Group Heuristic Evaluation for
Team White Cheddar’s First Interactive Prototype

Interestingly, we found no overlap whatsoever between the various usability problems that we identified. Each of us identified a separate set. We had thought about some of the other issues in certain cases, but didn’t actually write them down. Overall, we felt that the design was pretty solid, and is an improvement over the current system. We felt that you do a good job of preventing errors. We also felt that you understand the users' mental model and created a system that works with it. Generally, we felt that you could have improved upon consistency and the aesthetics - especially pertaining to excessive use of color.

Our summary of the usability issues we found is below:

1. [H3 Minimize the users’ memory load] (Severity 2)
   Although it is obvious on the “Specify A Time” page that the reservation system uses a 24 hour format, on the “Review and Confirm” page the user may have trouble remembering that, and be confused as to whether a meeting is taking place at 8 AM or 8 PM. Simply adding a preceding “0” before 8:00 may make this more clear. Note that this observation also applies to the times on the “My Reservations” page.

2. [H4 Consistency] [H5 Feedback] (Severity 2)
   On the “Review and Confirm” page the user may be confused as to what “public” means without more feedback. It is inconsistent with all the data in the “Event Information” box because all the items there have some category (like “Date”) and then some specific implementation of that (like “12/5/01”). The word “public” is by itself, and the user may be confused and think that it is the category and the specific implementation would be a “yes” or a “no”. A possible fix for this would be to have the category be something like “Scope” and then have the specific implementation be “Public” or “Private”. Note that these observations also apply to the “Event Information” box on the “Specify A Time” page.

3. [H4 Consistency] (Severity 1)
   It would be nice if the “No Recurrence” were inline and formatted the same as the rest of the data in the “Event Information” box on the “Confirm and Review” page. Then the user only has to recognize one way of presenting the data, and that might avoid some confusion.

4. [H2 Speak the users’ language] (Severity 1)
   The “Optional Setting” section of the “Review and Confirm” page uses the word “Precipitants”. This may be my lack of intimate knowledge of the user talking, but for me, that word holds no meaning, and would be better replaced with “Participants”.

5. [H3 Minimize the users’ memory load] [H5 Feedback] (Severity 2)
   In the “To:” field on the “Review and Confirm” page users must type or copy and paste in the e-mail addresses of the people that they want to receive the confirmation. It is not made explicitly clear that this is an e-mail address box or what the formatting is for any list of addresses (how would a user know that the delimiter is “;”?). There should be an easier way for the user to input recipients of the message, thus reducing their necessity to remember individual
addresses, and there should be more feedback as to what the field is and how it works.

6. [H4 Consistency] [H6 Clearly marked exits] (Severity 3)
   Going to the “My Reservations” page eliminates the standard navigation and might – at least temporarily - confuse the user as to how to return to the normal mode. In my case specifically, I had clicked on the “Reserve” button before trying out the “My Reservations”, and found that it just brought me back to the front page. I found it redundant, but thought nothing more at the time. So, I just used the three tabs or the buttons at the bottom of the pages to navigate. Then, after I completed a reservation, I went to the “My Reservations” page, and had a moment of panic when I tried to go back to the front page and could not figure out how. Eventually I did remember the “Reserve” button, but there was a momentary bit of frustration. “Reserve” may also not be the best name for the button.

7. [H8 Good Error Messages] (Severity 1)
   This is mainly a problem with the prototype and will (likely) not carry over to the final prototype. The current error messages that appear when an unimplemented feature is accessed are very jarring and provide no information to the user on how to get back to the previous state. It would have been nice if you could skin these somehow with a catch-all that would appear within the site’s consistent layout.

8. [H2 Speak the Users' Language] (Severity 2)
   At the login screen, the instruction text about which login to use is slightly unclear. Using a phrase like “use your Olin network login” might help to clarify which credentials to use for people who have multiple computers and people who are trying to schedule meetings from outside Olin’s immediate community.

