Sakai Forums Tool Redesign

Final Project: INLS 718

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Conceptual Model

The Sakai Forums tool is intended as an online tool to enable discussion via a course website. Professors can post instructions and materials, and students can respond in a central

location. Students can also reply to each other through the tool. It allows for an organized way to hold online discussions.

The Sakai Forums tool also allows the professors to grade student responses to forums and give them feedback. Professors can connect the topics they make to a gradebook item and assign students grades and comments based on their responses to the topic. This makes the Forums tool a way for students to hand in assignments and for the professors to assess those assignments.

The Sakai Forums tool enables instructors to hold virtual discussions for their classes. There are many reasons a class may wish to utilize online discussions. Perhaps it is an online course, with no opportunities to have conversations in class. It may be that the professor wants students to respond to course materials in a central location. Instructors can use the forums as a space to encourage discussion and critical thinking among their students. Ideally, the Sakai Forums tool will enrich students' education in their classes.

The Users of the System

User Group Description

This user analysis focuses on the target audience for the Forums tool in Sakai. Sakai is a web-based application used primarily by students and faculty in higher education institutions, including UNC. Sakai has many tools that allow for a variety of course-related activities such as sharing course content and completing assessments. The Forums tool in Sakai is used for online discussion and is heavily used in courses that are delivered completely online. The user group includes students and faculty in the university context.

Students interact with the Sakai Forums tool to participate in class discussions both formally as a graded assignment, and informally depending on the requirements of their course. In some cases, students are able to create new topics for discussion but for some courses, they are only responding to topics posted by their instructor as well as replying to posts by other students. When taking courses online, the Forums tool is critical to class discussion and often an important part of the student's overall grade. For face-to-face courses using the Forums tool, the stakes are often lower, with the Forums tool functioning as more informal discussion or a space where students can ask course-related questions and get answers from either faculty or other students outside of class time.

Students are expected to have at least a high school diploma, and may have even more advanced degrees. They are literate and in the process of being educated. The majority of students' ages range from 18 to mid-20s. At UNC, while English is not the native language of all Sakai Forums tool users, all Forums tool users are expected to be proficient in speaking it and writing it. The computer skills of college students vary, but most have familiarity with computers and the Internet. For some courses where online discussions are required, students are expected to gain certain level of familiarity with the Sakai Forums tool in order to achieve academic success. Students newer to the university will face a steeper learning curve than students who have been there for a semester or more, during which the Sakai Forums tool has been used for online discussions for at least one of their courses.

Some students may have disabilities like vision or hearing impairments. Public universities are required to provide accommodations for students' disabilities so that they may have equal access to education.

Faculty are assumed to have at least a basic level of proficiency with the Sakai Forums tool if they have prior experience using it for course discussions. Faculty members who have never interacted with the Forums tool before or new faculty are expected to attain basic proficiency by the time they start using it for their classes. There are no limitations in terms of genders and faculty ages range from late 20s to over 60 years old. They could be professors, adjunct faculty or PhD students who teach classes at UNC. Since the employment by the university requires them to have certain levels of education to be in the position of faculty,

most users in this group have finished at least a Master's degree or have certain achievement in related field, which means they are highly literate and have an advanced reading level. They should be able to understand any content rather easily and possess problem solving skills. Some of the faculty members are not native English speakers but by qualifying to teach a class in English, they are proven to be able to understand English and express ideas in English in an accurate way. Thus their language level is not viewed as an obstacle.

PhD students or TAs may be more familiar with the student interface of the Sakai Forums tool, which they may have interacted with on Sakai or other similar sites during their undergraduate years, but they are expected to learn the faculty interface rather quickly. New faculty who might have worked in respective industries for a while are less familiar with Sakai Forums and they often seek help from the university technical team when facing difficulties.

Faculty use the Forums tool to provide a space for online discussion, either as a way to extend conversations that start as face-to-face in the classroom, or to provide formal, graded assignments through guided topic discussion. Courses, especially at the graduate level, often require group work and faculty will assign topics for discussion to specific groups. In online courses, student activity in discussion topics is often graded for number of responses to a discussion and as well as the quality of responses. While optional for courses that are offered face-to-face, Forums tool use is often an essential part of courses that are delivered online as they provide a space for connecting students in the course, as well as being the primary space for course interaction.

For face-to-face lectures, only a small number of instructors use Sakai Forums and they mostly just utilize its basic function when necessary. Most faculty find it hard to fully adapt themselves to the online platform and thus feel reluctant to incorporate it in their classes. They tend to be more accustomed to having class discussions in the traditional way.

Overall, users have the motivation of using the Sakai Forums tool in that it provides students and faculty a way to communicate their thoughts online. Professors are motivated use it to encourage discussion among their students, and students are motivated to use it as a means to engage with their course materials. Their attitude toward it mainly depends on how difficult they find it to use. Users that have trouble finding the functions they want may express frustration towards the Sakai Forums tool, while users that are proficient at using it may feel more neutral toward it.

