

BRAINSPACE

An Online Virtual Learning Environment

Team 4

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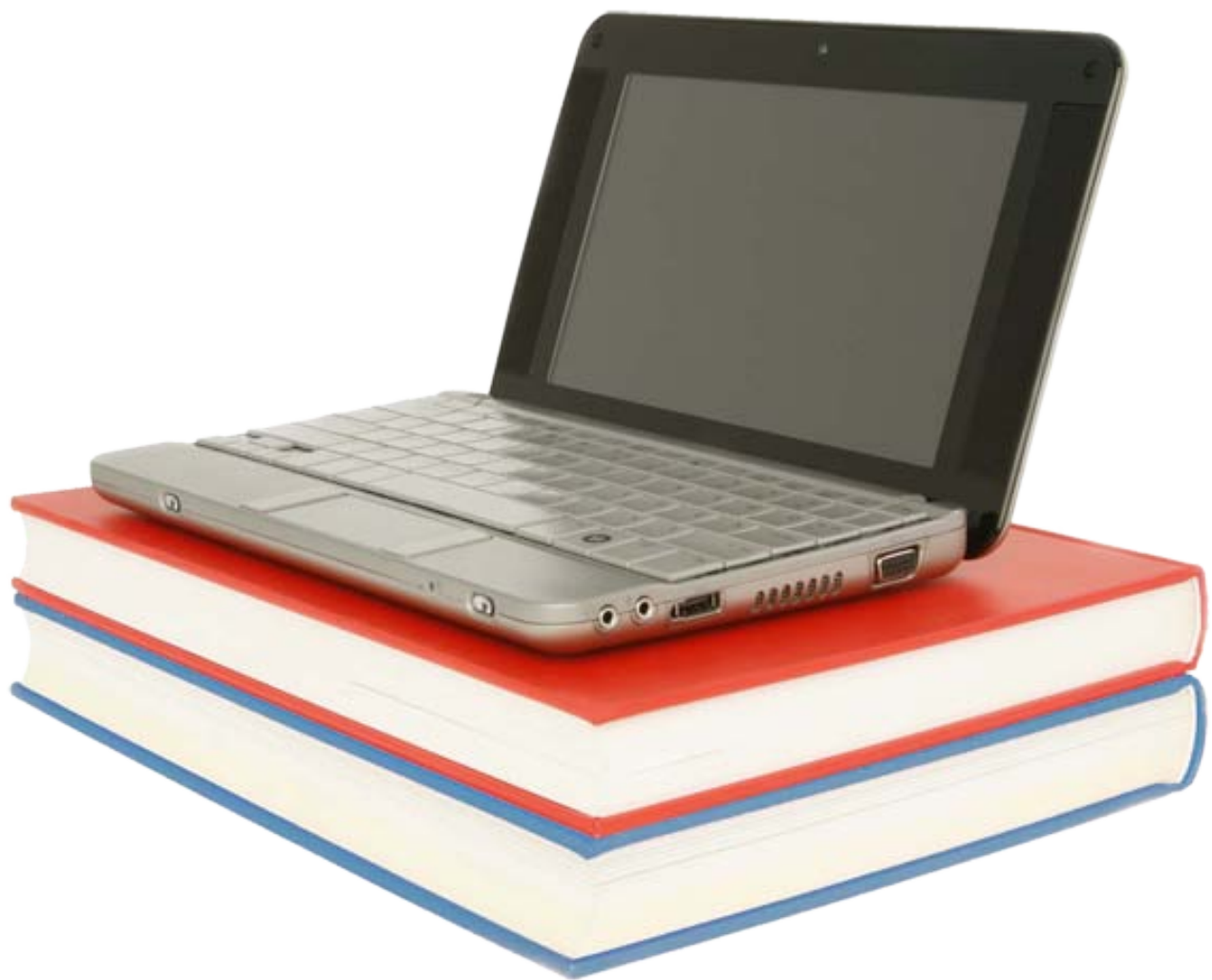


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Introduction

The growing ubiquity of the internet has changed the educational landscape greatly. Top academic and industry professionals can now share their knowledge and experiences to a broader demographic of eager minds despite time or place. Instructors can leverage a vast network of current multimedia resources to engage their students and make sure they stay up to date on industry trends and expectations. Recent statistics indicate that in 2009, 73% of colleges and universities report an increased demand for online course offerings (<http://www.sloan-c.org/publications/survey/pdf/learningondemand.pdf>). Inherent in this growing prevalence of online courses is the issue of accommodating a wide variety of users with diverse backgrounds and varying circumstances of interaction. BrainSpace is a new concept in online learning and seeks to facilitate the evolution of the online learning experience.

Problem to Solve for the User

Most models for online education have often followed an asynchronous approach as the online environment is well-suited for this. However, this leads to difficulty replicating valuable student-instructor and peer-to-peer interactions, found in traditional classroom environments, that create a greater sense of community and support and helps to reinforce learning. This can leave students feeling isolated in online classes because the online environment lacks an effective way to facilitate these traditional classroom interactions. Being able to hear and see an instructor's response to students' questions and discussions is, traditionally, only possible during synchronous online classes where everyone is participating live.

There are other technical challenges to overcome as well. Many current online learning environments are built on proprietary systems and lack the flexibility to adapt to the changing needs of instructors and students. Instructors lack an easy way to update course information and integrate multimedia content directly in to the learning material. Students often have to dig through ever expanding forums to follow a class discussion and have to download or play media related to the class in separate software.

Description of the Designed Application

BrainSpace is a new concept in online learning that incorporates the educational needs of efficiently delivering information with the benefits of community interactions present in current online social networking sites such as Facebook. BrainSpace's flexible, adaptable and content rich environment will be designed for collegiate level and higher learning. The underlining platform will be based on industry standards to provide educational institutions with options for further development and expansion of the learning experience in the future. Students and instructors will be able to access the environment through a standards based web browser on any computer.

This new environment will allow for many types of multimedia to be integrated directly into course content easily by the instructor and can be consumed by students without the need for any external software outside of the target platform requirements. Discussion areas will be more closely integrated with the course material and will offer a more cohesive way for students and instructors to engage and participate in class discussions. Students will be able to easily bring their own multimedia content in to discussions. Topics and threads for discussions will be easy to follow and contribute to. Course material and discussions will be accessible to students after the course has concluded. Students and instructors will have a central place to manage not only their educational courses and resources from, but also be able to engage with classmates, other students and instructors socially.

Target Audience Description: Faculty

Detailed target audience description

The target faculty audience for BrainSpace will cover a wide range of individuals from those that have had very little experience with online courses to those with much more. Some faculty will be adjunct where others will be tenured. Overall though, faculty tend to gravitate toward similar aspects of teaching regardless of teaching experience.

To interact successfully in a dynamic online course environment and make students feel welcomed, an online course Instructor must be computer savvy.

Most online faculty users fall within the following demographic:

- Male: 50% Female: 50%
- Age: 30 to 45 (45%)
- Ethnic Background: Caucasian (77%)
- Tenure Status: Tenured (71%)
- Technology Skill Level: Course Developer Proficiency (66%)

Research on target audience (for more see Appendix A)

The target faculty audience for BrainSpace will cover a wide range of individuals from those that have had very little experience with online courses to those with much more. Some faculty will be adjunct where others will be tenured. Overall though, faculty tend to gravitate toward similar aspects of teaching regardless of teaching experience.

Table 2
Faculty Perceived Usefulness of Features Found in the CMS

Feature	Useful	Somewhat Useful	Not Useful	Never Used
Course Documents	96%	4%	0%	0%
Announcements	88%	8%	0%	4%
Assignments Feature	71%	13%	0%	17%
Gradebook	58%	8%	8%	25%
Discussion Board	50%	13%	0%	38%
Staff Information	33%	21%	4%	42%
Digital Drop Box	29%	21%	4%	46%
Group Pages	29%	13%	0%	58%
Chat	13%	17%	8%	63%
Survey	13%	13%	4%	71%
Glossary	4%	8%	4%	83%

Factors Influencing Faculty Use of Technology in Online Instruction: A Case Study (2006)
<http://www.westga.edu/~distance/ojdla/spring121/osika121.html>

Target Audience Description: Student

Detailed target audience description

To participate successfully in a dynamic online course environment and community, an online student must be computer proficient.

Most online student users fall within the following demographic:

- Male: 48% Female: 52%
- Age: 18 to 34 (41%)
- Ethnic Background: Caucasian (61%)
- Children: Has no children (aged 0 – 17) (64%)
- Annual income: \$30-60k (31%) / \$60-100k (31%)
- Education level: Has had some college (42%)

Research on target audience (for more see Appendix B)

Our primary target audience is young professionals working on post baccalaureate education with a secondary audience being young adults working on their first post-secondary degree. These audience groups cover a wide demographic range with a variety of interests. Our age demographic has grown up with computers in the home and more recently internet access. They are not only heavy consumers of online multimedia, but also heavy involved in creating, posting and commenting on online multimedia.

