**1. Goals, approach and rationale:**

In the stage 4 evaluation, the main difference will be the overall type of information we wish to discover during the interviews.  Because of a lack of an operating prototype in Stage 3, the main goal was discovery, while in stage 4, it is refinement. We wish to discover and get a more refined idea of the workflow which users most naturally want to follow in order to refine our UI; While in stage 3, it was more so about discovery of wanted functionality.   
  
Their our minor implications for interviewing a different user pool than in Stage 3; this new set of users may not have the same values in functionality which the previous did which could muddy our qualitative data.  However, because the functionality is set and the purpose of this stage is refinement, the impact is minimal and should not impact our data to a significant degree.  
  
  
**2. Execution details (e.g. actual Participant pool, etc)**

Representative Users: 2 Professors, 5 TAs, 1 Student  
Observational Walkthroughs with a post task semi-structured interview.  This will allow us to gather a high amount of qualitative data on how users find the prototypes as well as get a better indepth look at how users interact with them via observation.

**3. Divergence from Stage 3 evaluation plan, if any, and justification**

Although not directly referenced in the stage 3 report (was more so implied), post task semi-structured interviews to gather qualitative information on user experience.  We originally planned to conduct observations with professors only.  However, due to the fact that we might not be able to get as many professors in such a short time, we decided to expand our user group to include professors, TAs, and students.  Moreover, we are not doing a comparative observation of current Connect and our prototype because most users are unfamiliar with Connect.  
  
  
**4. Summary of data (from Step 2). Include key figures.**

For inheritance, we received positive responses about navigation, layout, and finding things.  Participants find this feature particularly useful and hoping to have it implemented to replace the current way of sharing of course materials.  We also found that one participant commented on not knowing whether the original owner can be completely removed from the course.  2 participants would like to have a pop-up asking for confirmation before the system delete data in course material and ownership.  
  
In Test Creation, out of the 7 participants who we conducted the observations, all of them commented about that the layout and workflow were unintuitive.  Lacking feedback and instructions are other key feedbacks they identified.  5 out of 7 participants had a hard time figuring out that the Next button would provide them with a summary view of the quiz.  6 out of 7 participants did not understand what “Add to template” means and what it does.  We interview two professors from the Math department and both of them stated that they are currently using webwork (another software to create exams) and would only migrate if Connect test creation supports programmatic question creation and features like exporting data.  
  
As for Grouping, we interviewed 4 participants and all of them liked the layout and the idea of grouping.  The 2 Math professors did not think they would use grouping due to the nature of the Math courses (no groups), but they all think that students would like to have this feature.  However, the 2 students really liked the idea and thought that for any project based or lab based course, Grouping would be of great help for sharing files and organization.  2 out of 4 participants thought that homepage ‘online/offline’ lists were confusing and seemed to lack any sort of reason to exist.  They were looking for clearer explanation of what ‘online/offline’ lists were for but could not find any clear instructions in our current prototype.  
  
For quantitative data, out of the 8 interviews conducted, the most used words/phrases show what users place most importance in:

functionality

usability

ease of use

workflow

UI

**5. Conclusions (from Step 3)**

In summary, our findings indicate that the overall functionality which would be added to Connect via the prototypes is very much wanted by users and would act as a draw for users to implement Connect in a fuller manner.  However, there are still some issues with our prototypes such as what we assumed would be the most natural workflow being conflicting with what the actual users felt. As well as many users feeling that some wording and layout issues still exist to maximize ease of use.  
  
The overall evaluation process went smoothly with no hiccups.  Although there is an inherent limitation of how much quantitative data we are capable of gathering from such a limited number of interview, the depth and quality of our data collected makes up for any such shortcoming.  
  
The prototypes matched exactly what we needed for our evaluations; as we were doing observational walkthroughs, the level of functionality needed was already predefined as such making the possibility of accidentally under developing our prototypes impossible.  
  
  
  
-Bias and concerns:  
 Participants are distracted with screen update when they are asked to read the required tasks at the same time. (Change blindness).  
 Limited number of exam and questions to inherit old exams to make a new one is not a clear concept.  
 Since we are only providing the user with a small subset of Connect functionalities and are not capturing the entire component of Connect, the user might falsely think that our version of Connect is very clean and intuitive to use.  
  