Personas
Stacey (Primary Persona)
(Photo by Flickr user: dr.coop)
- **Age:** 46
- **Occupation:** Associate Professor, Department of English
- **Education:** Ph.D. English
- **Home Life:** Lives with husband and two kids

- **Work Environment:** Stacey has her own office where she keeps many books and some course related materials. Although there's a computer installed in her office, she works on her own laptop most of the time even in the office because it's easier to manage all her documents and files, especially when she needs to use those for her lectures or to take home. In class, Stacey sometimes uses her laptop for presentation. She often uses Sakai Forums tool at home to communicate with students, and to establish course discussions.
- **Computer proficiency and comfort level with using the Web:** Stacey didn't grow up interacting with technology and is a little concerned about learning and communicating through modern technology. However, with many years of teaching experience, she has been rather familiar with some of its applications such as electronic communication with students, digital libraries, web search and basic use of online management system like Sakai, etc. Normally she can handle routine tasks with her laptop or mobile phone and things mentioned above without running into much trouble. For more advanced tasks such as creating a new topic with advanced settings on the Sakai Forums tool, she might need more instructions and help from other professionals.
- **Pet peeves and technical frustrations:** Stacey teaches four courses in English Literature. She finds it sometimes confusing when she navigates through Sakai Forums to start course discussions. Also, there are usually a lot of reading materials for her courses. She feels it very time consuming to attach readings in the Forums and to grade the discussions as well.
- **Attitudes:** Frustrated with some of the features of the Sakai Forums tool but sometimes happy with the convenience it brings for course discussion.
- **Motivation:** Though not confident in all kinds of technology, Stacey has been utilizing some technology in her teaching and learning process and witnessed its strength. She thinks Sakai is helping faculty members do their jobs more efficiently so that students can learn more in a better way as well. As a professor, she is happy to see that.
- **Information-seeking habits and favorite resources:** As an experienced researcher and professor, she has the habit of using library resources for best authority. Yet she also look for information through online resources such as Google and digital library services in that they are convenient when she needs quick information or when her first option is not close at hand.
- **Personal and professional goals:** Stacey is willing to help her students learn about English Literature as much as they can. She also wants to learn and improve herself in her academic area and contribute to research as well. Thus, she prefers a more efficient system which can help her achieve these goals.
- **Quote:** "I'd love to use technology that helps with classes but it makes me feel not worth it when I have to spend way too much time on it."

Larissa (Secondary Persona)

- **Age:** 20
- **Occupation:** Undergraduate Student
- **Home life:** Lives with parents when not at school; has a younger brother in high school who also lives at home. At school, she lives in an apartment off campus with a roommate
- **Education:** High School diploma, college sophomore. Intends to major in Psychology.
- **Work environment:** While Larissa will sometimes work at her apartment, she spends most of her study time in Davis Library. She studies from both written and digital texts and uses word processing tools to write papers and complete assignments. She uses her mobile device for email and keeping up with her calendar.
- **Computer proficiency:** Larissa grew up using technology at home and at school. She is comfortable learning new software and is proficient with Google Docs, MS Word, and Sakai. Even though she has a high level of comfort using technology and has a wide range of skills, she does not consider herself a power user.

CollegeDegrees360, "A female College Student in the park on a summers day" February 18, 2018 via Flickr, Creative Commons Attribution

- **Pet peeves and Frustrations:** Too many assignment due dates in a single week, and losing work online due a bad wireless connection.
- **Attitudes:** Larrissa is easy going and conscientious. She doesn't get too frustrated with technology as it often works well for her. She is glad that her professors use Sakai, even if it seems unintuitive at times.
- **Motivation:** Larissa wants to graduate on time and is considering taking some elective courses online over the summer to make sure she stays on track for graduating in four years. Doing well in school is important to her as she is hoping to get a scholarship for graduate school.
- **Information-seeking habits and favorite resources:** As a new researcher, Larrissa is still becoming familiar with research tools for psychology. She mainly uses the libraries' databases for papers and assignments. For everything else, she uses Google to search for information, especially tech support. She rarely uses the help in Sakai as the local support documents are easier to find and more relevant.
- **Personal and Professional Goals:** Larrissa is planning to attend graduate school for clinical psychology.
- **Quote:** "With my academic load, I barely have enough time to get my coursework done. I need the tools I use for assignments to be efficient and easy to use."

John (Other Persona)