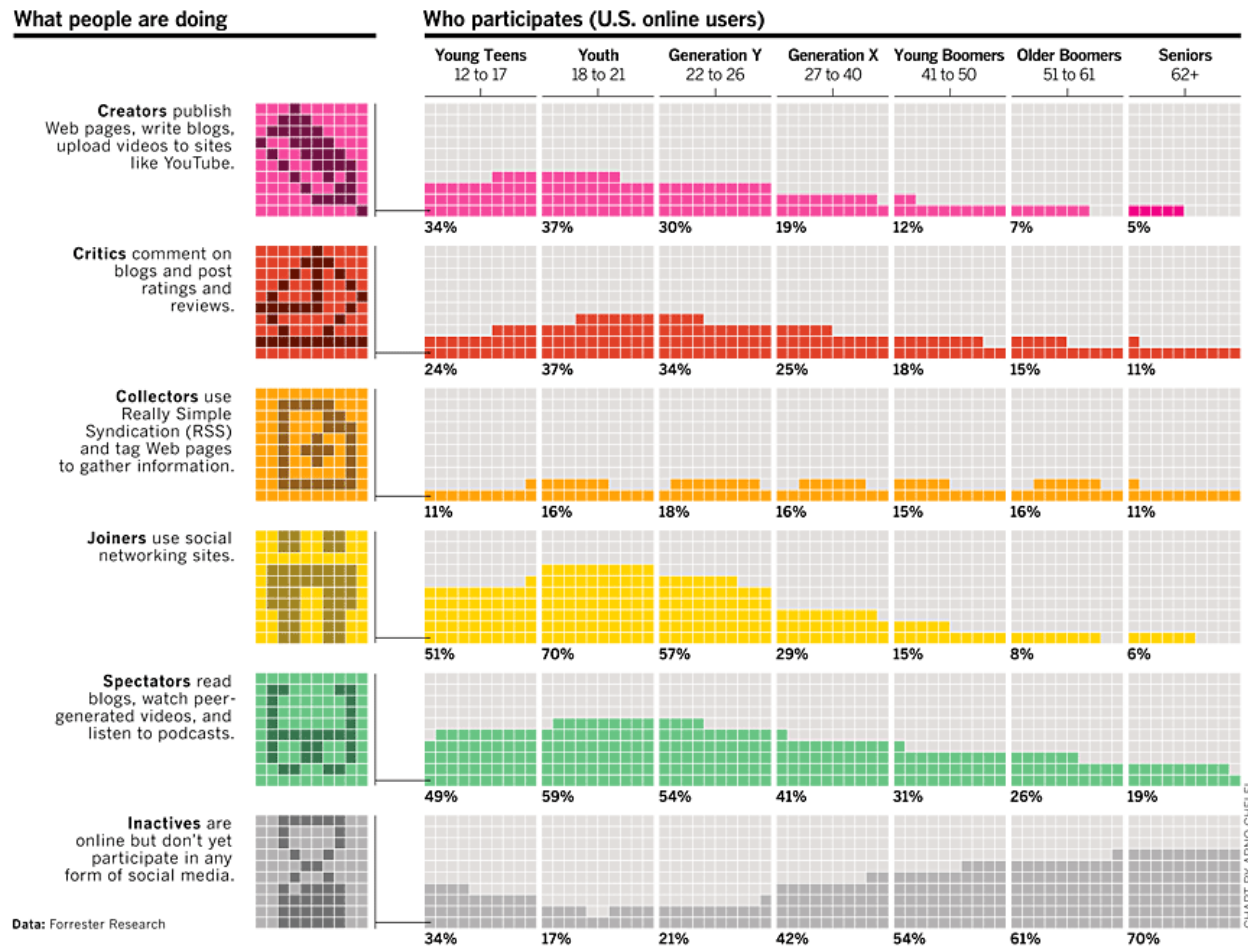
Top web properties for this audience:

- LinkedIn
- Facebook
- Flickr
- Youtube

Target Audience Description: Student

Research on target audience - continued (for more see Appendix B)

Some features chosen for this target audience include:
multimedia consumption and creation, social communication.



BusinessWeek (2007)

http://www.businessweek.com/magazine/content/07_24/b4038405.htm

Target Platforms

Operating systems

Web site will be supported by all major operating systems including Windows XP, Windows Vista, Windows 7, Mac OS X 10.4 and newer.

Visual configuration

Web site will be full color, and will support a screen resolution of 1024 x 768 and above.

Browsers

Web site will be supported by all major browsers including Internet Explorer 7.0 and higher, Firefox 3.5 and higher, Safari 4.0 and higher.

Plug-ins

Adobe Flash is a multimedia platform for adding animation and interactivity to web including videos and rich internet applications.

Internet connection speed

Internet connection speed will be a broadband connection (256 kbps and higher).

Web Application Objectives

Overall Objectives

BrainSpace is a new concept in online learning that incorporates the educational needs of efficiently delivering information with the benefits of community interactions present in current online social. This is accomplished by the allowing multimedia content to be integrated directly into course content by the instructor and can be viewed by students seamlessly. Discussion areas are integrated with the course material to allow students and instructors to engage and participate in class discussions. Discussions are also easy to follow and contribute to, allowing students to integrate their own multimedia content as well. All of this is accessible from a central place that allows students and instructors to manage their educational courses and resources. Course material and discussions will also be accessible to students after the course has concluded.

BrainSpace offers both synchronous and asynchronous methods including: live workshops and lectures, videos and tutorials, downloadable readings and media, and discussion boards with file sharing.

User Goals and Needs

To provide a online system that provides a flexible and content rich environment for learning that is easily accessible and interactive for both students and faculty and is comparable or superior to the traditional classroom environment. Faculty users will be provided with the tools they would normally need to successfully teach typical on-campus courses, plus additional features necessary to translate such courses successfully to the online environment.

Needs include:

- 24/7 accessibility
- Easy to use interface
- Social networking functionality
- Diverse multimedia capabilities
- Support for all types of learning including: visual, aural, written and hands-on
- Asynchronous and synchronous software

Stakeholders and Their Needs

Direct stakeholders and their goals

- Faculty and Students - Being able to access/edit course content, view/edit work and grades, communicate with classmates and faculty both synchronously and asynchronously, upload/download files.
- Education institution employees - Access to class materials for human resource needs.
- Site Developers and Hosting Provider - Be able to maintain and upgrade the site as needed, keeping disruptions to ongoing classes to a minimum.

Indirect stakeholders and their goals

- Competitors - Provide them with competition to promote development and advancement in the marketplace.
- Online Stores - Facilitate faculty and students in purchasing required textbooks and course materials.
- Other linked web sites - Traffic and bandwidth provided by external links and maintaining those links.

Usability Objectives

Users will have various computer skill levels, to accommodate requiring:

- An Intuitive design, with simple, easy to follow instructions, and noticeably visible links and actions.
- Courses will need to have a cohesive look, making it easy to locate and access all elements of the course.
- Communication among classmates and professor(s) will need to accommodate different schedules, time zones, for both synchronous and asynchronous communication.
- Deadlines for faculty and students will need to be clear, trackable and enforceable with requirements for both student and faculty participation.
- Error prevention will need to be handled effectively to prevent errors since changes are in real time. The system will also offer a way to undo or edit an action after the change has already been complete. There will also be a mechanism for submitting appropriate errors to site administration so they may be addressed in a timely manner.
- Both asynchronous discussion boards/file posting and synchronous applications for use in meetings, workshops, critiques, etc. and provide the moderator the means for: application sharing, displaying files for discussion, audio and video and instant messaging chat for communication, participant lists, and recording of the session.

Functional Specifications

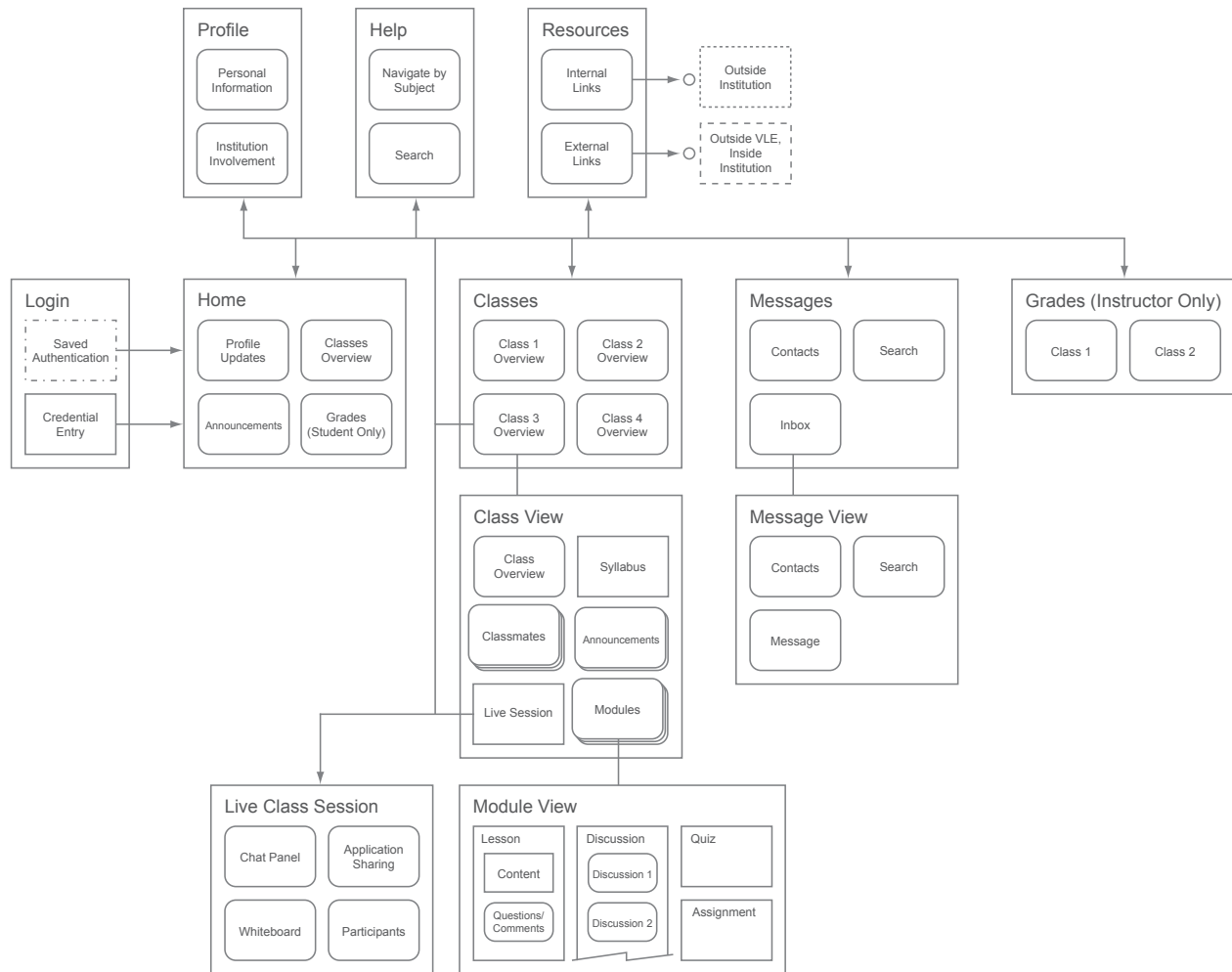
All Users:

- Prevent, display and correct errors
- Provide discussion areas with multimedia capabilities
- Clearly communicate time based announcements, assignments, closing date information and other asynchronous communications.
- Interactive, information and multimedia rich course content Class and course management functions
- Provide a means for classmate and faculty communication
- Multi-platform functionality and 24/7 availability
- Clear and efficient inter-site navigation
- Synchronous applications allowing application sharing, display files for discussion, use microphones/teleconferencing or chat window to communicate, see the names of students in the live session, record the session, view the recorded session.

Faculty:

- Course creation and maintenance materials and guides.

Site Diagram



- ○ Outgoing Link
- Link to new View
- In-Page View
- Static View
- ◻ Dynamic View
- ⋯ Saved Security Certificate
- ⋯ External Web site(s)
- ◻ Content within a View
- ◻ Multiple Views

Task Analysis List

The following tasks are organized by user: those both faculty and students will perform, tasks only faculty will perform and those students will perform.

General Tasks (for full Task Flow Diagrams see Appendix C)

- Log in to system – System will determine if the user has logged in before and whether the credentials were saved. If saved, the user will be taken to the “Home” screen. If not, the user will enter login credentials and then be taken to “Home” screen.
- Enter a class – A user chooses which class to enter.
- Post to a discussion – From within a class, a user posts a new message to a discussion group.
- Reply to a post in a discussion / Reply to comment or question about class module content – A User replies to a post in the discussion area.
- Manage profile (classes, and personal info) – User creates/edits their own user profile.
- Send a private message to student / faculty – User sends a private message to another user.
- View / reply to private messages – User views/replies to received private messages from other Users.
- Find / view help – User views the help area for assistance with website.
- View someone’s profile – User views a user’s profile.
- Create Group – Students will occasionally create a group within the class for group work.
- Participate in Group – User will participate in sub-groups within their courses for group work.
- Participate in Instant Messaging – Users will be able to connect with other logged-in users via instant messaging.

Task Analysis List

Faculty Specific Tasks (for full Task Flow Diagrams see Appendix C)

- Build a class module – A user with sufficient privileges creates a new class module in an empty class shell setup by a system administrator.
- Edit class module content – A user with sufficient privileges edits a class module, time lines or syllabi.
- Post an announcement – A user with sufficient privileges posts a new announcement to students’ “Home” screen, a single class or multiple classes.
- Build a quiz – A user with sufficient privileges, after choosing the appropriate class, creates a new quiz or test that covers content on one or multiple class modules.
- Grade an assignment – A user with sufficient privileges enters the “Grades” section and then chooses which class they would like to add grades for. From there, they choose the cell in the grade book that corresponds with the assignment and student to be graded.
- Start a synchronous session – Faculty user starts a (live) synchronous session and selects options to assist in moderating the session. Members join session. Faculty user moderates/conducts session (choosing from optional tools), then ends session.

Student Specific Tasks (for full Task Flow Diagrams see Appendix C)

- Go through class module content – User will read content, listen to audio and watch video.
- View general course information (syllabus, time line, announcements) – Students will look at the course time line, syllabus and announcements from a central location.
- Take quiz / test – Students will take a quiz or test.
- Look at grades with comments – Students look at their grades and written or video / audio feedback.
- Enter a synchronous session – Students will enter a live session to interact with instructor /classmates and / or listen to demo instruction.

Design Mockups: Faculty

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JACOB NELSON Instructor

HOME **CLASSES** MESSAGES GRADES LIVE SESSION HELP

Bulletin Board Week 9 April 06 - April 12

CLASS STATUS ANNOUNCEMENTS CAMPUS ACTIVITES WORKSHOPS

WNM 606 OL1: Principals of Usability

Lessons

Module 09 Navigational Systems	1 New Question
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Assignments

Module 09 Improved Navigation	1 New Post
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Discussions

Module 09.1 Attractive, but hard to use	1 New Post
Module 09.2 Review another group's IA and...	5 New Posts

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HOME **CLASSES** MESSAGES GRADES LIVE SESSION HELP

WNM 606 OL1: Principals of Usability

STATUS ANNOUNCEMENTS SYLLABUS MODULES CLASSMATES

JACOB NELSON April 07 2010 | 5:42 PM

Rating Level of Effort (LOE)
Near the end of this week's module, please remember to send me a private email stating the following:

1. Team # in header of email with module of assignment you're referring to (e.g., "Team 1 LOE, Module 5")
2. List of each member's name (including yours!);
3. Rate the contribution of each member:

Level of overall effort (scale 0 - 5, with 5 indicating full participation);
Level of cooperation with other group members (scale 0 - 5);
Level of contribution on research (scale 0 - 5);
Level of contribution in writing the report (scale 0 - 5);
Level of contribution in editing the report (scale 0 - 5).

Comments?

Edit Hide

New

Design Mockups: Faculty

BRAINSPACE


WNM 606 OL1: Principals of Usability
Navigational Systems 09 | April 06 - April 12

LESSON 09 QUIZ 09 **ASSIGNMENT 09** DISCUSSION 09.1 DISCUSSION 09.2 INSTRUCTOR OFFICE STUDENT LOUNGE

09.1 Team's Improved Navigation / Site Information Architecture Report:
Your team should post its file(s) for this assignment here.
Refer to the session pages for the assignment instructions.

PAUL ANDERSON April 07 2010 | 5:42 PM

Team Improved Navigation / Site Information Architecture Report
Please see attached file.



Reply

JACOB NELSON April 08 2010 | 3:28 PM

Good improvements from last week - you all continue to be on the right track. I look forward to seeing your design mockups in the next assignment. As you transition from page schematics to mockups, you may want to have one set of your mockups with the top links (profile, help, resources, logout) in the top right and the logo in the top left, so the upper left area of the design doesn't get too overwhelming with too many navigation options.

Edit Reply

New Post

BRAINSPACE

WNM 606 OL1: Principals of Usability
Navigational Systems 09 | April 06 - April 12

LESSON 09 QUIZ 09 ASSIGNMENT 09 **DISCUSSION 09.1** DISCUSSION 09.2 INSTRUCTOR OFFICE STUDENT LOUNGE

09.1 Attractive, but hard to use:
09.1 Find an example of a site that is attractive, but has hard to use navigation elements. Discuss how these elements could be improved and made more usable.

PAUL ANDERSON April 07 2010 | 5:42 PM

I decided to do Amazon.com because their site is one of the most popular on the internet, thus it should go without saying they NEED good navigation. They also make heavy use of user cookies and profile histories for their suggestion engine and are known for testing the snot out of their site when it comes to implementing a change of even a few pixels.

Overall the Amazon site is somewhat attractive. Even though the pages are information packed, they put forth a good effort to clump information in to modules. Here are a few things I found:

- Their navigation presents you with WAY too many options off the bat. I would be much more comfortable clicking a few times to help refine my browsing then have to dig through long lists.
- Even though they have a wealth of personal data available they don't leverage it very well. The recommendations I get are often not anywhere near as good as other sites like Netflix.
- Amazon adds a lot of "impulse buy" modules on the right side and in the main page area. Most of these are garbage and just take up space. It is obvious that business decisions are the root of this problem. This would be a good place to leverage user data with quality suggestions.

Reply

JACOB NELSON April 08 2010 | 3:28 PM

This is a good example. How do you think they could make their navigation better?

