

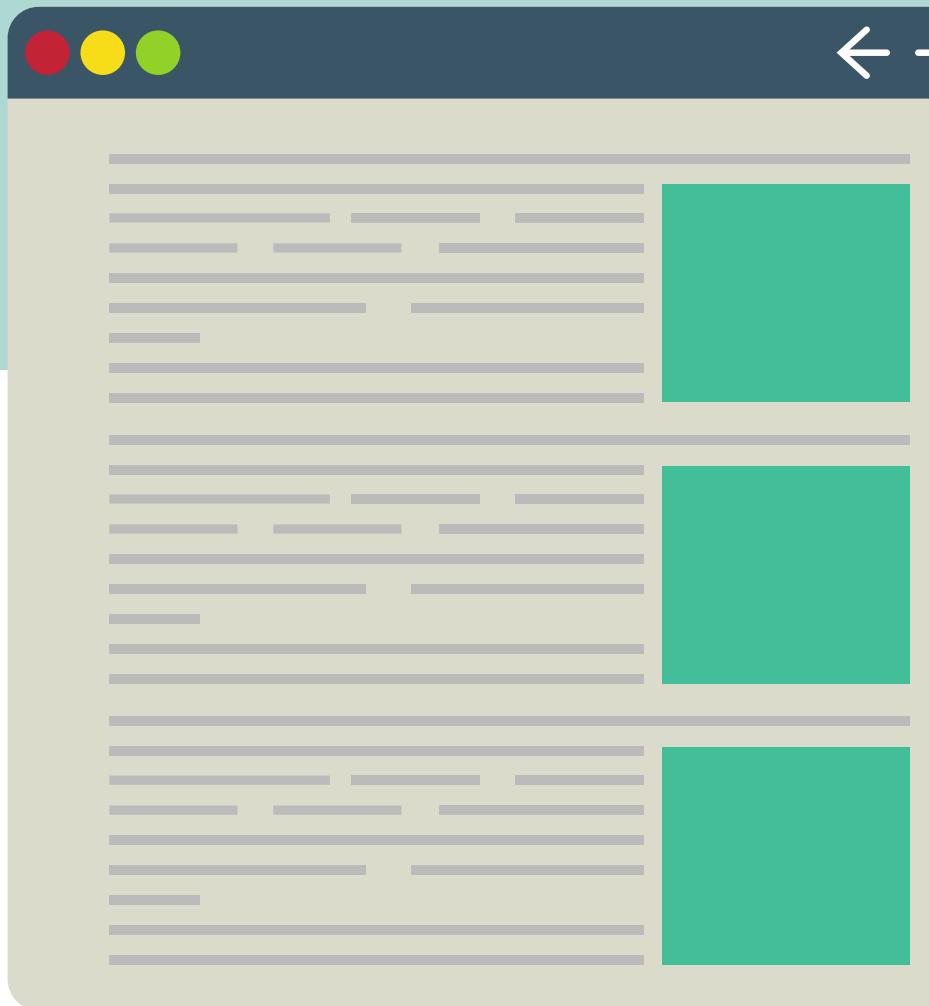
# PROJECT 1

# DESIGN

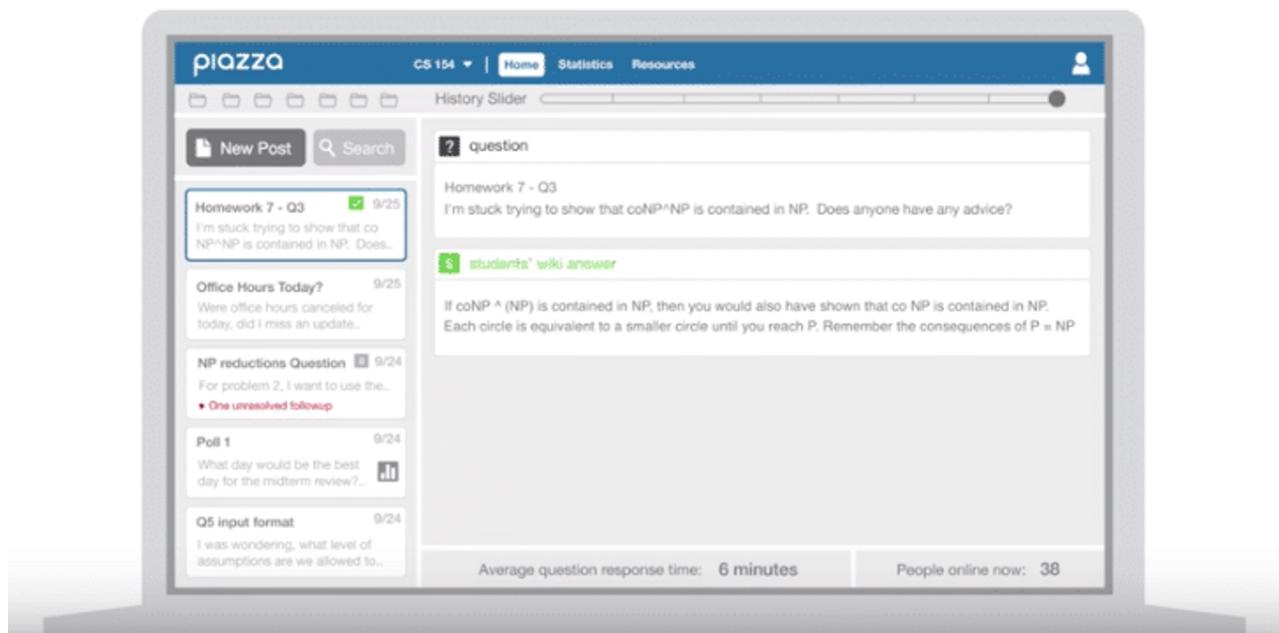
# BOOK



**Nancy Wang  
Zixuan Yao  
Soo Hyun Lee**



# DESIGN FOCUS & PROBLEM SPACE



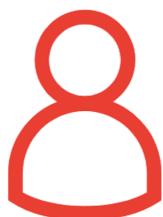
**Piazza** is a free online space where students and instructors collaborate to ask, answer and explain problems that may arise within the class. It is open to anyone at all hours and is a convenient space used by many classes in college. However, as frequent users of Piazza, we have all had our frustrating encounters with this website. To improve our user experiences, we wanted to explore both the current issues with Piazza and the various ways of redesigning Piazza's layout so that it is more user-friendly and intuitive.