- **Age**: 26
- **Occupation:** Economics Ph.D Student and Teaching Assistant
- **Education:** M.S. Economics, B.S. Mathematics
- **Home Life:** Lives in an apartment with a roommate, family lives two states away
- **Work Environment:** John shares and office with five other graduate students. He goes there to work when he has a few hours to spend on campus. He also does a lot of work on the go, taking his laptop with him everywhere, from class to coffee shops to his apartment. On occasion, he can be found working in his apartment until the wee hours. John also uses his phone for simple, quick tasks, like checking email or adding an item to his schedule.
- **Computer Proficiency:** John grew up using the Internet on his family computer, so he knows the basics of navigating the web. In his previous degree programs, he was required to have a laptop and often had to use it to complete and submit assignments. John's knowledge doesn't go far beyond those basic web navigation skills. Usually if he encounters technical issues with his laptop or phone, he'll ask a more technically proficient friend for help.
- **Pet Peeves:** John gets frustrated when he has to spend a long time to complete what he perceives as a simple task, especially when he has other work to complete. He also gets frustrated when his interactions with a web interface do not produce the outcome he expects.
- **Attitudes:** John is apathetic toward Sakai when it works well, and gets frustrated when it doesn't.
- **Motivation:** John wants to do a good job as an instructor and as a student. He likes teaching and wants to continue to get better at it. He wants his students to come away with a better understanding of economics after every class and every assignment. He is working hard as a student so that he will be prepared to graduate his program and get a job as a professor.
- **Information-seeking habits and favorite resources:** John relies on Google for quick questions he needs an answer to. He also will check a FAQ if it's readily available. He'll go his university's site about Sakai when he runs into technical issues. As a graduate student, he is no stranger to research databases and libraries for papers and projects.
- **Personal and Professional Goals:** John wants to win a teaching award as a TA. He also wants to impress his professors in his classes. Eventually, he wants to be an economics professor at a private university.
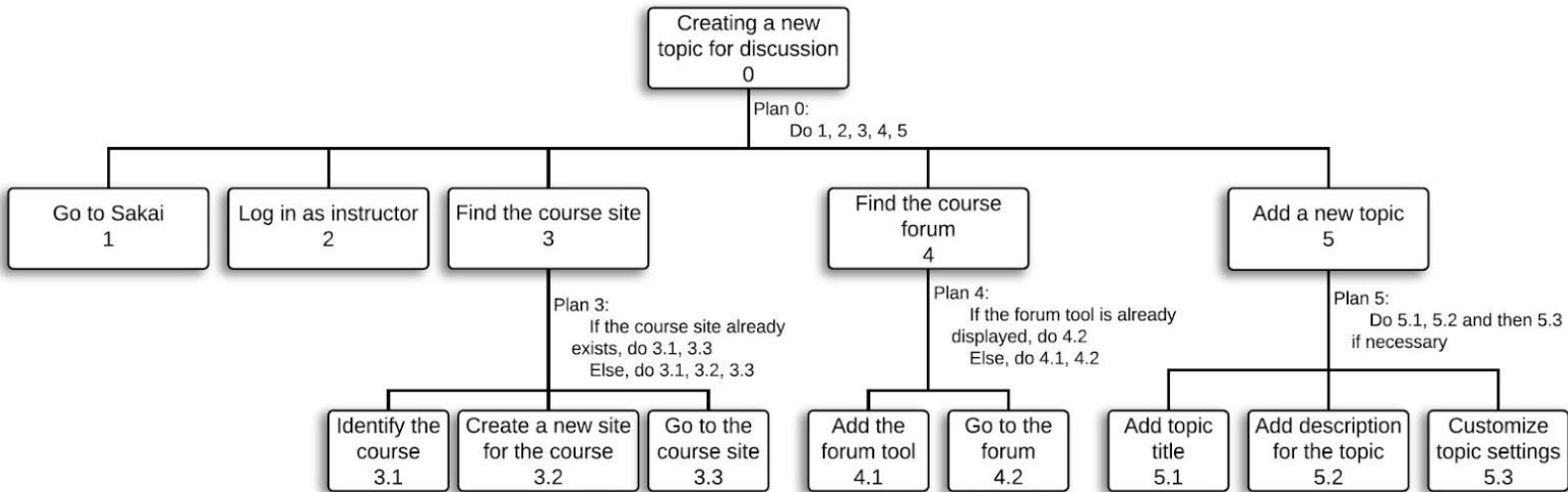
- **Quote:** "I don't have to time for this; I need to upload this discussion as soon as possible [for my students]."

The Task Being Supported by the System

Task Analysis

Task to be performed: Creating a new topic for discussion

Hierarchical Description

Essential use cases

	User Intention	System Responsibility
Find the course site	Identify the course	List existing course sites
	Create a new site for the course	Request site information input
		Add the new site to site list
	Go to the course site	Display the selected course page
Find the course forum	Add Forums tool	Show Forums tool on the left side of the page
	Go to the forum	Display the forum page
Add a new topic	Add topic title	Request input for topic title
	Add description for the topic	Request input for topic description

	Customize other topic settings	Offer customization options
		Display the updated forum page

Scenarios of use

- Add a new topic
  - John clicks the "New Topic" link. He titles the post based on the date the assignment is due and writes a brief summary in the short description textbox. He puts detailed instructions for the readings response into the description textbox. He checks "require users to post before reading" to make sure his students don't plagiarize each other. He clicks save and creates his topic.
  - Stacey titles the topic "Final Paper Drafts" and types in a short description. She realizes that she needs to put her students in groups, so she saves the topic as a draft. She goes back to site info. to put all her students in groups. After assigning each student to a group, she goes back to find that she can't change the topic to automatically make a post for each group. She deletes the topic and repeats the process, this time checking the option to create multiple topics for each group. She saves the topics, and it gets posted for her students.
- Create new conversation
  - Larissa goes to the Forums tool for her online psychology class. The instructor has posted a weekly reading and would like students to respond to it in a designated topic. Larissa clicks on the topic for the week. She spends a minute searching for the new conversation button, before finding it and clicking on it. She types a title into the field for it, and begins composing her response in the text box. Once she finishes writing it, she hits the post button.
  - John goes to the Forums tool to post a reading response for one of his classes. He goes to the topic titled after the reading he was assigned. He clicks the new conversation. He types a title for his post. He goes to the add attachment button and clicks it. He uploads a local file that contains his response. He hits continue and then clicks post.
- Grade student responses
  - Stacey goes to the topic she set up for her undergraduate literature class to post their responses to the previous class's reading assignment. She reads through each conversation, clicking them in order, and using the breadcrumb trail to return back to her topic. She writes down each student's name and the grade she gave them for her response. Once all responses have been graded, she

navigates back to the main forum using the Forums button on the side bar. She clicks the Statistics & Grading button and feels annoyed it took her to the Statistics & Grading by Student section instead the Statistics & Grading by Topic section. She clicks the link to Statistics & Grading by Topic. She clicks the topic she wants to enter grades for. She goes through and enters the grades she wrote down into the textboxes for each student. Once she has finished, she clicks the Submit Grades button.