Edit Reply

New Post

Design Mockups: Faculty

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HOME CLASSES MESSAGES GRADES LIVE SESSION HELP

Gradebook

GRADE SHEET GRADE SHEET SETUP


Class: WNM 606: Principals of Usability Section: Online 01 View: By Module Module: 09

Student	Student ID	Assignment	Assignment Notes	Quiz	Participation	Total Pts	Grade
Anderson, Paul	0123456789	Click to...	Click to grade this assignment	10	45	483	A
Johnson, Melissa	0123456763	90	Nice improvements over last week - you are on pace to have a nice project by the end of the...	9	42	463	A
Smith, Matthew	0123456715	93	No major improvements this week - even though your classmates didn't find much for you to...	10	48	491	A

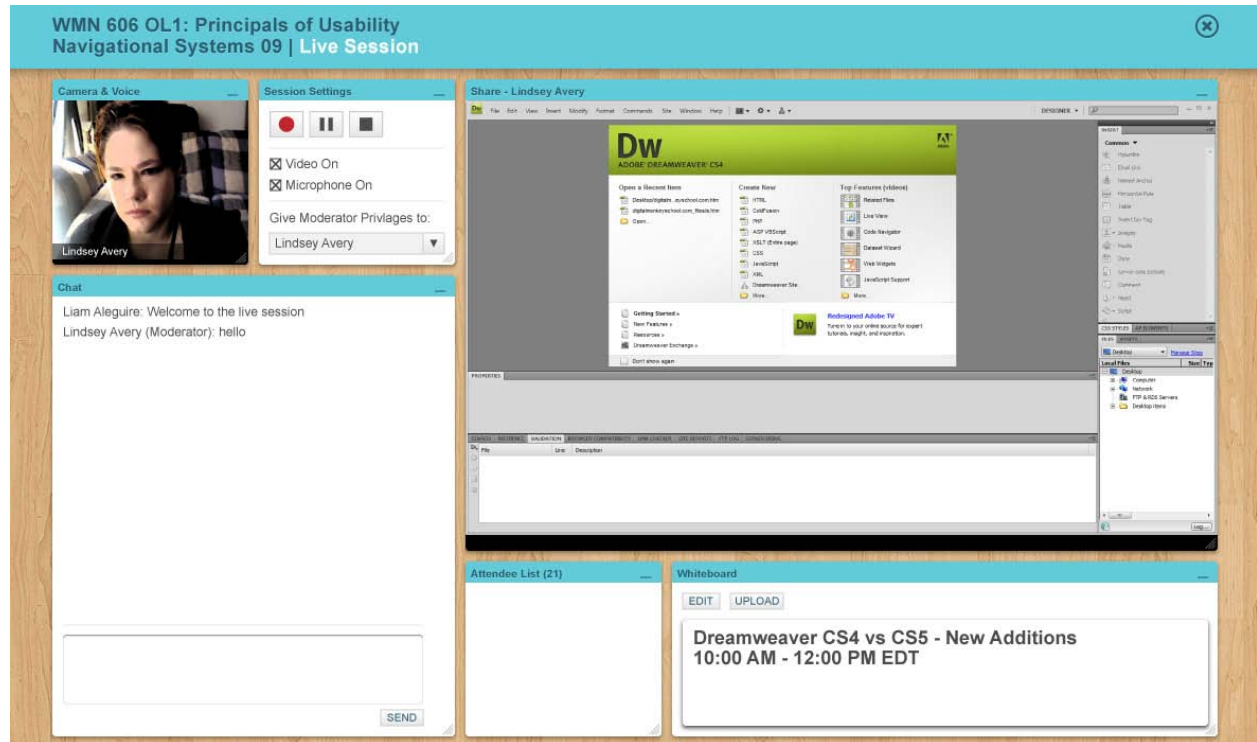
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Assignments Grade Sheet

Class: WNM 606: Principals of Usability Section: Online 01 View: By Module Module: 09

Student	Grade Entry	Student Work Preview
Anderson, Paul	<p>09: Team's Improved Navigation / Site Information Architecture Report With your team, update your web application's information architecture. These updates include your outline or diagram, task flowcharts, and page schematics for the current site based on the feedback you receive from your classmates and instructor.</p> <p>Score: <input type="text" value="96"/></p> <p>Notes: Good improvements from last week - you all continue to be on the right track. I look forward to seeing your design mockups in the next assignment. As you transition from page schematics to mockups, you may want to have one set of your mockups with the top links in the top right and the logo in the top left, so the upper left area of the design doesn't get too overwhelming with too many navigation options.</p> <p><input type="button" value="Submit"/> <input type="button" value="Discard"/></p>	<p>PAUL ANDERSON April 07 2010 5:42 PM</p> <p>Team Improved Navigation / Site Information Architecture Report Please see attached file. <input type="button" value="Hide"/></p>  <p>BrainSpace Information Architecture Report Team 4 Paul Anderson Lindsay Jarry</p> <p>Table of Contents</p> <ul style="list-style-type: none"> 01 Introduction 02 Site Diagram 03 View Diagrams Students 04 Home Page Students 05 User Diagrams Students

Design Mockups: Faculty



Design Mockups: Student

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HOME **CLASSES** **MESSAGES** LIVE SESSION HELP

Bulletin Board Week 9 April 06 - April 12

CLASS STATUS ANNOUNCEMENTS CAMPUS ACTIVITES WORKSHOPS

GS 604 OL1: Professional Practices & Communication	WNM 606 OL1: Principals of Usability	GR 800 OL1: Directed Study
Lessons	Lessons	Assignments
Module 09 Business Plan On section 07 of 15	Module 09 Navigational Systems On section 03 of 10	Module 09 Week 09 Work Review Due in 3 Days
Quizzes	Quizzes	Module 15 Student Defined Project Due May 13
Module 09 Quiz Not Completed	Module 09 Quiz Not Completed	Discussions
Assignments	Assignments	Module 09 Work for Week 09 2 New Posts
Module 09 Marketing Plan Due in 3 Days	Module 09 Improved Navigation Due in 3 Days	Grade
Module 15 Business Plan Due May 13	Module 15 Web Application Due May 13	Mid-Term Progress A
Discussions	Discussions	
Module 09.1 What is your Niche? 12 New Posts	Module 09.1 Attractive, but hard to use 8 New Posts	
Module 09.2 What resources have you found? 2 New Posts	Module 09.2 Review another group's IA and... 5 New Posts	
Grade	Grade	
Mid-Term Progress A	Mid-Term Progress A	

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HOME **CLASSES** **MESSAGES** LIVE SESSION HELP

Bulletin Board **User Assistance** (X)

CLASS STATUS ANNOUNCEMENTS CAMPUS ACTIVITES WORKSHOPS

FAQ SEARCH

GS 604 OL1: Professional Practices & Communication	WNM 606 OL1: Principals of Usability
Lessons	Lessons
Module 09 Business Plan On section 07 of 15	Module 09 Navigational Systems On section 03 of 10
Quizzes	Quizzes
Module 09 Quiz Not Completed	Module 09 Quiz Not Completed
Assignments	Assignments
Module 09 Marketing Plan Due in 3 Days	Module 09 Improved Navigation Due in 3 Days
Module 15 Business Plan Due May 13	Module 15 Web Application Due May 13
Discussions	Discussions
Module 09.1 What is your Niche? 12 New Posts	Module 09.1 Attractive, but hard to use 8 New Posts
Module 09.2 What resources have you found? 2 New Posts	Module 09.2 Review another group's IA and... 5 New Posts
Grade	Grade
Mid-Term Progress A	Mid-Term Progress A

Design Mockups: Student

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HOME **CLASSES** **MESSAGES** **LIVE SESSION** **HELP**

GS 604 OL1: Professional Practices & Communication

STATUS ANNOUNCEMENTS SYLLABUS MODULES CLASSMATES

Lessons

Module 09 Business Plan On section 07 of 15

Quizzes

Module 09 Quiz Not Completed

Assignments

Module 09 Marketing Plan Due in 3 Days

Module 15 Business Plan Due May 13

Discussions

Module 09.1 What is your Niche? 12 New Posts

Module 09.2 What resources have you found? 2 New Posts

Grade

Mid-Term Progress A

WNM 606 OL1: Principals of Usability

STATUS ANNOUNCEMENTS SYLLABUS MODULES CLASSMATES

01 **09 Navigational Systems | April 06 - April 12**

02 **Lesson**

03 Navigational Systems On section 03 of 10

04 **Quiz**

05 10 Questions Not Completed

06 **Assignments**

07 Improved Navigation Due in 3 Days

08 Web Application Due May 13

09 **Discussions**

10 **09.1 Attractive, but hard to use:** 8 New Posts

11 Find an example of a site that is attractive, but has hard to use navigation elements. Discuss how these elements could be improved and made more usable.

12 **09.2 Review another group's IA and comment:** 5 New Posts

13 Review your classmates' IAs that were posted this week and provide comments on:

14 - Does the organization and flow make sense?

15 - Why you think (or don't think) the information organization will work?

- Identify any specific areas that are good or confusing.

BRAINSPACE UNIVERSITY

WNM 606 OL1: Principals of Usability

Navigational Systems 09 | April 06 - April 12

LESSON 09 QUIZ 09 ASSIGNMENT 09 DISCUSSION 09.1 DISCUSSION 09.2 INSTRUCTOR

Figure 9.2.1: Here is a clearly marked Home button

09.2 Navigation Goals

The user should always be able to go home.