# PROBLEM UNDERSTANDING: CONTEXTUAL INQUIRY

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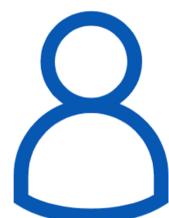
## SUBJECT BACKGROUNDS

To understand the current problems students face with Piazza, we conducted contextual inquiries on two Hopkins students.



### Subject A

- first-year graduate student at JHU
- studying Computer Science
- started using Piazza one month ago



### Subject B

- fourth-year undergraduate student at JHU
- studying Chemical and Biomolecular Engineering
- using Piazza for the past three years

By identifying interviewees with varying levels of familiarity with Piazza, we wished to analyze difficulties of Piazza for both old and new users.

# PROBLEM UNDERSTANDING: CONTEXTUAL INQUIRY

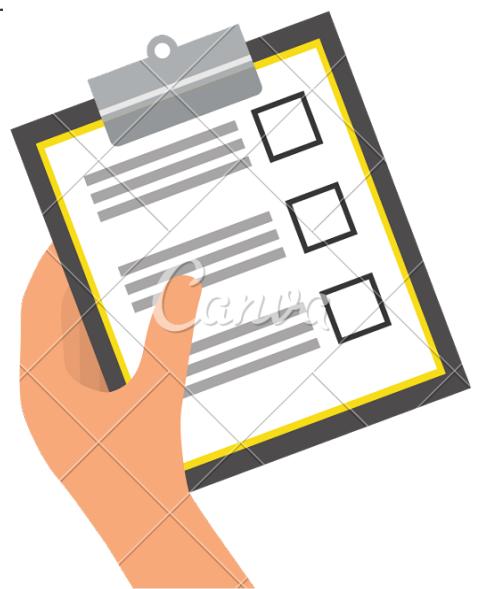
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## TASKS

To perform our contextual inquiry, we brainstormed a set of commonly performed tasks on Piazza.

We used the following tasks as a guideline for our interviews:

- adding a class
- downloading the class syllabus
- changing notification settings for a class
- finding a specific post on Piazza
- asking a question on Piazza
- dropping a class



# PROBLEM UNDERSTANDING: CONTEXTUAL INQUIRY

## PRE-TASK: LOGGING ONTO PIAZZA

The screenshot shows the Piazza interface. On the left, there's a sidebar with course navigation and a message from the instructor about office hours. The main area has two main sections: "Class at a Glance" and "Network at a Glance".

**Class at a Glance:**

- 10 unread posts
- 4 unanswered questions
- no unresolved followups
- 71 total posts
- 177 total contributions
- 37 instructors' responses
- 11 students' responses

**Network at a Glance:**

- 566 total connections
- 96% profile completed
- 11 companies viewed

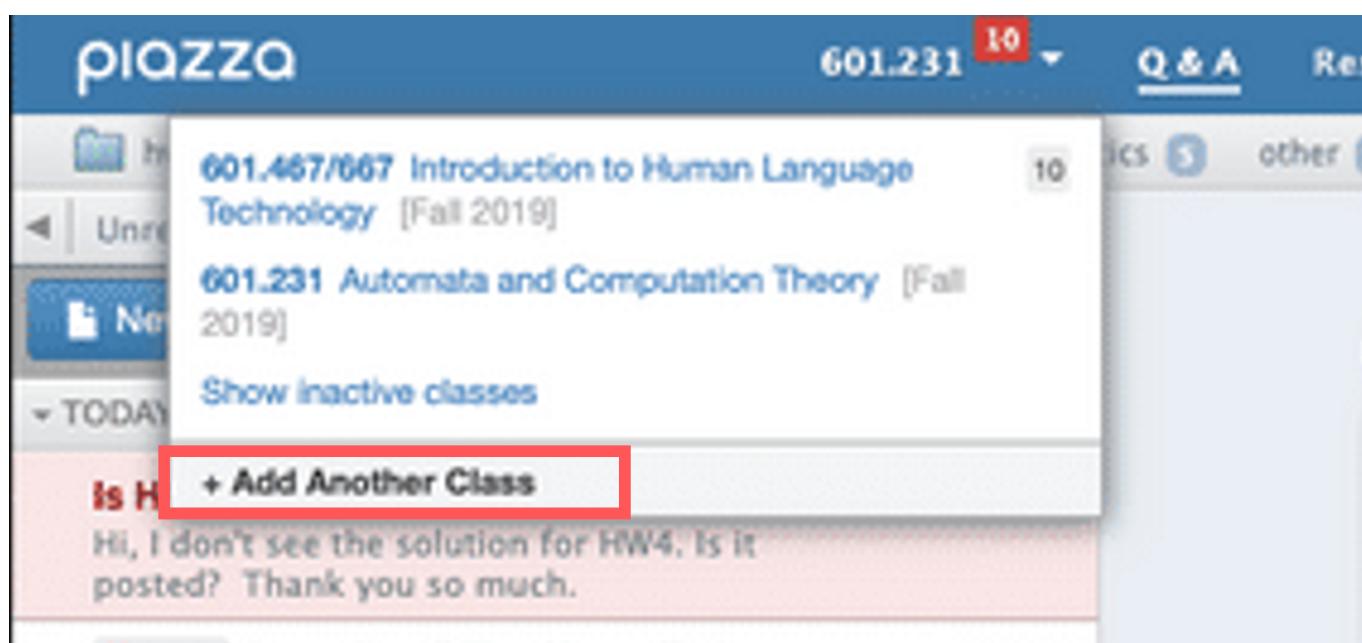
Companies recently added: GLOW911, BE Shaw & Co, IBM, Uber, Johnson Controls.