○ John goes to the Forums tool on his course website. He clicks Statistics & Grading, and then clicks the link to switch over to Statistics & Grading by Topic from Statistics & Grading by User. He clicks the topic he assigned students to respond to last week. He selects the gradebook item for the assignment. He clicks on each student's name to read their post, mentally assigned it a grade. If the grade is below perfect he manually enters the grade into the textbox that corresponds to the student he is grading. After going through, he inputs the perfect score in the textbox next to the Apply Grade to all Ungraded button and clicks it. He then hits the Submit Grades button.

General Description of Task Characteristics

Task: Creating a new topic for discussion.

The primary user, faculty, will typically perform this task several times in succession at the beginning a each semester when setting up their course site in Sakai. They may perform the task a few times throughout the semester depending on how much they adjust their teaching strategy as the semester progresses. The amount of time faculty will spend setting up their course site varies. Since discussion tools are critical to creating a classroom community in online courses, faculty will spend a great deal of time setting up discussion topics. Faculty who teach face-to-face courses are less likely to spend time setting up a discussion tool since they can rely on in-class discussions. In both cases, faculty want the process of setting up discussion topics to be easy and for the most complicated scenario not to take more than 3 minutes.

The task is not complex but can be confusing for first-time users. Terminology used in the tool can seem redundant (forum, topic, thread) creating confusion about how each of the named aspects of functionality are different. If the course is being offered online, using the forum tool may be mandatory to meeting course goals. If the course is not offered online, faculty have other options for student discussion and may choose not to use the tool if they can't get it setup within a few minutes.

The purpose of the discussion tool is to create dialog between students and the instructor. The data produced by this discussion can either be in response to an official assignment posted in the tool, such as a response to a specific discussion prompt on a class topic, or the discussion can be informal student-to-student discussion or questions for the instructor. In online courses, this is where the action takes place. Students are often asked to post introductions to the class with details about who they are why they are taking the course. In some cases, student present their projects in a discussion topic for student feedback and instructor grading. These projects or assignments can be text or uploaded video recordings. Again, in the case of online courses, this data is critical to the course. In the case of face-to-face courses, the data is usually supplemental to in-class interactions.

The task of setting up a discussion is usually performed either in the faculty member's office or at their home. The user will rely on past experiences when setting up their site, sometimes copying all course content from a previous semester to a new site. If the user is trying something new, they will often contact an expert on pedagogy or instructional technology for support or ideas. Faculty are often influenced by instructional strategies used by other faculty, and may choose to use the discussion tool if a colleague has had success using it.

Most universities offer some type of training on using Sakai. These include workshops, online webinars and tutorials, or one-on-one consultation with academic technology support staff.

Interface Design Decisions

Design Issue #1:

How to improve terminology used throughout the tool, including the tool name, creating and responding to topics (#1a), and saving options when topics are created (#1b).

Faculty and students using the Forums tool are interacting online through discussion. This includes reading, posting, and replying to messages. The design question above would affect a person's ability to identify common tasks quickly through identifying terminology/naming most logical to them. In addition, saving options are not clear when creating topics (or forums).

Solution for Design Issue #1a

Rename the tool to Discussions, and rename the new topic button to Discussion.
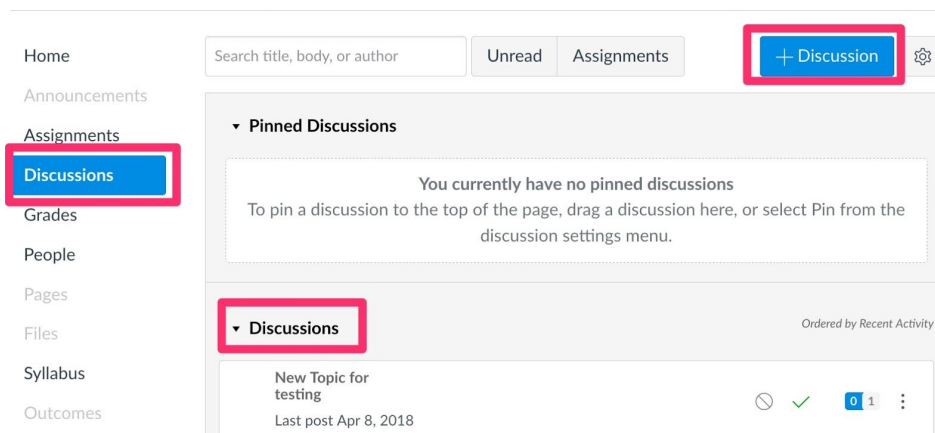
Rationale 1 - Using Discussions is consistent with other tools. All the other tools analyzed as part of this process use the name Discussion for this type of tool. Keeping this consistent will make the tool easier to learn, especially by those who have used a similar tool elsewhere

Rationale 2 - Using Discussions is consistent with natural language. Most faculty and students refer to the activity that takes place in this tool as a discussion. Using this name keeps the design within the users existing vocabulary.

Rationale 3 - Fewer naming conventions avoids confusion about activity and place within the tool. Keeping terminology to a minimum and avoiding the use of similar words to describe different activities in the tool will make it easier to use.