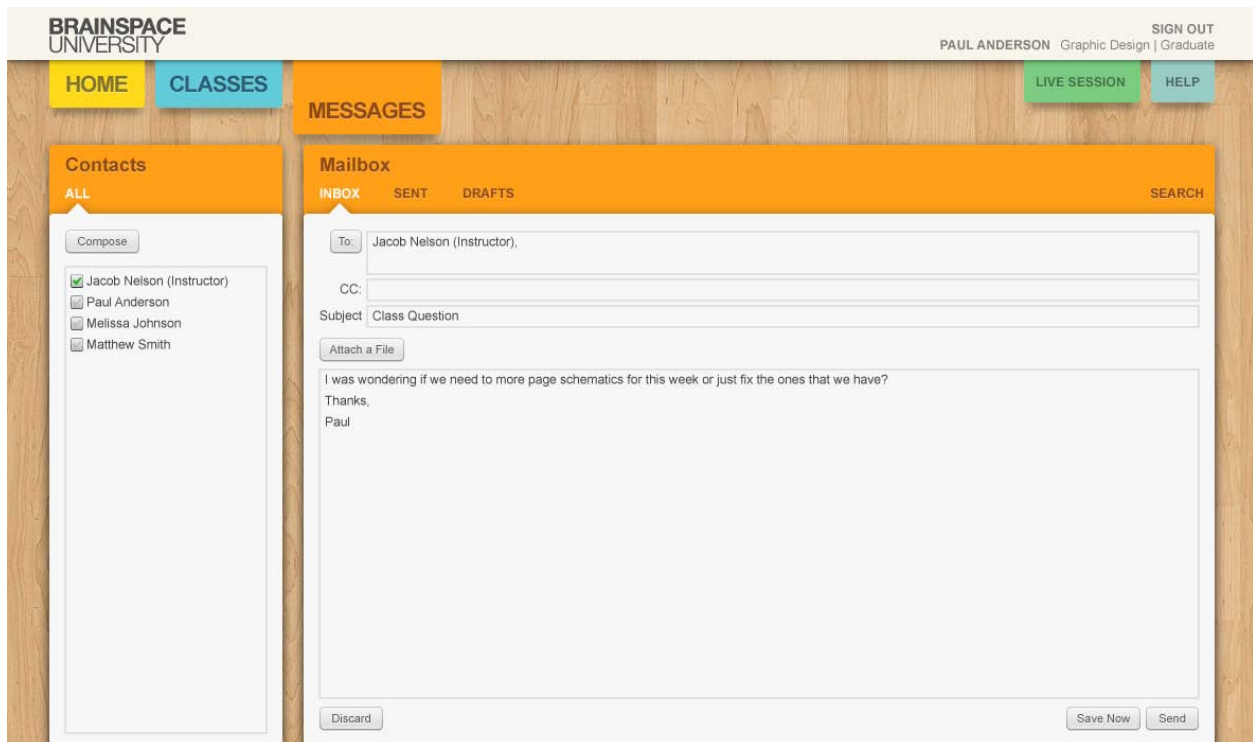
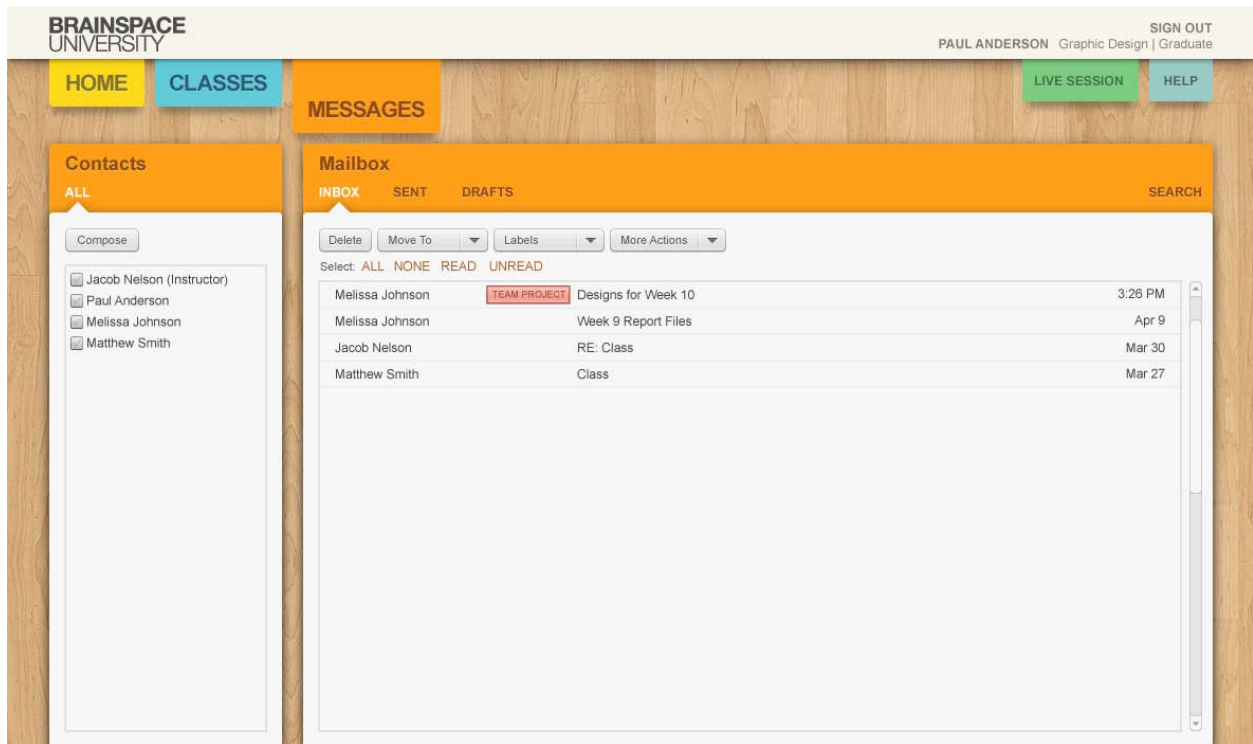
- Does this lead off site? To a new page? To somewhere on the same page? Users should never be surprised at where a link goes.
- Does the name of the link tell me enough about where it leads? Users should be able to understand the "scope" of site.
- Can I get a feel for how big the site is and what I can expect to find here, just by looking at the navigation elements?

Although the example in Figure 9.2.1 shows an explicit "home" button, it's not an absolute req as long as you provide an unchanging and consistent mechanism of moving around the site a use common usage of the web. For example, this design form below does not use an explicit button, but they do implement the standard logo position on the page, the upper left hand corr clicking on this will return the user to the initial page, the index page, when you first enter the : the official web address. In addition, the main navigation bar remains displayed on the page n where the user navigates.

PAUL ANDERSON

Shouldn't navigation be simple despite the size of the site? Thus making big sites manageable?

Design Mockups: Student



Prototype Information

Also included is an interactive PDF, which simulates the functionality of particular sections of the BrainSpace software. The PDF represents some of the most common goals either a student or faculty user might need to achieve. The goal of the prototype is test the mental models used and determine how they may be improved. All applicable text fields in the prototype are “pre-filled” with information to put less emphasis on the process of entering data and more on the mental model employed.

Testing Results and Changes

The nine tasks chosen represent the top user goals for BrainSpace. The prototype was presented as an online, unassisted user test that consisted of the a student perspective interactive PDF, a faculty perspective interactive PDF and an instruction sheet with the task list and post task questionnaire.

After receiving feedback from each tester, it was realized that the tester's common predisposition to a very specific mental model became a challenge when the mental model employed in the prototype for a specific task was not the same as the testers. The high fidelity of the prototype also presented a challenge as tester's expectations for interactivity were greater than what the prototype provided. Beyond these two observations, the following changes were deemed to be necessary to improve the usability of the software.

- Changed the look and placement of the “Ask a Question” button in the *Lesson* section of a class to make it more visible and recognizable.
- Changed the location of the “New Post” button in the *Discussion* and *Assignment* sections of a class to make them more noticeable.
- Made a greater distinction between the *edit* mode and *display* mode for a post by making the *edit message text box* more apparent.
- Added an “Attach a file” button to a post's *edit* mode when they were missing.
- Added another way to add contacts to the “To” field of a message.
- Changed the location of the “New” button after an announcement is posted.
- Changed the look and placement of the “New Post” button for faculty users in the *Lesson* section of a class.
- Added hint text in the grades section for students who still need to have a grade assigned by faculty.
- Changed the way faculty users edit a currently posted grade to reduce the error of it being deleted by accident.

Conclusion

Through our research, you can see the potential for developing an online learning environment that can harness today's growing socially networked culture, instant access to information and multimedia centric learning. BrainSpace seeks to provide a platform where academic and industry professionals can share their knowledge and experiences to a broader demographic of students despite time or place. BrainSpace equipped institutions provide a wealth of capabilities to their instructors. Who can now leverage a vast network of multimedia resources to engage their students more effectively with higher content retention, ending in greater student success and growing future enrollment.