We started our contextual inquiries with both subjects logged onto Piazza. Both subjects A and B typed “piazza” into their browser and allowed their browsers’ auto-complete to navigate them to page depicted above. Subjects were already signed into Piazza, so the home screen showed their most recently accessed course page on Piazza.

# PROBLEM UNDERSTANDING: CONTEXTUAL INQUIRY

## TASK 1: ADDING A COURSE

We asked both subjects to add the "Artificial Intelligence" class. Both subject A and subject B navigated to the leftmost tab on Piazza's header and clicked on "+ Add Another Class". Clicking this button navigated them to a new page that listed all their current classes and provided the option to add new classes.



# PROBLEM UNDERSTANDING: CONTEXTUAL INQUIRY

## TASK 1: ADDING A COURSE

From this new page, both subjects typed “Artificial Intelligence” into the blank input line that followed their list of currently enrolled classes. Upon hitting the blue “Join Classes” button, subjects were redirected to the course page for Artificial Intelligence.

The screenshot shows the Piazza platform interface for Johns Hopkins University. At the top, there's a navigation bar with 'Looking for Piazza Careers' and 'Go to My Classes'. On the right, there's a link for professors: 'Are you a professor? Click here to create & join classes'. The main content area has a 'Selected Term: Fall 2019' dropdown. Below it, a list of classes is shown:

- Class 1:** 601.467/667: Introduction to Human Language Technology  
Instructors: Adi Renduchintala, Philipp Koehn, Danill Pakhomov - 112 Enrolled  
✓ Already joined as Student
- Class 2:** 601.231: Automata and Computation Theory  
Instructors: Coco Li, Cindy Ge, Eric Cochran - 123 Enrolled  
✓ Already joined as Student
- Class 3:**  (highlighted)  
Searching for "Artific"
- Class 4:** 601.464/664: Artificial Intelligence  
106 Enrolled (with an 'X' icon)
- Class 5:** (empty)

At the bottom, there are buttons for 'Add Another Class' and 'Join Classes'.

# PROBLEM UNDERSTANDING: CONTEXTUAL INQUIRY

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## TASK 2: DOWNLOAD CLASS SYLLABUS



Next, we asked both subjects to see if there was a class syllabus and to download it if there was one. Even though both subjects were on the Artificial Intelligence course page, Subject A first clicked back to the leftmost tab and clicked on the “Artificial Intelligence”, causing the page to reload. **We noticed that although the leftmost tab displayed the course number of the class, there were no other indications of which class was being viewed anywhere on the landing page.**

# PROBLEM UNDERSTANDING: CONTEXTUAL INQUIRY

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## TASK 2: DOWNLOAD CLASS SYLLABUS

The screenshot shows a Piazza course page for Johns Hopkins University - Fall 2019. The course title is "601.464/664: Artificial Intelligence". A red box highlights the "Syllabus" button, which is located above the "Course Information", "Staff", and "Resources" tabs. Below the tabs, there are two sections: "Lecture Notes" (with a message: "Nothing has been added to the Lecture Notes section, yet. Stay tuned!") and "General Resources".

From the homepage, subjects A and B navigated to the “Resources” tab to find the syllabus. Subject B was easily able to find the syllabus at the top of the page, and clicked the “Syllabus” button to download it to their computer. Meanwhile, Subject A scrolled through the resources page and looked through the “Lecture Notes” and “General Resources” categories. **Subject A was ultimately unable to find the syllabus on the Resources tab after 2-3 minutes of searching, so we moved on to the next task.**

# PROBLEM UNDERSTANDING: CONTEXTUAL INQUIRY

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## TASK 3: CHANGE EMAIL NOTIFICATION SETTINGS

We asked the subjects to change the email notification settings for Artificial Intelligence so that instead of sending emails every time a question was asked, it would create a "Smart Digest" every 4 hours.

**Neither subject A nor subject B was successful in completing this task,** and both subjects went about this task in different ways.



# PROBLEM UNDERSTANDING: CONTEXTUAL INQUIRY

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## TASK 3: CHANGE EMAIL NOTIFICATION SETTINGS