Solution for Design Issue #1b
When creating a new topic, change the option buttons at the bottom of the screen/task to

Cancel, Save & Publish, and Save.
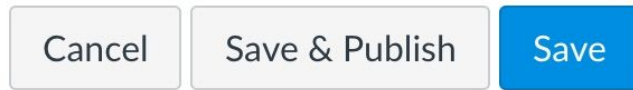
Rationale 1 - Fewer options are needed to accomplish the tasks required. Designs that include "Save and New" or "Save Draft" are not necessary for the user to accomplish the task of creating a new topic. The extra options just cause confusion. Since one "save" button has the "publish" option, it is implied that "save" simply creates a draft. Minimizing the options here avoids confusion.

Rationale 2 - Reducing options is more efficient and reduces cognitive load. Reducing the number of options a user has for saving and creating a topic, makes the task more efficient. With fewer choices, there is less effort required to process the difference between the choices reducing errors, confusion, and mental effort required to accomplish the task.

Design Issue #2:
There are too many options when creating a new topic. Many are not commonly used by users.

Solution for Design Issue #2
Apply accordion design for the options below the topic description. Users are able to expand or collapse each section to edit the content based on their own needs.
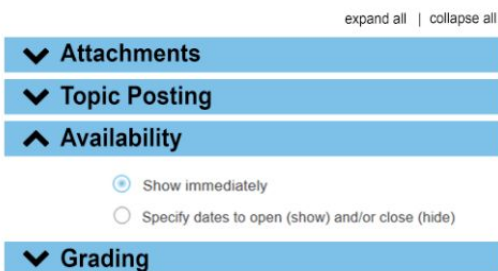
Rationale 1 - Minimize users' effort to scroll. Most of the time, an extra long page or a task with too many blanks to fill in seems rather daunting, and more importantly, unnecessary. Many users feel the waste of time when they have to read through all the options on the page but end up creating the topic without editing any of these options because they don't need these potentially advanced settings. With accordion design, we collapse these options by default to minimize scrolling and to avoid unnecessary information.

Rationale 2 - Inform users of what each option is about but filter extra details. Many users of the Sakai Forums tool tend not to use all these options offered on the page. Instead, they usually just add a topic title, description, and possibly some attachments or grading options. Not all of these options are needed by every user. A proper accordion design can keep the details about each section hidden while displaying only the section title so that users know what's in there and have the option to expand it if needed. For someone who just wants to create a simple topic and has no intention to go through all the options offered by Sakai Forums tool, this helps minimize their effort. Those who would like to take time and add content to different options are also able to expend and edit the ones they need.

Rationale 3 - Choosing right icons and locations can help reduce task time. Without icons, it's hard for users to tell if they have the option to expand or collapse a section. That's why we choose to utilize chevron icons which are assumed to trigger expansion by most people, as they are used in many websites and are supposedly seen as a change of direction – up and down. In terms of the location, placing the icons to the left of the section titles instead of putting them all the way to the right helps shorten the distance users have to scan and in turn reduce the time they need to expand and collapse each section. We also include "expand all" and "collapse all" buttons so as to save time for users who do not need to click all of the icons in order to see all the options.

Design Issue #3:
How to improve navigation within the forum hierarchy. The icon to move up a level next to the breadcrumb trail is redundant and not used (3a). The separator between levels in the hierarchy ("/") is unappealing and does not conform to web standards (3b).

The navigation structure (when inside Sakai forum topics) at the top of the page currently looks like:

Forums / Discussion 2 SMPL101 Forum / General Discussion

Note that the icon to go up a level is only present in this part of the structure, and is absent when the user navigates to a conversation or thread.

Solution for Design Issue #3a
Removing the button to navigate up a level will be beneficial to the design of the site for several reasons.

Rationale 1 - When conducting usability tests with students that used sakai, we found that none of them would find this icon.

Rationale 2 - As we looked at other examples of discussions and forums, we did not see a comparable tool, leading us to believe it is unnecessary.

Rationale 3 - The icon also seems redundant, since the user can just click the link to go back in the hierarchy.

Rationale 4 - It is also inconsistently included in the navigation, only appearing within forum topics.

This leads us to believe that removing this icon would benefit the navigation interface because users would not miss it, it would make the forum navigation align more with expected convention, it would reduce redundancy, and removing it would make navigation more consistent across all aspects of the forum.

Solution for Design Issue #3b
The next suggestion for improving navigation is to update the look of the breadcrumb trail to emphasize it and include flat design elements (further explained in decision #5).

Rationale 1 - An important part of this update will be to change the separator for the hierarchy from "/" to ">". Using the greater-than sign is a best practice found across the web to indicate hierarchy, so incorporating that into the design should make more sense to the users than the slashes.

Rationale 2 - Improving the look of the breadcrumb trail will make it stand out to users as they navigate through the forum. Contrasting it to the example above, the design for Sakai is plainer and less emphasized in the interface. There really isn't much separating it out as a way to navigate a hierarchy. Making it a separate segment like in Canvas would help it stand out more within the design as a whole.
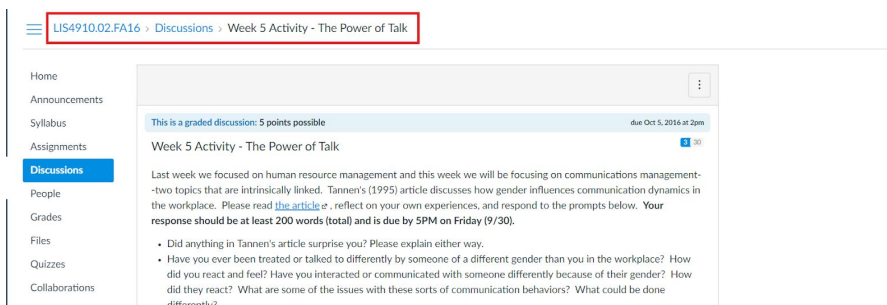
Design Issue #4:
How to improve grading of topics. Faculty have too many options when grading in the tool.