Appendix A

Target Audience Resources: Faculty

Table 2

Skills Needed to Teach Online in 2010

Response Options	Number of Respondents	Response Rate (%)
Course developer	355	66.4
Facilitator or moderator	352	65.8
Subject-matter expert	298	55.7
Instructor or lecturer	273	51.0
Student counselor or advisor	193	36.1
Technology Trainer	162	30.3
Program coordinator or developer	153	28.6
Other	17	3.2
Subtotal	535	96.4
No response	27	3.6
Total	562	100.0

The Future of Online Teaching and Learning in Higher Education:
The Survey Says...(2006)

<http://www.educause.edu/EDUCAUSE+Quarterly/>

EDUCAUSE Quarterly Magazine Volum TheFutureofOnline TeachingandLe/157426

Appendix A

Target Audience Resources: Faculty

Category	Number	Percentage
Gender - male	168	63.9%
Gender - female	94	35.7%
Age = < 30 years	20	7.6%
Age = 30 - 45 years	117	44.5%
Age = 45 - 60 years	90	34.2%
Age = > 60 years	35	13.3%
Rank - Full Professor	126	47.9%
Rank - Associate Professor	74	28.1%
Rank - Assistant Professor	47	17.9%
Rank - Instructor	16	6.1%
Status - Tenured	186	70.7%
Status - Untenured	74	28.3%

Perception Differences About Participating in Distance Education (1998)
<http://www.westga.edu/~distance/ojdla/spring51/schifter51.html>

Appendix A

Target Audience Resources: Faculty


NATIONAL CENTER FOR EDUCATION STATISTICS
 U.S. Department of Education
 Institute of Education Sciences

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Table 264. Percentage of full-time instructional staff with tenure for degree-granting institutions with a tenure system, by academic rank, sex, and control and type of institution: Selected years, 1993–94 through 2005–06

Academic year, control and type of institution	Percent with tenure															
	Total			Professor			Associate professor			Assistant professor			Instructor	Lecturer	No academic rank	
	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female				
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	
1993–94																
All institutions	56.2	62.6	42.7	91.9	92.8	87.7	76.8	77.5	75.1	14.4	13.6	15.5	38.3	10.8	26.0	
Public institutions	58.9	65.4	45.6	92.6	93.6	87.5	80.8	81.6	78.9	17.1	16.1	18.5	45.5	7.2	28.6	
4-year	56.3	63.5	39.3	94.3	94.7	92.0	80.4	81.2	78.4	13.8	13.0	14.8	4.4	5.4	6.1	
Doctoral ¹	54.5	62.1	35.0	94.2	94.7	90.1	81.3	82.1	79.2	7.3	6.7	8.3	2.8	2.1	5.4	
Master's ²	60.5	67.7	46.1	95.4	95.5	95.0	79.3	80.0	77.7	23.0	23.0	22.9	6.4	11.7	11.0	
Other	51.1	56.3	40.0	88.4	88.8	86.4	76.5	77.3	74.8	22.7	22.8	22.6	4.6	15.0	6.4	
2-year	69.9	75.4	63.0	80.7	83.7	75.5	84.2	86.4	81.5	47.7	51.1	44.6	68.9	39.9	65.7	
Not-for-profit institutions	49.5	56.0	35.5	90.3	90.8	88.1	67.6	68.1	66.5	9.0	8.7	9.4	6.1	21.9	18.9	
4-year	49.5	56.0	35.4	90.3	90.8	88.0	67.6	68.1	66.5	9.0	8.7	9.4	5.5	21.6	15.7	
Doctoral ¹	47.6	53.5	31.9	90.5	90.8	88.5	62.5	63.4	60.0	3.7	3.7	3.7	8.9	29.2	15.4	
Master's ²	51.8	59.2	38.2	90.8	91.1	89.8	71.3	72.2	69.6	13.4	13.6	13.1	2.6	0.7	10.5	

Digest of Educational Statistics (2006)
http://nces.ed.gov/programs/digest/d08/tables/dt08_264.asp

Appendix B

Target Audience Resources: Student

The following statistics were taken from a Quantcast.com. While these demographic numbers can be used to support our assumptions regarding the target audience specification, they do lack accuracy insofar as they represent all traffic to a site and not strictly student users.



Quantcast - Academy of Art (2010)
<http://www.quantcast.com/online.academyart.edu>

Appendix B

Target Audience Resources: Student

The following statistics were taken from a Quantcast.com. While these demographic numbers can be used to support our assumptions regarding the target audience specification, they do lack accuracy insofar as they represent all traffic to a site and not strictly student users.

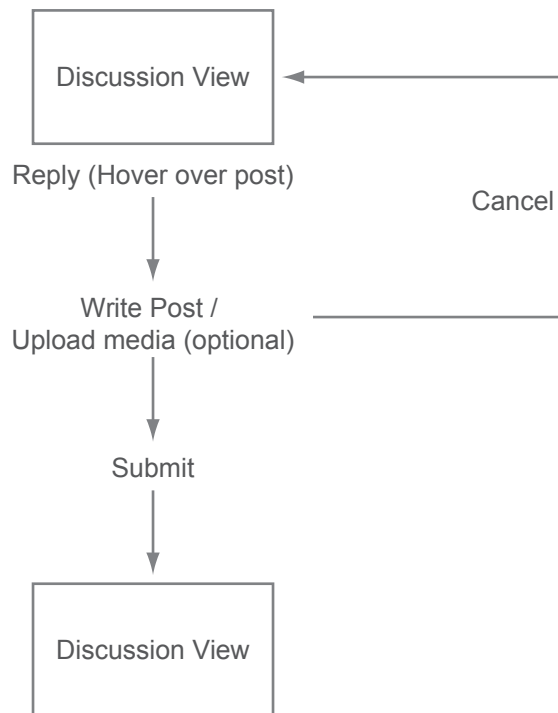


Quantcast - Stanford (2010)
<http://www.quantcast.com/scpd.stanford.edu>

Appendix C

Task Flow Diagrams

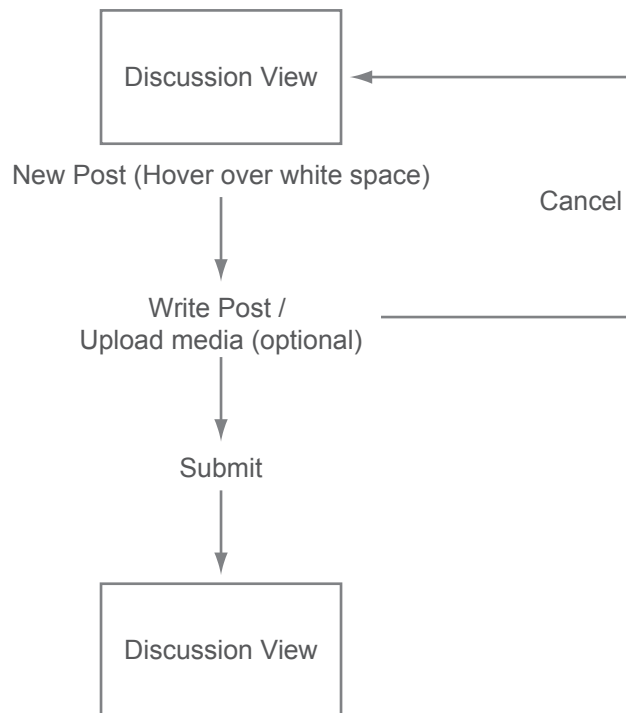
Student Discussion Post Reply Flowchart



Appendix C

Task Flow Diagrams

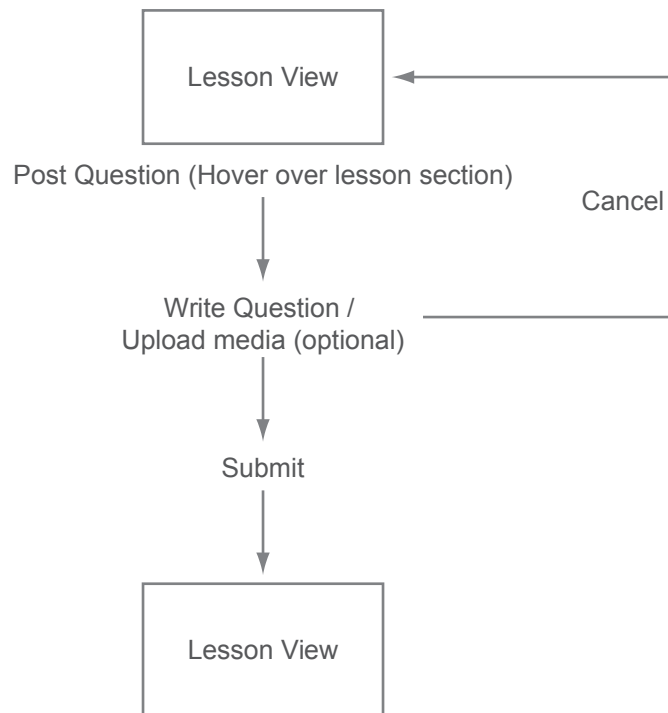
Student Discussion New Post Flowchart



Appendix C

Task Flow Diagrams

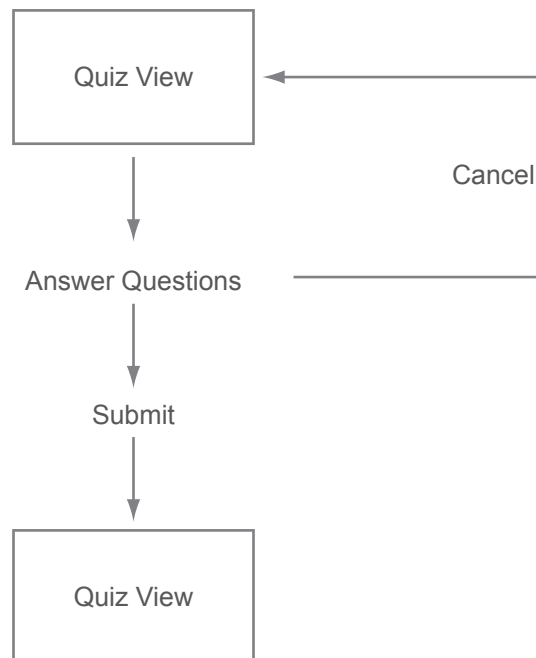
Student Module Lesson Question Flowchart