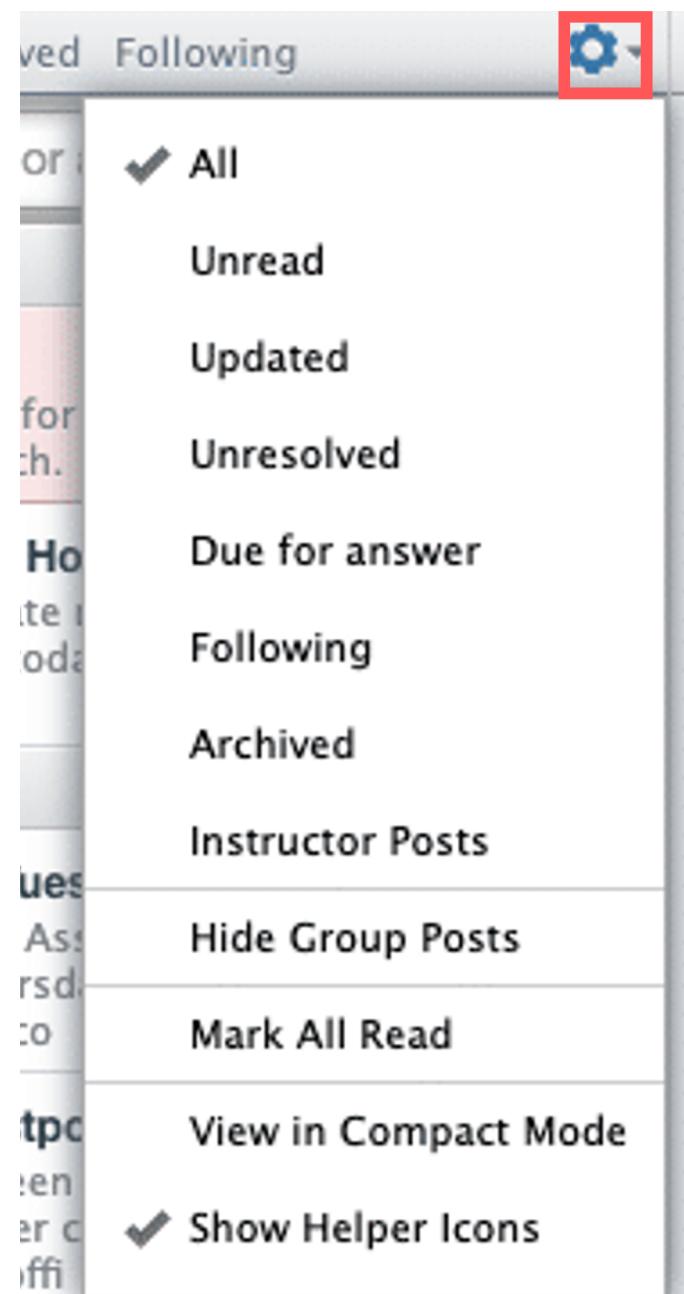


Subject A appeared to know the icon for changing notifications was on the far right of the header. However, **because their screen size was not maximized**, they repeatedly clicked on the profile icon to the left of the settings icon, which navigated them to Piazza Careers. Subject A didn't realize their screen size was not maximized, and ultimately gave up on this task after 1-2 minutes.

# PROBLEM UNDERSTANDING: CONTEXTUAL INQUIRY

## TASK 3: CHANGE EMAIL NOTIFICATION SETTINGS

A screenshot of a course management system interface. On the left, there's a sidebar with a blue header containing the name 'OZZO' and a dropdown menu showing '601.464/664' with a red notification badge '10'. Below this are links for '601.467/667 Introduction to Human Language Technology [Fall 2019]', '601.231 Automata and Computation Theory [Fall 2019]', and '601.464/664 Artificial Intelligence [Fall 2019]'. There are also buttons for 'Show inactive classes' and '+ Add Another Class'. On the right, the main content area shows a list of posts or notifications.

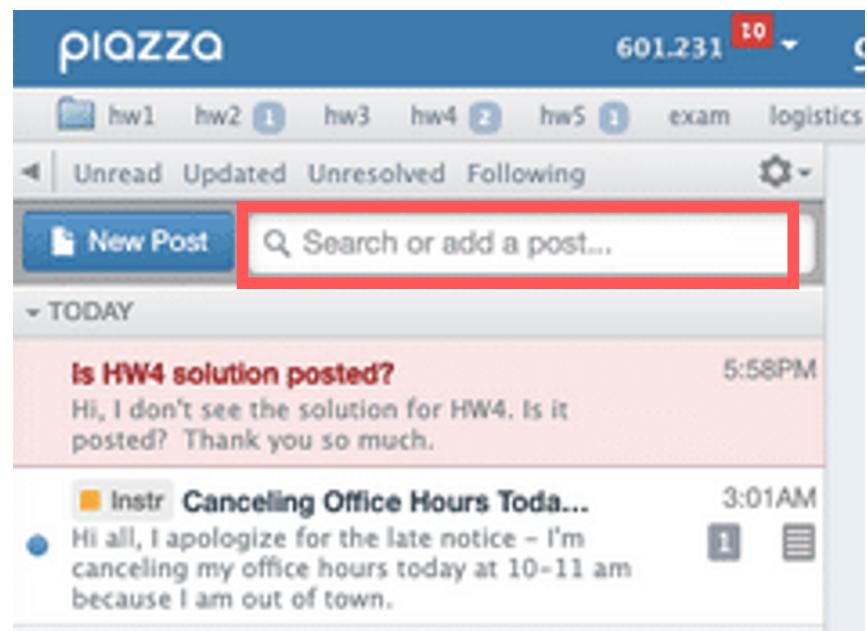


Subject B first clicked on the leftmost tab where they initially added the Artificial Intelligence course (depicted above). They then clicked the Settings icon next to the "Search Posts" feature, shown to the right. We observed that **while Subject B correctly guessed to click on the Settings icon, the presence of two Settings icons misled the subject.**

# PROBLEM UNDERSTANDING: CONTEXTUAL INQUIRY

## TASK 4: FINDING A POST ON PIAZZA

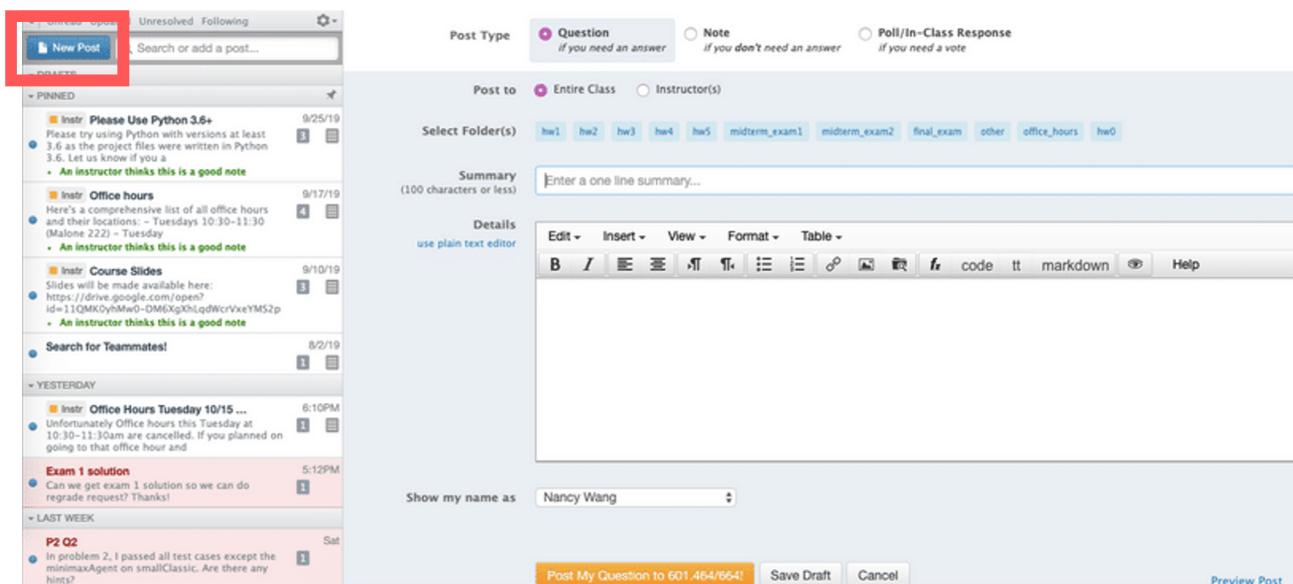
We asked the subjects to find the post with the course's Gradescope code. Subject A **initially tried scrolling through all the posts on the sidebar before noticing the search bar** at the top of the sidebar. On the other hand, Subject B first tried the search function.