While having access to a grading option in more than one place would be acceptable, all options should lead to a single grading screen signaling that the instructor is in the right place every time (#4a). Students should be able to see their grades and statistics in a single place (#4b).

<u>Solution for Design Issue #4a</u>
Allow grading option in a statistics and grading page that displays grading options under student name with their respective posts shown.

Rationale 1 - Having participation and grades in single place allows faculty to know they are in the correct place every time for grading. They can also use the statistics data as part of their assessment, instead of navigating to another screen for that data (recognition rather than recall).

Rationale 2 - Grading can be done more quickly on a single screen, improving efficiency.

Rationale 3 - Grading and statistics are related and it makes sense to have these display on a single screen from both the student and faculty perspective. This approach should make the design more efficient, and reduce time spent searching or navigating options unrelated to the task of grading.

<u>Solution for Design Issue #4b</u>
Show the statistics and grading page as a single place for faculty to grade and students can view their own grades and statistics.

Rationale 1 - This solution is related to the grading design problem and combining the two tasks in a single place is a more efficient design, both from the UI perspective, reducing cognitive load, and from the task perspective. (see rationale for #4a)

Design Issue #5:

Overall visual design awaits improvement. Information architecture is definitely crucial to improve navigation, but there are cases where users find it hard to navigate through a web page or to finish a task due to the lack of signifiers provided by the visual design. In the example of the below screenshot, we can see the need to stress the title and clickable elements using underlines. However, too many underlines are confusing for users as they lose focus, especially when the titles of different layers are stressed in the same manner – same size, color, font, etc. A consistent design does not necessarily mean using only one color or one style.

Solution for Design Issue #5

Utilize Flat Design 2.0 to improve visual navigation. Implement metaphor/icons/colors that focus on functionality.

Rationale 1 - Functions are clearly identified. Flat design 2.0 takes a step further to feature stronger signifiers instead of sticking to the traditional preference towards blue and underlined text which is popular in flat design. Here, instead of text and underlines, we use three small icons to represent the functions which are "settings", "duplicate" and "grading". These icons are widely used in different kinds of websites and thus are in accordance with users' perception. With metaphors borrowed from the physical world, users can easily understand what these icons stand for. Too much text and overuse of underlines are also avoided in this case.