9. [H7 Shortcuts] (Severity 2)
   When choosing a room, clicking on buildings in the image of the campus to the right should have the same effect as choosing a building from the list on the left. Similarly, clicking on a room on the right should have the same effect as choosing a room and clicking continue on the left. This provides a shortcut for people who already know exactly what room they want as well as providing an option for users who think more graphically.

10. [H5 Feedback] (Severity 1)
    Also in the vein of making the right portion of the room selection screen more functional, buildings and rooms that are selected on the left should be highlighted on the left, and vice versa. This can be accomplished via Javascript. This will provide visual cues to the user that a) their choice has been registered and b) the physical location of the choice they have made, which will assist them in determining if they made the right choice or not.

11. [H2 Speak the User’s Language] (Severity 1)
    The floor layouts on the right of the room selection screen are not very easy to read, even for someone who knows the building layout.

12. [H4 Consistency] (Severity 3)
    Checking or unchecking feature boxes in the left portion of the room selection screen should instantly update the listing of rooms in the
same was as changing a choice from a dropdown does. (We realize that this may just not have been implemented yet.)

13. [H3 Minimize the Users' Memory Load] (Severity 4)
User’s are (apparently) allowed to select multiple rooms for an event and then continue to change their search parameters to look for additional rooms. This process may hide the previously selected rooms from view. However, they remain selected (or do they? I believe that they should.) This currently presents a problem for the users because they have to remember all of the rooms that they have already selected in their heads while they search for more. It would make sense to have another area of the room selection screen that summarizes all of the rooms currently selected (even when they are not currently visible in the search results).

14. [H7 Shortcuts] (Severity 2)
Currently, the left portion of the time selection screen is just a visual display. It would be nice if users could click and drag directly on the schedule to choose times for their reservation instead of having to type the times into the boxes. Again, changes on the left should be reflected on the right and vice-versa (using Javascript).

15. [H4 Consistency & H5 Feedback] (Severity 1)
Is there a reason that October 3rd is highlighted on the right side of the time selection screen? We actually think that highlighting is a more effective way of showing the current day than changing the text color (as is currently done with October 17th).

16. [H4 Consistency] (Severity 3)
Once the review and confirm screen is reached in the reservation process, the standard room display changes from listing the features as bullets to having a link to “Features”. This represents an unnecessary change in a representation of an object AND adds more clicks to access info that could easily be displayed on the current page. (That is, unless there is additional functionality to the “Features” link of which I am not aware. Still, it seems to make more sense to keep this representation consistent.)

17. [H6 Clearly Marked Exits] (Severity 3)
I’m not sure about the exact heuristic for this problem. What do I do on the review and confirm screen if I want to submit the request but I don’t want to send an email to the participants? I can imagine wanting to do this quite frequently (i.e. if the location will be part of a later official email).

18. [H4 Consistency] (Severity 1)
In 2 cases (submitting a request and editing a reservation), the confirmation screen appears separately from the standard site layout. However, when canceling a reservation, the confirmation appears within the standard layout. It seems that there should be a consistent method for displaying confirmation dialogues.

19. [H2 Speak the Users' Language] (Severity 2)
The interface seems to be designed in a semi-linear manner - first choose a room, then a time, then review, then confirm. The problem here is that in reality many rooms are very similar and many events need
only a space, not any additional features. The important thing is therefore the time. To me that is the first thing that comes to mind as it is the least flexible: “I need this time, what rooms are free?” is a more accurate depiction of the real world than “I need this room, what times are free?” though that may occur at times.

20. [H2 Speak the Users' Language] (Severity 2)  
The interface uses 24 hour time to schedule rooms, which is not a mode of thinking familiar to many users in this country and seems more like a system term. Those who do not use it often will find it unnecessarily uncomfortable.

21. [H9 Prevent Errors] (Severity 2)  
On the scheduling screen, the monthly calendar is small and on the side, and a day is selected immediately. It seems likely that one would schedule a meeting for the right time but the wrong day if selecting a day first is not absolutely required and done in a linear fashion. I don’t think this section benefits from the flexibility of having all the options displayed at once.