Both successfully found the post, but Subject B commented that **there were times when the search bar did not work**, so they typically used **CTRL-F** (keyboard shortcut to search for a word) to double check the search results provided by Piazza.

# PROBLEM UNDERSTANDING: CONTEXTUAL INQUIRY

## TASK 5: POSTING ON PIAZZA



Next, we asked students to simulate posting a question on Piazza. Both subjects clicked on the "New Post" button (displayed on the right). They explained that they had options to post anonymously, and post "notes" which, unlike questions, required no response from instructors or other students in the class. Out of all tasks, both subjects completed this tasks the fastest and **demonstrated clear understanding of how posting a question worked on Piazza.**

# PROBLEM UNDERSTANDING: CONTEXTUAL INQUIRY

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## TASK 6: DROPPING A CLASS

For our final task, we asked subjects to drop the "Artificial Intelligence" class.

Subject A initially went back to the leftmost tab on the header where they previously added Artificial Intelligence. When they did not find the option to drop a class in the drop down, they spent the remainder of their time staring at the course page. Eventually, Subject A gave up on the task.

The screenshot shows a course management system interface. At the top, there's a blue header bar with the text 'AZZQ' on the left and '601.464/664' on the right, with a small red box containing the number '10' above it. Below the header, there's a list of classes:

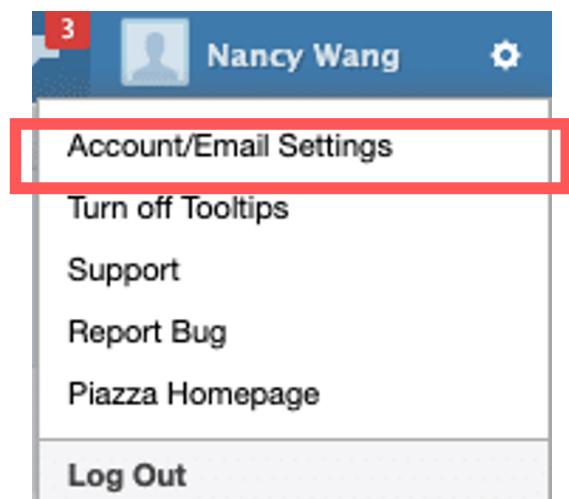
- 601.467/667** Introduction to Human Language Technology [Fall 2019] (with a small '10' icon to its right)
- 601.231** Automata and Computation Theory [Fall 2019]
- 601.464/664** Artificial Intelligence [Fall 2019]

Below the class list, there are two buttons: 'Show inactive classes' and '+ Add Another Class'.

# PROBLEM UNDERSTANDING: CONTEXTUAL INQUIRY

## TASK 6: DROPPING A CLASS

Subject B went to the far right of the screen and clicked on the settings icon in the header. They then clicked on Account/Email Settings, selected the "Artificial Intelligence" class, and dropped it.



**Class & Email Settings**

|   |   |              |
|---|---|--------------|
| 601.467/667   Introduction to Human Language Technology   Fall 2019 | Smart Digest   Real Time   Edit Email Notifications | X Drop Class |
| 601.231   Automata and Computation Theory   Fall 2019               | Smart Digest   Real Time   Edit Email Notifications | X Drop Class |
| 601.464/664   Artificial Intelligence   Fall 2019                   | Smart Digest   Real Time   Edit Email Notifications | X Drop Class |

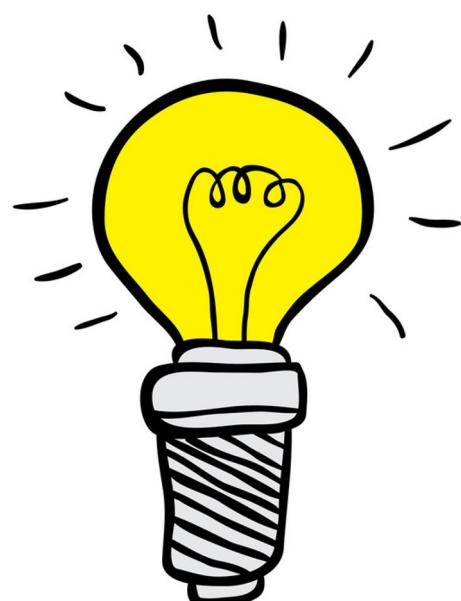
Show Inactive Classes

# PROBLEM UNDERSTANDING: CONTEXTUAL INQUIRY

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## TASK 6: DROPPING A CLASS

We found it interesting that while Subject B knew where to drop classes, they did not know how to change the class' notification settings, which were located in the same spot. We also noted that while **it would make sense that adding and dropping a class would be located in the same place**, Piazza separated these two operations into different segments of the website.