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Task Flow Diagrams

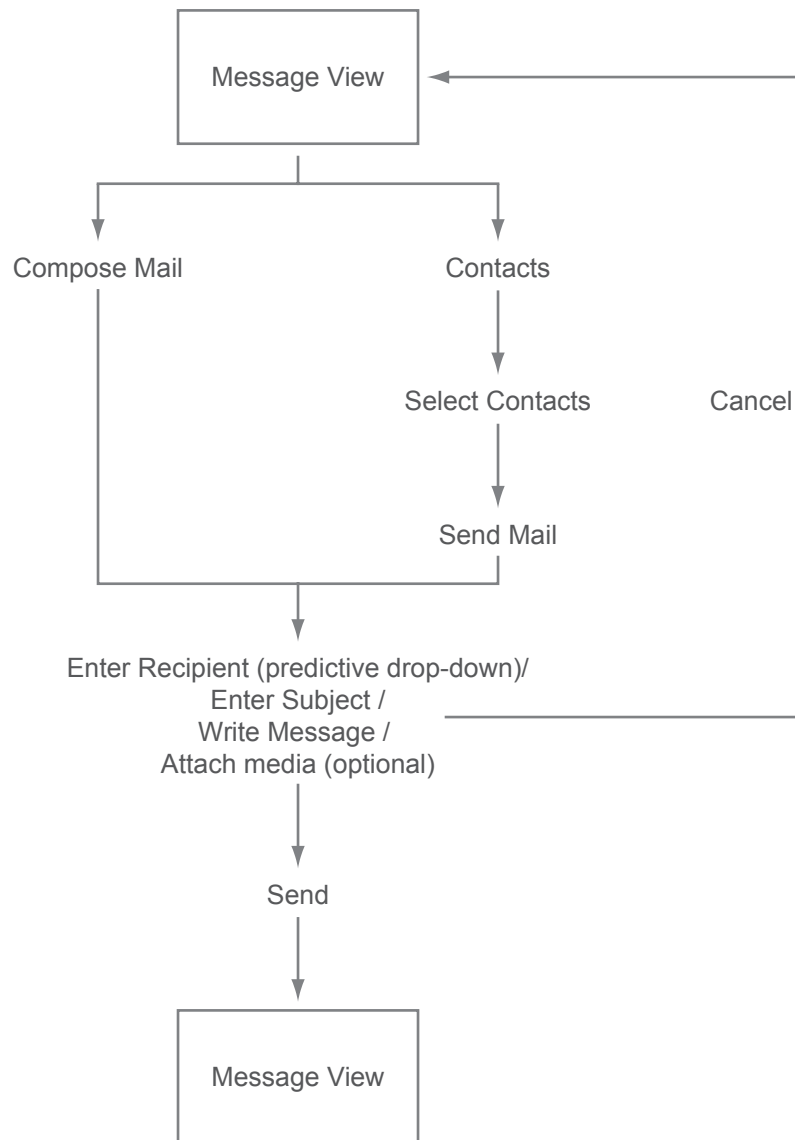
Student Take Module Quiz Flowchart



Appendix C

Task Flow Diagrams

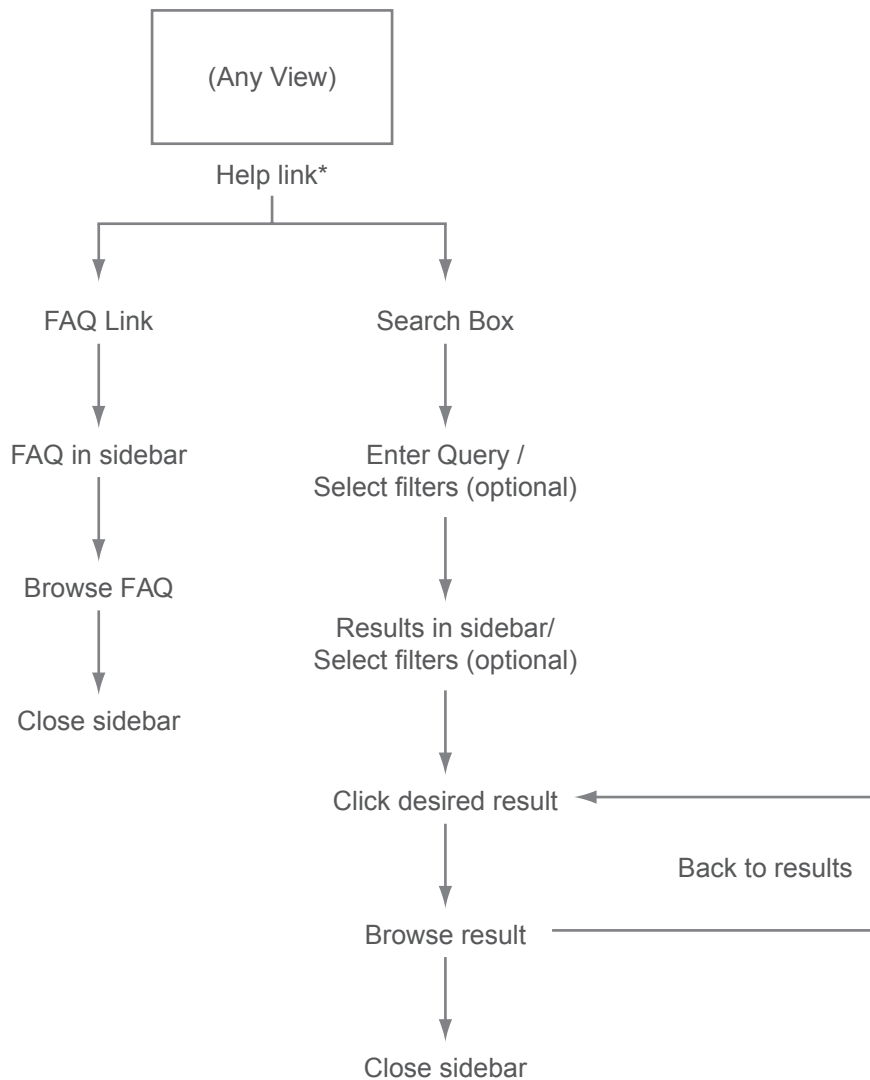
Student Send a Message Flowchart



Appendix C

Task Flow Diagrams

Student Find Help Flowchart



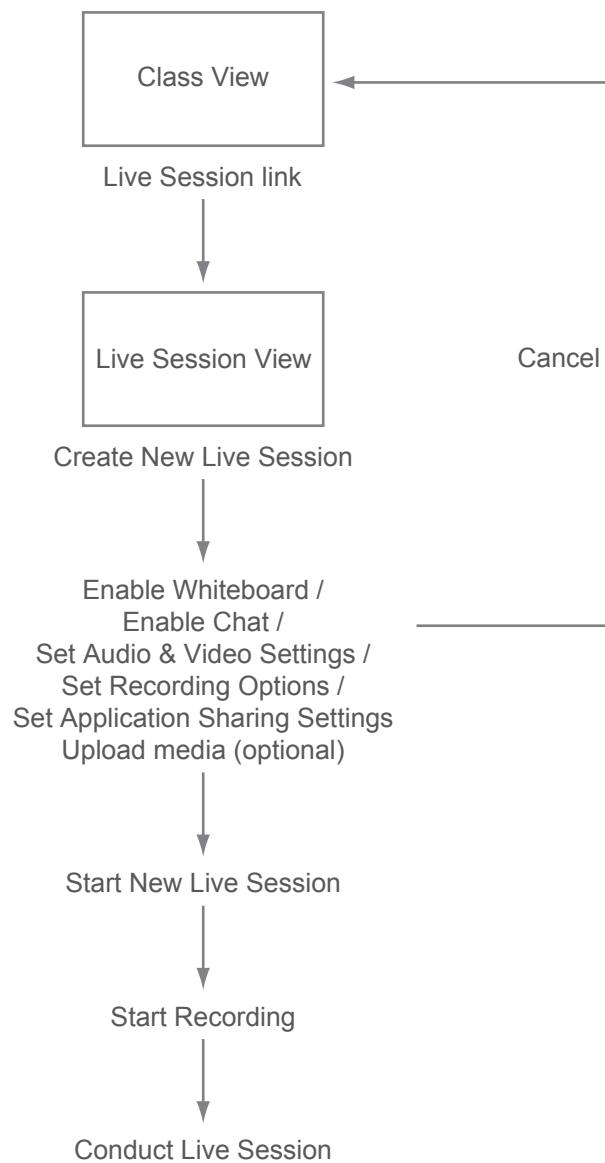
*User may cancel help at any time by closing the sidebar