22. [H9 Prevent Errors] (Severity 2)  
On the scheduling screen, one must pick start time, duration, and end time, and I believe that if one enters “1 hour” in duration, the end time will automatically fill in. This is problematic because they are close by and their ordering doesn’t match my mental model. If I think of “start time”, the next thing that comes to my head is “end time”, so I would likely enter that into the next box, which in this case is “duration”.

23. [H1 Simple and Natural Dialogue] (Severity 2)  
Colors are used to differentiate everything that is already differentiated by boxes, lines or other graphical elements. It becomes distracting and does not help to unify the interface.

24. [H1 Simple and Natural Dialogue] (Severity 2)  
It is difficult to choose rooms based on the photographs provided, as there aren't larger versions of them and clicking on them does nothing (this may not have been implemented yet).

25. [H2 Speak the Users' Language] (Severity 2)  
It seems that "At Least One" of the room features is not a very useful choice. If you are going to include this choice, at least do not make it the default choice. It seems that most users know what room features they need, so "All" should be the default choice instead.

After looking over your prototype, we can offer several suggestions for possible improvements to your interface. First, we suggest that you tone down your color pallete to one or two colors (and various shades) plus black, white, and greys. This is generally a good rule of thumb for color. Any more and they may become distracting. Another suggestion we had was that the interface is possibly still too linear in terms of "schedule a room and then a date." However, switching the order around just creates a new problem for the set of people who find it more useful the other way. Users might not realize that they can start with the second tab first. This could be solved in one of 2 ways. First, you could ask the user which of the pieces of info is more important to them and show the tabs in a different order based on that. Another (and
possibly better, if done properly) way of solving this problem would be to create a single screen that displays both room and time at the same time. There could be an interface for changing times which would update available rooms on the fly as it was changed.

Overall, we felt that your group did an excellent job given the time constraints and your initial knowledge of the prototype medium. We felt that your prototype gave us an accurate idea of the overall interaction that you designed, and that it is superior to the current system.
Heuristic Evaluation for
Team White Cheddar's First Interactive Prototype
By Evaluator 1

First, let me say that I was duly impressed by this prototype. It’s neat, clear, and effective. I would surely use it in preference to the current system. As for heuristics, I believe that this prototype excelled at the use of “Shortcuts” and “Prevent errors”. Even the “Good error messages” and “Help and documentation” seemed unnecessary and not present in this prototype, which I think is a good thing. I also do not believe that any of the violations I found were so severe as to warrant immediate attention. Overall, a fine job indeed.

1. [H3 Minimize the users’ memory load] (Severity 2)
   Although it is obvious on the “Specify A Time” page that the reservation system uses a 24 hour format, on the “Review and Confirm” page the user may have trouble remembering that, and be confused as to whether a meeting is taking place at 8 AM or 8 PM. Simply adding a preceding “0” before 8:00 may make this more clear. Note that this observation also applies to the times on the “My Reservations” page.

2. [H4 Consistency] [H5 Feedback] (Severity 2)
   On the “Review and Confirm” page the user may be confused as to what “public” means without more feedback. It is inconsistent with all the data in the “Event Information” box because all the items there have some category (like “Date”) and then some specific implementation of that (like “12/5/01”). The word “public” is by itself, and the user may be confused and think that it is the category and the specific implementation would be a “yes” or a “no”. A possible fix for this would be to have the category be something like “Scope” and then have the specific implementation be “Public” or “Private”. Note that these observations also apply to the “Event Information” box on the “Specify A Time” page.

3. [H4 Consistency] (Severity 1)
   It would be nice if the “No Recurrence” were inline and formatted the same as the rest of the data in the “Event Information” box on the “Confirm and Review” page. Then the user only has to recognize one way of presenting the data, and that might avoid some confusion.