# PROBLEM UNDERSTANDING: DIAGRAMMING

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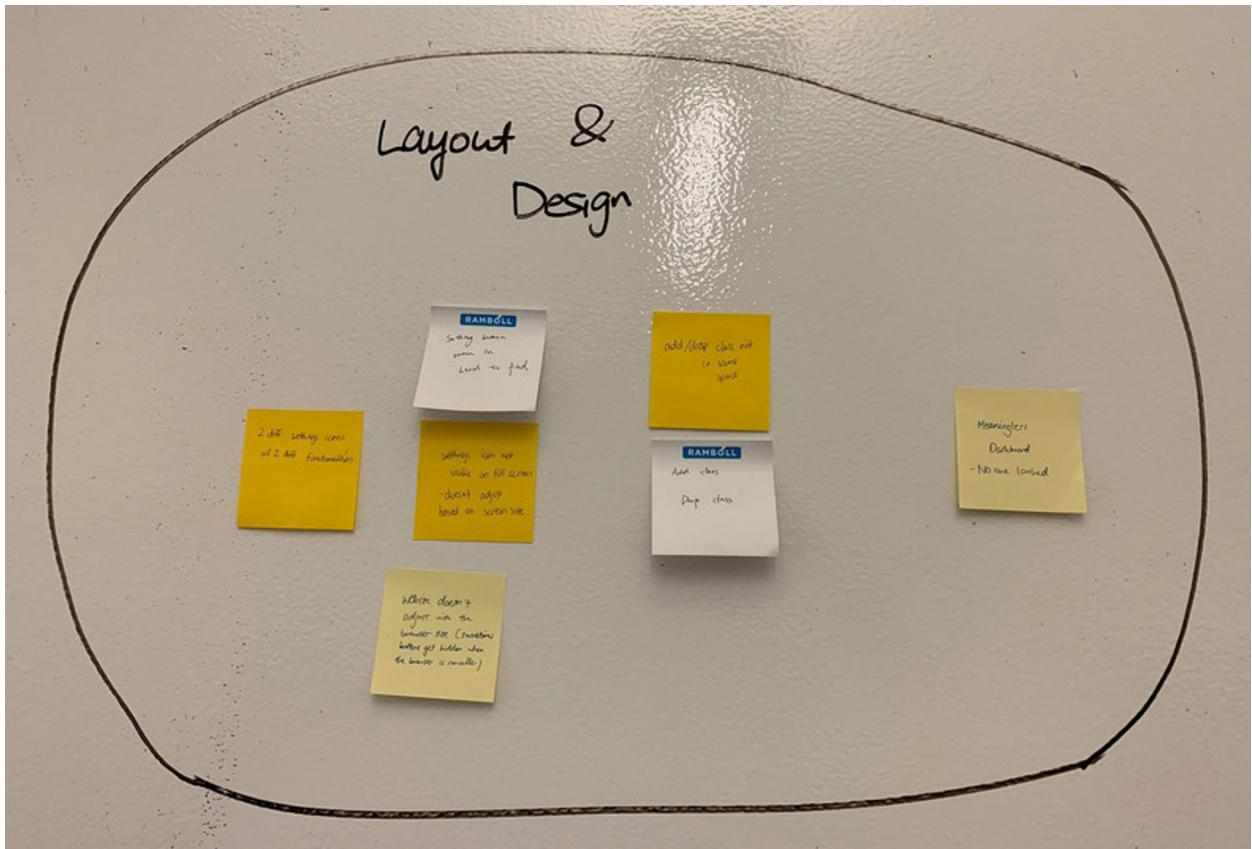
## AFFINITY DIAGRAMMING

To make sense of both contextual inquiries we conducted, we performed the Affinity Diagramming technique as discussed in class. Besides going through field notes, we watched videos of both our subjects performing the tasks and made additional observations of the breakdowns and facial cues exhibited by each subject. We wrote each of these breakdowns on sticky notes and discovered three common themes: Layout/Design, Search, and Course Information.

# PROBLEM UNDERSTANDING: DIAGRAMMING

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## AFFINITY DIAGRAMMING: LAYOUT & DESIGN

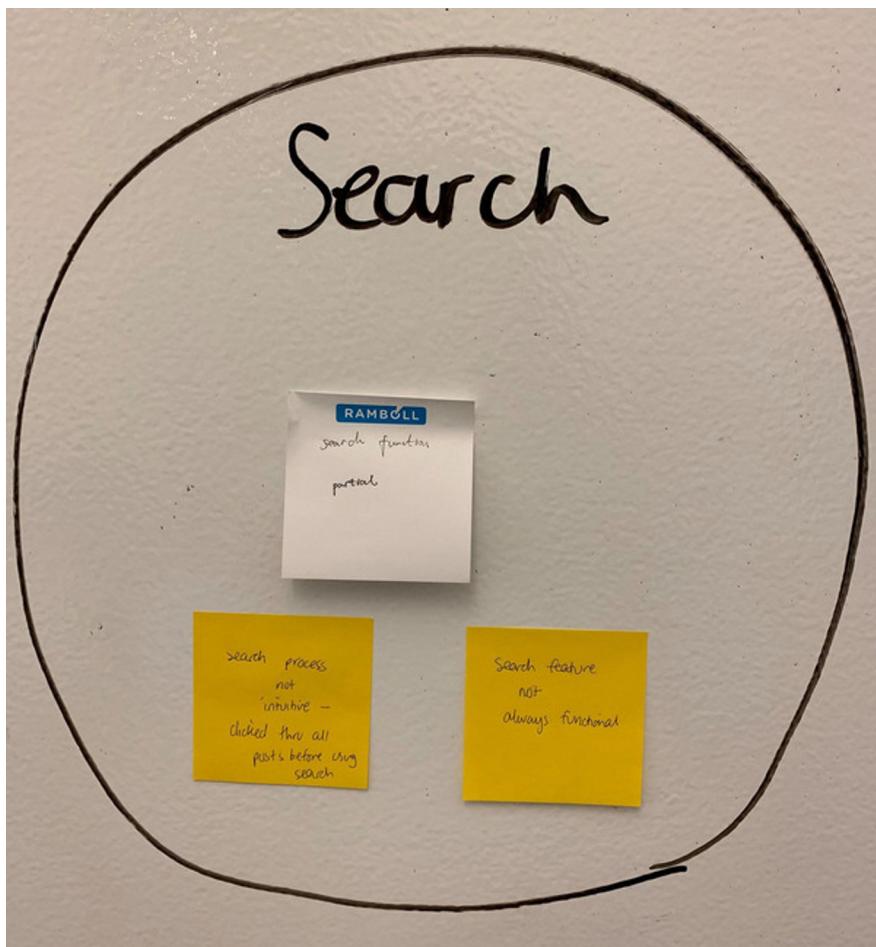


- Website doesn't adjust with the the browser size
  - Setting icon not visible when screen not maximized
- Add / Drop class not in the same place
- No one looked at dashboard
- Two different settings icon on course page