Appendix C

Task Flow Diagrams

Faculty

Start New Live Session Flowchart

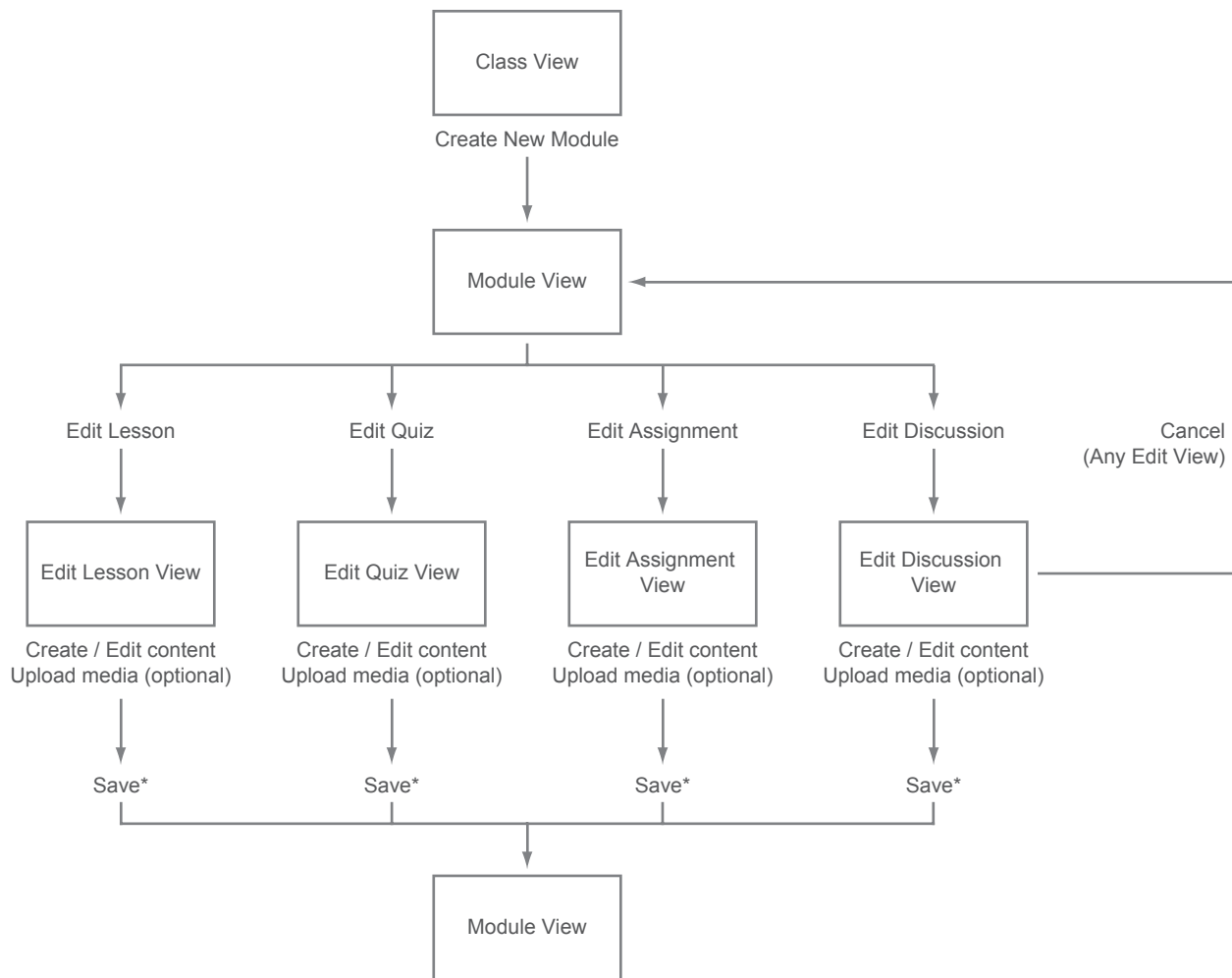


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Task Flow Diagrams

Faculty

Build Class Module Flowchart



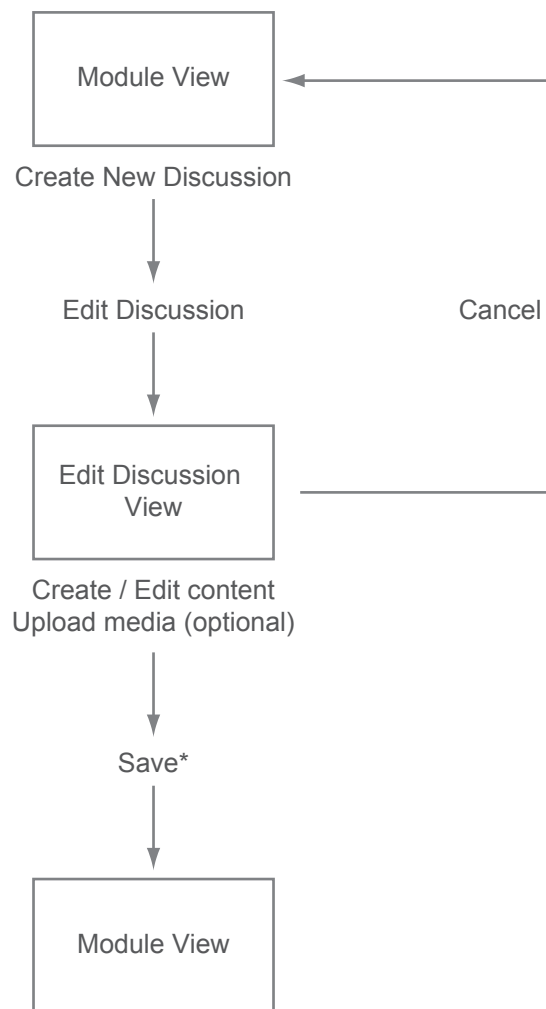
*System autosaves after a set interval to prevent loss of data

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Task Flow Diagrams

Faculty

Add Another Module Discussion Flowchart

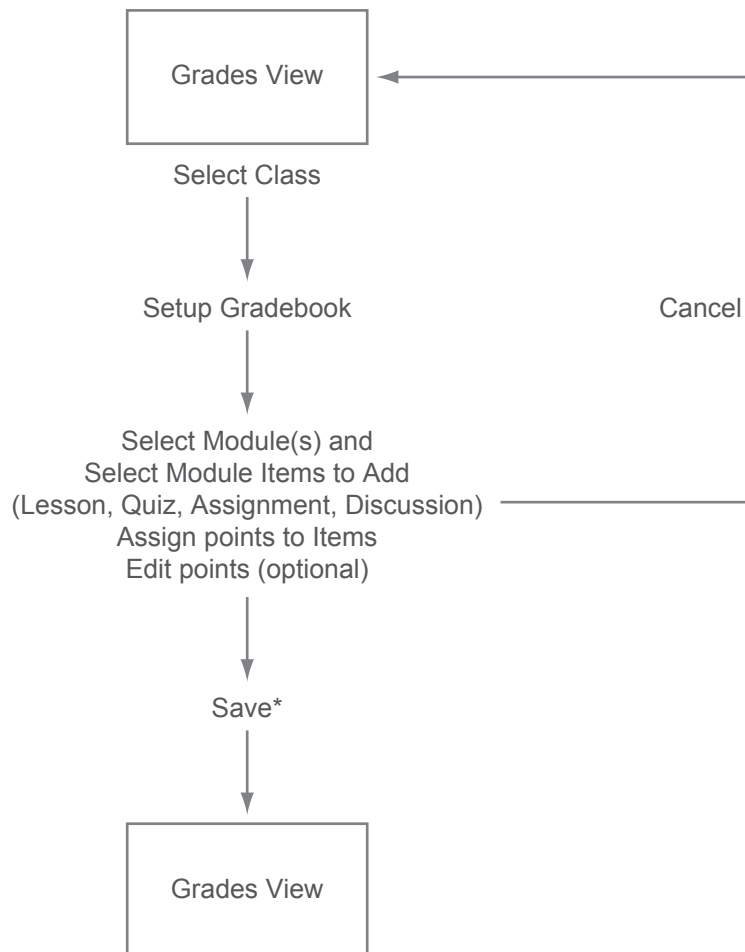


*System autosaves after a set interval to prevent loss of data

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Task Flow Diagrams

Faculty Setup Gradebook Flowchart



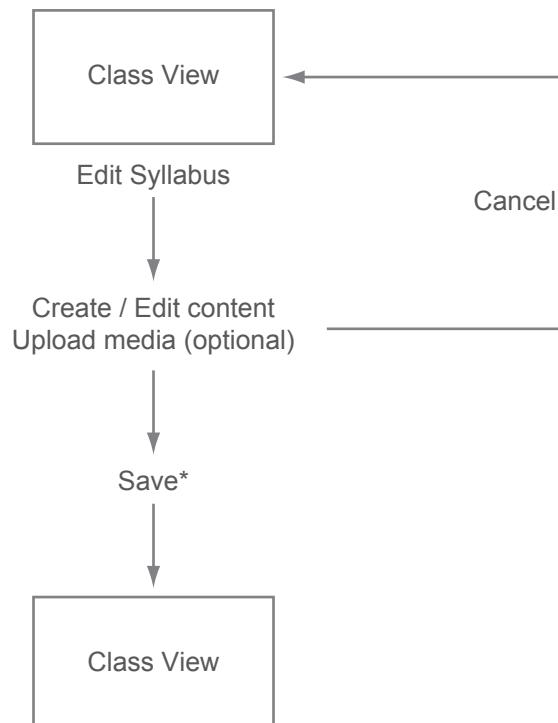
*System autosaves after a set interval to prevent loss of data

Appendix C

Task Flow Diagrams

Faculty

Edit Syllabus Flowchart



*System autosaves after a set interval to prevent loss of data

Appendix C

Task Flow Diagrams

Faculty Post Class Announcement Flowchart