4. [H2 Speak the users’ language] (Severity 1)
   The “Optional Setting” section of the “Review and Confirm” page uses the word “Precipitants”. This may be my lack of intimate knowledge of the user talking, but for me, that word holds no meaning, and would be better replaced with “Participants”.

5. [H3 Minimize the users’ memory load] [H5 Feedback] (Severity 2)
   In the “To:” field on the “Review and Confirm” page users must type or copy and paste in the e-mail addresses of the people that they want to receive the confirmation. It is not made explicitly clear that this is an e-mail address box or what the formatting is for any list of addresses (how would a user know that the delimiter is “;”?). There should be an easier way for the user to input recipients of the message, thus reducing their necessity to remember individual
addresses, and there should be more feedback as to what the field is and how it works.

6. [H4 Consistency] [H6 Clearly marked exits] (Severity 2)
Going to the “My Reservations” page eliminates the standard navigation and might – at least temporarily – confuse the user as to how to return to the normal mode. In my case specifically, I had clicked on the “Reserve” button before trying out the “My Reservations”, and found that it just brought me back to the front page. I found it redundant, but thought nothing more at the time. So, I just used the three tabs or the buttons at the bottom of the pages to navigate. Then, after I completed a reservation, I went to the “My Reservations” page, and had a moment of panic when I tried to go back to the front page and could not figure out how. Eventually I did remember the “Reserve” button, but there was a momentary bit of frustration.

I had one question about usability that wasn’t clear: if I make changes to something, like on the “Find A Room” page, but use the tab “Specify A Time” to navigate and move forward rather than the “Select Rooms” button at the bottom, will the system still remember and save my changes? I hope so, because those navigation tabs are convenient, clear, big, and well placed, and I had a much higher desire to use them than the buttons at the bottom of the pages (this presented a minor issue when I wanted to submit my request – I had gotten so used to the tab convention over the buttons that I had trouble finding out how to submit my request). Other than that, my only request would be to make it really easy to add people to the event, so it was more like a meeting request. Overall, great job!
Heuristic Evaluation for  
Team White Cheddar’s First Interactive Prototype  
By Evaluator 2

Heuristic Issues:

[H2 Speak the Users' Language] (Severity 2)  
The interface seems to be designed in a semi-linear manner – first choose a room, then a time, then review, then confirm. The problem here is that in reality many rooms are very similar and many events need only a space, not any additional features. The important thing is therefore the time. To me that is the first thing that comes to mind as it is the least flexible: “I need this time, what rooms are free?” is a more accurate depiction of the real world than “I need this room, what times are free?” though that may occur at times.

[H2 Speak the Users' Language] (Severity 2)  
The interface uses 24 hour time to schedule rooms, which is not a mode of thinking familiar to many users in this country and seems more like a system term. Those who do not use it often will find it unnecessarily uncomfortable.

[H9 Prevent Errors] (Severity 2)  
On the scheduling screen, the monthly calendar is small and on the side, and a day is selected immediately. It seems likely that one would schedule a meeting for the right time but the wrong day if selecting a day first is not absolutely required and done in a linear fashion. I don’t think this section benefits from the flexibility of having all the options displayed at once.

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On the scheduling screen, one must pick start time, duration, and end time, and I believe that if one enters “1 hour” in duration, the end time will automatically fill in. This is problematic because they are close by and their ordering doesn’t match my mental model. If I think of “start time”, the next thing that comes to my head is “end time”, so I would likely enter that into the next box, which in this case is “duration”.

[H1 Simple and Natural Dialogue] (Severity 2)  
Colors are used to differentiate everything that is already differentiated by boxes, lines or other graphical elements. It becomes distracting and does not help to unify the interface.