Rationale 2 - Content hierarchy is clearer. With different sizes and fonts, the titles of the course and different discussion titles are clearly separated and the hierarchy is presented in a more understandable way. All the discussion titles are in a bigger font size with the indented description listed below in a smaller font size. A grey line here is used to separate discussions so that the display of the text won't get confusing for users. A design like this provides a smooth navigation and users get to understand what each part is about at the first glance.
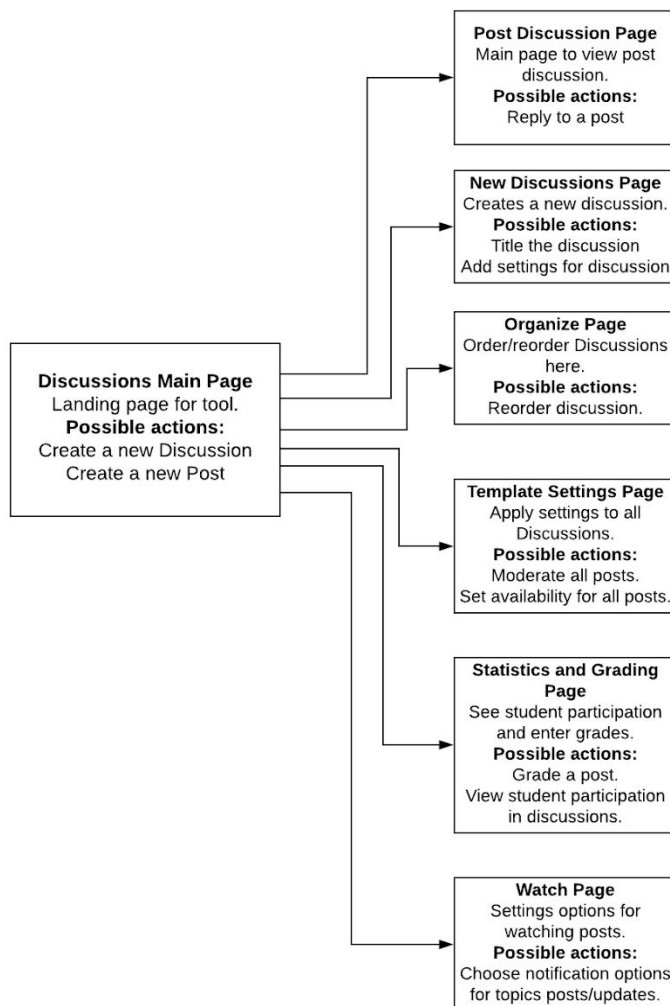
Rationale 3 - Visually appealing. Although functionality and content are very important for an online learning management system, there are still many users who pay close attention to the visual design elements while using the system. We can imply that almost all the users prefer a visually appealing website or an application than those that show no effort in improving
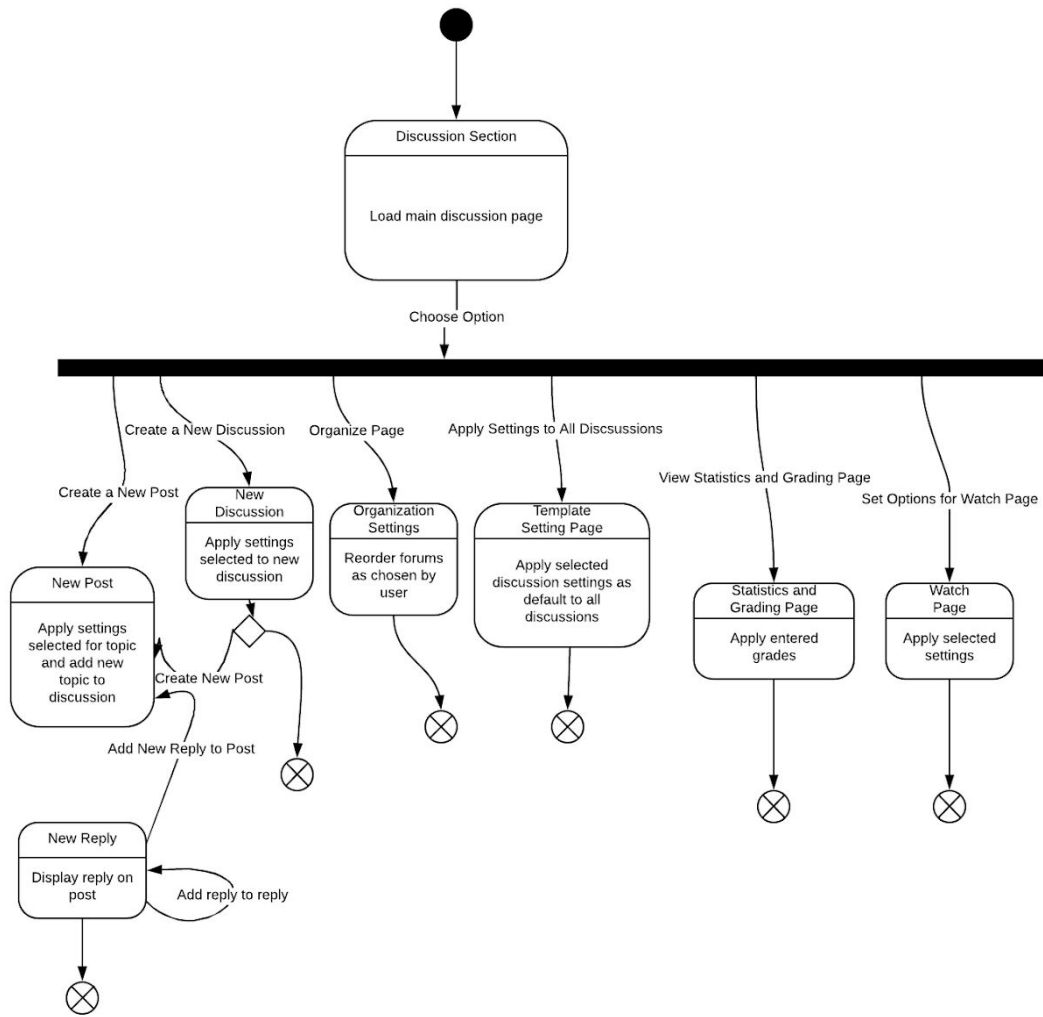
aesthetics. Flat design may have been embraced by users for the past few decades but with more advanced technology and more people looking for visual delights, especially when they have to use the tool on a daily basis, how to improve our design to suit their needs in this aspect is also essential.

Interface Design Description

System Architecture

- Diagram showing functionality of system
- Simplified state diagram
  - Show flows for different states of system
  - Simplified for readability, possible to transition back and forth between states

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   Create a New Discussion    Organize Page    Apply Settings to All Discsussions

                                                         View Statistics and Grading Page
  Create a New Post      New                                                    Set Options for Watch Page
                      Discussion      Organization        Template
                                       Settings         Setting Page
                      Apply settings                                    Statistics and        Watch
                      selected to new  Reorder forums  Apply selected   Grading Page          Page
      New Post        discussion       as chosen by    discussion
                                       user            settings as     Apply entered      Apply selected
  Apply settings                                       default to all      grades            settings
  selected for topic                                   discussions
  and add new                ◇
  topic to            Create New Post
  discussion
                                                            ⊗                  ⊗             ⊗
          Add New Reply to Post          ⊗
                                                ⊗