# PROBLEM UNDERSTANDING: DIAGRAMMING

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## AFFINITY DIAGRAMMING: SEARCH

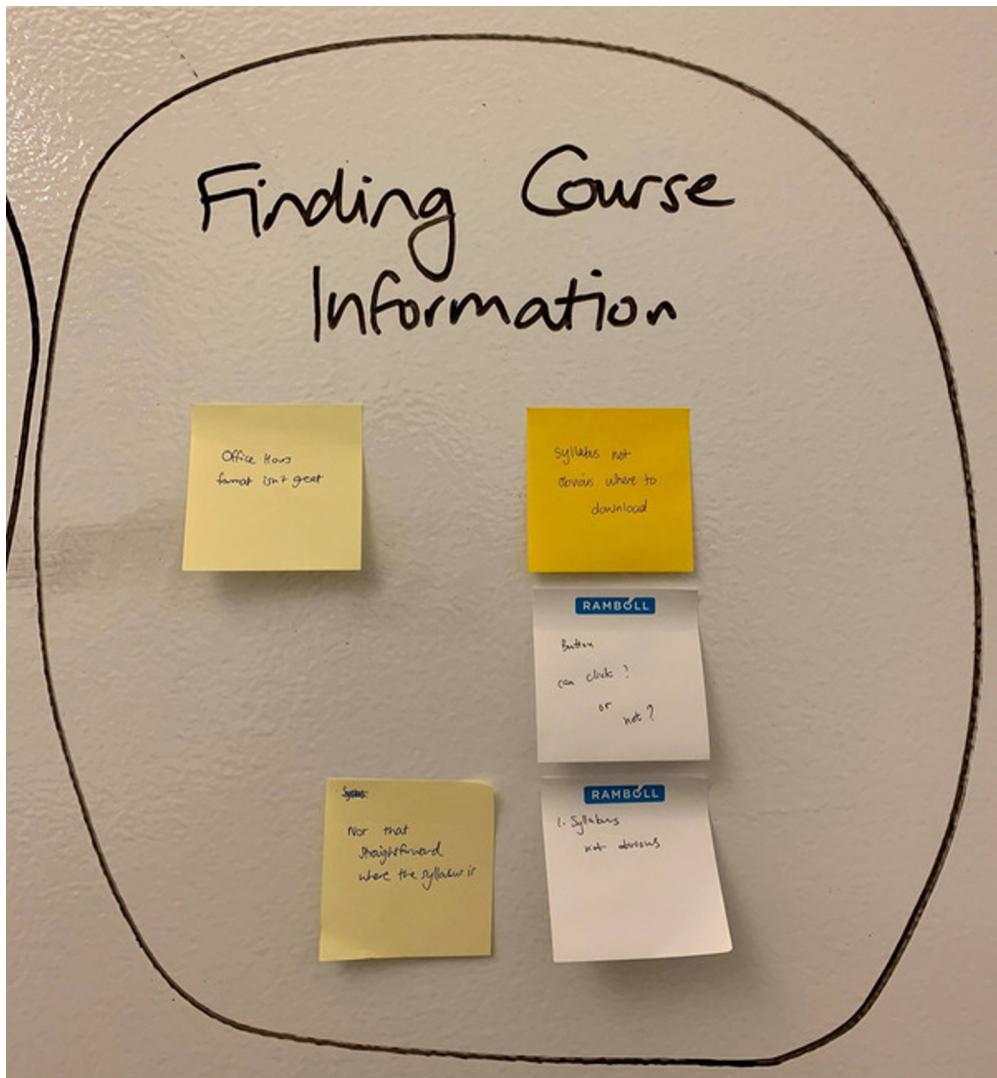


- Doesn't show full results when typing keywords partially
- Subject A: clicked through all posts before using search