[H1 Simple and Natural Dialogue] (Severity 2)  
It is difficult to choose rooms based on the photographs provided, as there aren’t larger versions of them and clicking on them does nothing (this may not have been implemented yet).
Heuristic Evaluation for  
Team White Cheddar’s First Interactive Prototype  
By Evaluator 3

1. [H8 Good Error Messages] (Severity 1)  
   This is mainly a problem with the prototype and will (likely) not  
   carry over to the final prototype. The current error messages  
   that appear when an unimplemented feature is accessed are very  
   jarring and provide no information to the user on how to get back  
   to the previous state. It would have been nice if you could skin  
   these somehow with a catch-all that would appear within the  
   site’s consistent layout.

2. [H2 Speak the User’s Language] (Severity 2)  
   At the login screen, the instruction text about which login to  
   use is slightly unclear. Using a phrase like "use your Olin  
   network login” might help to clarify which credentials to use for  
   people who have multiple computers and people who are trying to  
   schedule meetings from outside Olin’s immediate community.

3. [H7 Shortcuts] (Severity 2)  
   When choosing a room, clicking on buildings in the image of the  
   campus to the right should have the same effect as choosing a  
   building from the list on the left. Similarly, clicking on a room  
   on the right should have the same effect as choosing a room and  
   clicking continue on the left. This provides a shortcut for  
   people who already know exactly what room they want as well as  
   providing an option for users who think more graphically.

4. [H5 Feedback] (Severity 1)  
   Also in the vein of making the right portion of the room  
   selection screen more functional, buildings and rooms that are  
   selected on the left should be highlighted on the left, and vice  
   versa. This can be accomplished via Javascript. This will provide  
   visual cues to the user that a) their choice has been registered  
   and b) the physical location of the choice they have made, which  
   will assist them in determining if they made the right choice or  
   not.

5. [H2 Speak the User’s Language] (Severity 1)  
   The floor layouts on the right of the room selection screen are  
   not very easy to read, even for someone who knows the building  
   layout.

6. [H4 Consistency] (Severity 3)  
   Checking or unchecking feature boxes in the left portion of the  
   room selection screen should instantly update the listing of  
   rooms in the same was as changing a choice from a dropdown does.  
   (I realize that this may just not have been implemented yet.)

7. [H3 Minimize the User’s Memory Load] (Severity 4)  
   User’s are (apparently) allowed to select multiple rooms for an  
   event and then continue to change their search parameters to look  
   for additional rooms. This process may hide the previously  
   selected rooms from view. However, they remain selected (or do  
   they? I believe that they should.) This currently presents a
problem for the users because they have to remember all of the rooms that they have already selected in their heads while they search for more. It would make sense to have another area of the room selection screen that summarizes all of the rooms currently selected (even when they are not currently visible in the search results).

8. [H7 Shortcuts] (Severity 2)
Currently, the left portion of the time selection screen is just a visual display. It would be nice if users could click and drag directly on the schedule to choose times for their reservation instead of having to type the times into the boxes. Again, changes on the left should be reflected on the right and vice-versa (using Javascript).

9. [H4 Consistency & H5 Feedback] (Severity 1)
Is there a reason that October 3rd is highlighted on the right side of the time selection screen? I actually think that highlighting is a more effective way of showing the current day than changing the text color (as is currently done with October 17th).

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Once the review and confirm screen is reached in the reservation process, the standard room display changes from listing the features as bullets to having a link to “Features”. This represents an unnecessary change in a representation of an object AND adds more clicks to access info that could easily be displayed on the current page. (That is, unless there is additional functionality to the “Features” link of which I am not aware. Still, it seems to make more sense to keep this representation consistent.)

11. [H6 Clearly Marked Exits] (Severity 3)
I’m not sure about the exact heuristic for this problem. What do I do on the review and confirm screen if I want to submit the request but I don’t want to send an email to the participants? I can imagine wanting to do this quite frequently (i.e. if the location will be part of a later official email).

12. [H4 Consistency] (Severity 1)
In 2 cases (submitting a request and editing a reservation), the confirmation screen appears separately from the standard site layout. However, when canceling a reservation, the confirmation appears within the standard layout. It seems that there should be a consistent method for displaying confirmation dialogues.