	Don't know what I just did, what



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confirm				does it mean pause? Pause when I'm not there or what? Confirmation that everything is done.
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<b>Task 2</b>	Do they know what to do?	Do they see how to do it?	Do they understand the feedback?	Comments/ Observations
1. Click on "Create Event"	Yes	Yes	Yes	
2. Choose "One Bus Away Modules" from list	Yes	Yes		
3. Click "Time from Stop"	Yes	Yes		
4. Click on bus "207" and write in "10" for time from stop and select "Ok" to confirm	Yes	Yes	Yes	Thinks she is done because of "time from stop." Suggested reading the task again and finally understands that the computer needs to play the notification but expected the event would be

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				just sending the notification to her phone.
5. Select "Ok" on the event screen to confirm			Yes	
6. Click on "Create Reaction"	Assumed she was done			Doesn't go to my phone? Goes back to events because she expects it to send to her phone and doesn't understand why she would want her computer to notify
7. Select "Computer Notification Modules" from list	I don't need any of these	No	No	Thinks the "play a sound" is something that she would expect as in setting a phone sound on her phone. Doesn't understand that this is to notify her. She ends task here.
8. Select "Play a Sound" and "Ok" to confirm	Pause.. confused	I don't want to do any of these	No	Wants the system to prompt reaction.

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<b>Task 3</b>	Do they know what to do?	Do they see how to do it?	Do they understand the feedback?	Comments/ Observations
1. Click on "Create Event"	Yes	Yes	Yes	
2. Choose "Mobile Phone Modules" from list	Yes	Yes		
3. Name the button	Selected button, new button, next slide		Stared at it for a while and then realizes "Oh im making a button"	
4. Scan the QR code using your phone	Ok, without scanning QR code			
5. Click "Ok" to confirm				
6. Click on "Create Reaction"	Choose reaction			
7. Select "PowerPoint Modules" from list	Yes	Yes	Yes	
8. Select "Next Slide" or	Yes	Yes	Yes	Tried to select previous slide

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"Previous Slide" from list and click "Ok" to confirm				also but realized can't select two
9. Repeat steps 1-8 with either the reaction that hasn't been created yet.	Yes, easy to do, but still doesn't scan QR code			Assumed that the buttons would