  
  
**Part B Deliverables**  
**B1: Final design rationale and discussion of the state of your design**  
**Provide a report with conclusions and recommendations as described in Step 4 (1 page).**

Inheritance:  
-Pop up confirmation before actually deleting the data.  We thought this is a good idea because it does not clutter the current UI and it is a good error prevention method.  
-Left sidebar currently changes text when user click on the course.  We want to better notify the user by adding an arrow in front of the text that got changed.  
- For the concern of not knowing whether the original owner can be removed from the course or not, since we think more data has to be provided before we make this decision we are not going to make that change at this stage.  
- One user suggest “Export All” button to export all course material files into local drive at once but we still think that we would like to see more users making the same suggestion before we add that feature into the prototype (to prevent feature creep if the feature is not actually needed).  
  
Test Creation:  
-more straightforward layout  
 (Master Layout - visible throughout the entire exam creation process)  
 > Add progress bar (To show which step the user is currently on and the previous/future steps)  
 > Make the progress bar available for navigation around the process steps  
 (Exam Creation Page)  
 > move the Edit button to be besides the Question number  
 > make the “Add more choice” or “+” should be only visible after the “Edit” button is clicked  
 > Moving the “add to template” check box to the beginning of each question and change the wording to “Use this question?”  
 > Create 1~2 more questions  
 > Create another exam for comparison   
 > Change the wording of Next button to “Next step to Preview Student View”  
 > Add more separation / bouandries to separate up different questions, “to-be-used” questions and “other exams”  
 > Hide advanced options (exam deadline)  
 (Summary Page)  
 > move this page to be shown after the Preview Page  
 > Remove most statistical data   
 > move all the summary data to exam creation and hide them under some “historical/statistical data tab” of each question”  
e a quiz preview page. (2 people mentioned it)

> additional question type: programmatic question creation and exporting functionality (2 out of 2 math professors mentioned it)

Grouping:  
- Clarify naming of ‘contents’ to something more suitable such as ‘Files’  
- Clarify the reason for online/offline lists to indicate that they are implementing chat functionality.  
- Clarify the wording of “Danger Zone” in settings page to represent actual reason for being; ie “Admin Settings”.

**B2: Reflection on your design process**  
  
For stage 4, our design did change under the influence of user feedback.  We are very grateful to have users suggesting improvements to us.  Some suggestions are made by multiple users and that is where we confirm that a change is needed.  Our biggest surprises was that we thought our UI was intuitive enough to have the users do their tasks without any guidance.  However, it appeared to us that not enough instructions were provided by our prototype and the users were not able to complete certain tasks right away.

Our evaluation for Stage 2 was a little biased. Our problem was that we had an idea of what WE thought was wrong with connect before we even began asking users (i.e. We asked a question about test creation). It may have been better if we had gone into the interview without having these ideas in advance and conducted completely open ended interviews rather than semi-structured interviews. This way we will know what the USER’s problem with Connect is rather than what users think of OUR problems with Connect.  
Our evaluation process for Stage 4 was very effective. Our interviews/observations allowed our users to elaborate on their personal problems with Connect. The sample size was also very ideal in that we had enough data to find similarities amongst what people think about our prototype. We would not have chosen any different evaluation approach.  
Our Prototyping process was quite difficult. Advanced HTML5 is not as easy and rapid as some other prototyping techniques. In addition, our feature set within Connect is very diverse. Therefore we ended up essentially having 3 different prototypes. The work required was much higher than some other groups and it was extremely rushed since the time frame for the prototype stage was not particularly long. Because of the diversity of the prototypes, we should probably have chosen a faster/easier prototyping approach. In the end, however, we were still able to make decent functional prototypes.

The interview and evaluation tutorials were really helpful in giving us an idea of what kind of information we need to get out of the subjects. Although we did not directly use it, Heuristic Evaluations were very important in giving us an idea of what makes up a good user interface. (Specifically the Heuristics)  
  
One of the biggest issue that our group had was having an idea of what we wanted before doing evaluations. This caused us to not be as open minded as we otherwise could have been during our first evaluations (stage 2). Our interviews were conducted in such a way that tried to guide the results to what we wanted to see. It is very important that the evaluation comes first. Next time, we would not come up with any ideas in advance and try to be more open minded during the evaluations.   
Our task examples were too diverse. In a large software system like Connect, we chose 3 functions that didn’t have a lot to do with each other. This resulted in us basically having to make 3 different prototypes. In a limited timeframe this was very difficult to accomplish.

AppA.1

Tool Used:  
- Dragon Naturally Speaking 12  
- Photoshop