     New Reply

   Display reply on         Add reply to reply
        post

          ⊗
```

Prototype

1. Main page

    This is the home page when users first enter the Discussions section. Every existing discussion is listed along with the number of posts inside the discussion and the author who made the last post.

    Application of design decisions:
1) Uniform terminology - only discussions & posts (Design decision #1)
2) Statistics & Grading option limited to one place (Design decision #4)
3) Improve visual design - better color schemes, use of icons & clearer button design (Design decision #5)

2. Grading & Statistics

The Grading & Statistics page is where the instructor can see students' participation in the discussions and apply grades to the students, whereas students can view their own statistics and grades.

Application of design decisions:
1) Limit Statistics & Grading option to one place where both faculty and students are able to view grades and statistics on the same page (Design decision #4)
2) Clearer navigation - breadcrumb trail applied and the original move-up icon removed (Design decision #3)
3) Improve visual design - better color schemes, use of icons & clearer button design (Design decision #5)

3. Discussion page

      This is what's inside of each discussion, where there are posts made by students or faculty. Each post has a title, the author and the date of post.

      Application of design decisions:
1) Uniform terminology - only discussions & posts (Design decision #1)
2) Clearer navigation - breadcrumb trail applied and the original move-up icon removed (Design decision #3)
3) Improve visual design - better color schemes and use of icons (Design decision #5)

4. Post page

Inside of each post, users should be able to see the post title on the top, as well as the author's name, date of post and the actual content of the post. Users can reply to the post and the replies will be shown following the original post with a proper indentation.

Application of design decisions:
1) Uniform terminology - use posts instead of topics or conversations (Design decision #1)
2) Clearer navigation - breadcrumb trail applied and the original move-up icon removed (Design decision #3)
3) Improve visual design - better color schemes and use of icons (Design decision #5)

5. Write reply

In the post page, when users click reply, they will be able to see an input prompt following the specific post they are replying to, in which they can write the reply without being directed to a different page.

Application of design decisions:
1) Clearer navigation - breadcrumb trail applied and the original move-up icon removed (Design decision #3)
2) Improve visual design - better color schemes, use of icons, clean button arrangement and input boxes (Design decision #5)

6. New discussion

When users create a new discussion, they are provided a prompt to input a few setting options with the discussion title being a required field and descriptions being optional. Other advanced settings are collapsed by default but users can always choose to expand the options.

Application of design decisions:
1) Uniform terminology - discussions and new discussion (Design decision #1)
2) Limit the saving options to Cancel, Save & Publish, Save (Design decision #1)
3) Apply accordion design for the advanced options (Design decision #2)
4) Improve visual design - color scheme, use of icons & clearer button design (Design decision #5)

Usability Inspection

User 1:

1. Strength: Neat layout and good color scheme.
   Comment: The layout seems really clean and the color scheme makes me feel comfortable. Based on the Characteristics of Minimalism in Web Design by Nielsen Norman Group, minimizing not just information but also colors is important. I think a minimalist interface is suitable for the Sakai Forums tool as it shortens task time and is comfortable to look at.

2. Strength: Terminology is not causing any confusion.
   Comment: In web design, clarifying ambiguous terminology is a prerequisite for any designer, according to one of the articles by Nielsen Norman Group. In this case, terms like "forums", "topics" and "conversations" are replaced by a single word "discussions", which is really good in terms of matching with users' understanding of these words. Both students and instructors are familiar with the term "discussions" and it's thus natural for them to think that this is a place for course discussion.

3. Weakness: Colors are good on one hand, but on the other hand, they stand out too much.
   Comment: I did say I like the overall color scheme but on some pages the colorful representation of users' profiles seems irrelevant. For example, on the grading page, since all the students' names are listed, is it really necessary to add all those colors to them? This is one place I identified that contrasts the Minimalism design principle mentioned above, as extra colors might distract users.

4. Weakness: It's hard to know what some of the tabs or labels mean before clicking it.
   Comment: For example, I don't know what this "watch" tab means. After I click it, I know it's something like "notification" where I can choose to get notifications about the activities happening on the forum. As one article "10 Principles Of Good Website Design" from Smashing Magazine states, one of the principle is "don't make users

think". Instead of asking users to figure out what "watch" means, I think it's better to express it in a way users can easily understand.

5. Weakness: "Last post by" may not be necessary.
   Comment: Another principle listed by Smashing Magazine is to "strive for simplicity". It says that "The 'keep it simple' principle (KIS) should be the primary goal of site design." Who posted the last discussion or the last post may not be my primary interest when I visit this page, which makes it extra information. I personally prefer something like "date created/closing" or the person who started the discussion.

User 2:

1. Strength: I feel the choice to hide information in dropdown sections when creating a new discussion is helpful to the user as it eliminates information overload and scrolling.
   Comment: This design element adheres to one of the usability heuristics identified by the Nielsen Norman Group's 10 Usability Heuristics for User Interface Design, "aesthetic and minimalist design". By eliminating extra information, relative visibility of the important, task-related information is increased and reduces the users need to dissect information off of the screen to complete their task.

2. Strength: The choice to change the term "forums" to "discussions" is a strength because it sounds more natural to a user.
   Comment: This design element adheres to one of the usability heuristics identified by the Nielsen Norman Group's 10 Usability Heuristics for User Interface Design, "match between system and the real world". A forum is meant for discussing course topics and the label change from "forums" to "discussions" for this tool supports a natural language reference to what the tool does.

3. Weakness: Information like "last post by" seems of no use.
   Comment: One thing I notice is the "last post by" element in the discussions screen. It shows the name of the person who last posted with their profile bubble and I am left to wonder if it aids any user task. If there is no serious need for this information to be

displayed, then I say this is a weakness in terms of aesthetic appeal as it adds another information element. This goes against the usability principle of Ockham's Razor which states the simplest design should always be chosen if it does not reduce functionality. Removing this "last post by" feature does nothing to hinder functionality and improves simplicity in the screen view.

4. Weakness: The lack of confirmation when replying to a comment or saving settings.
   Comment: The lack of confirmation when saving or submitting something goes against the Nielsen Norman usability heuristic of "visibility of system status" as the user is not kept informed through appropriate feedback. I know this is a prototype so the system might actually account for this and if so, please disregard.

5. Strength: I can't determine any further weaknesses, but another strength is the natural language use of the setting buttons available at the top of the discussions screen.
   Based off of how these buttons are labeled, I know exactly what settings or options are offered through clicking on one of the buttons. This adheres to the Nielsen Norman usability heuristic of a system and real world match.

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