# PROBLEM UNDERSTANDING: DIAGRAMMING

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## AFFINITY DIAGRAMMING: COURSE INFORMATION

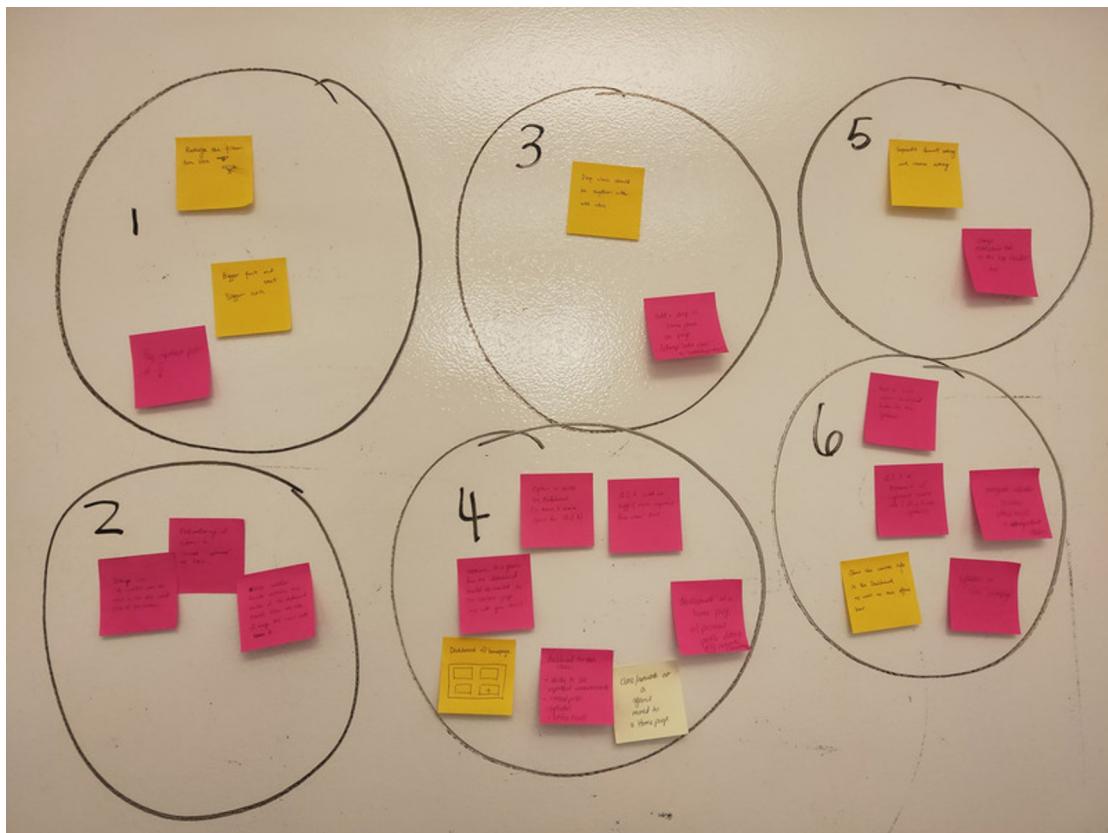


- Syllabus not eye-catching at first glance
- Not obvious how to download syllabus

# PROBLEM UNDERSTANDING: DIAGRAMMING

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## AFFINITY DIAGRAMMING: SOLUTIONS



For each of the issues we identified, we iterated over potential solutions and workarounds. We clustered our ideas by the problem each idea addressed, with the above diagram as our end result.

# PROBLEM UNDERSTANDING: WORK MODEL

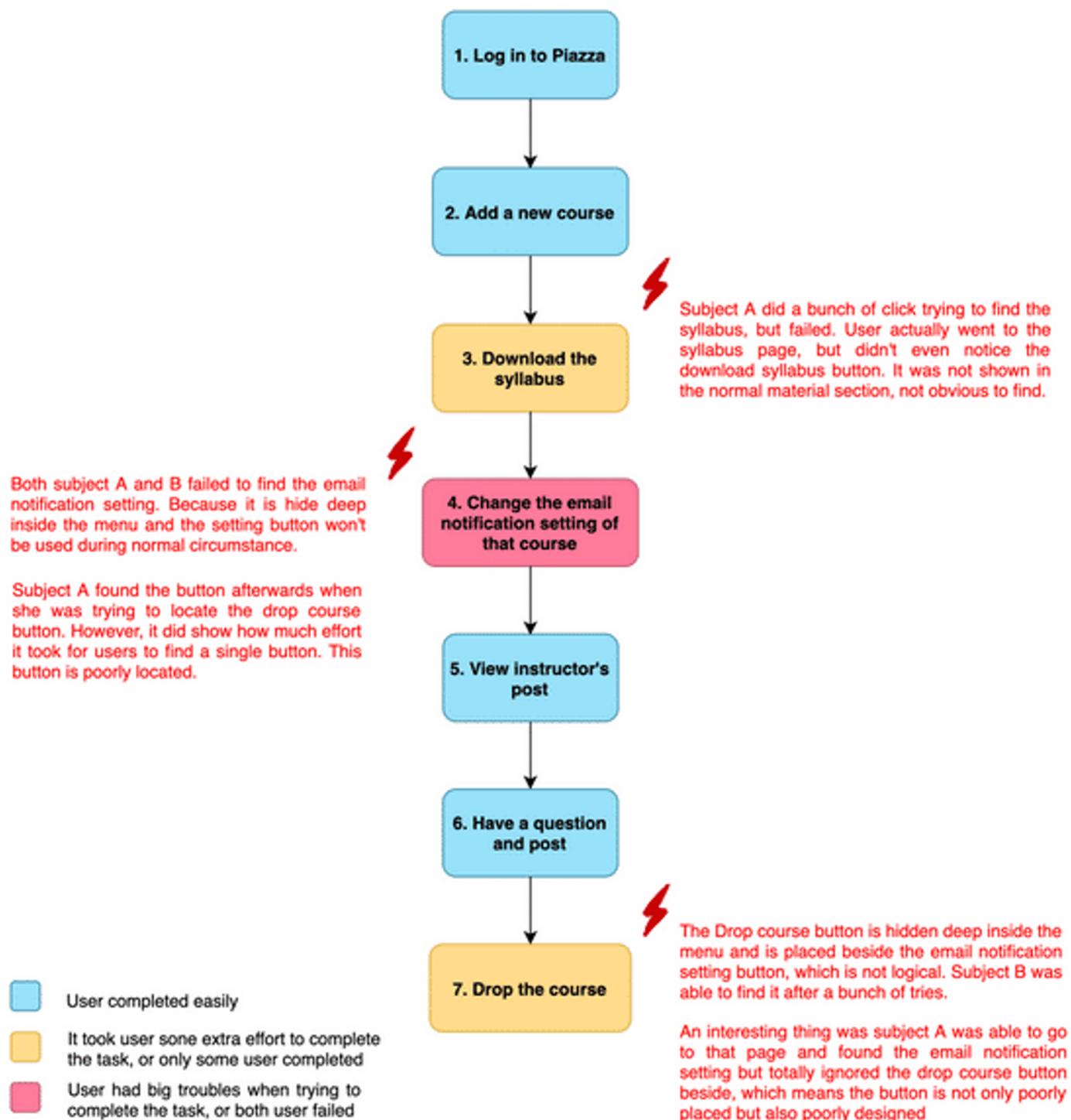
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## SEQUENCE MODEL

The Sequence Model shows what the user did step by step during the Contextual Inquiry. Breakdowns during the user's sequence of actions are explained in red text on the next page. The sequence model reveals which tasks cause breakdowns and gives us an insight of what cause breakdowns. As shown in the picture, breakdowns primarily took place when the user was trying to complete the task that required navigation outside of the landing page for a course.

# PROBLEM UNDERSTANDING: WORK MODEL

## SEQUENCE MODEL: DIAGRAM



# PROBLEM UNDERSTANDING: WORK MODEL

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## ARTIFACT MODEL

The Artifact Model demonstrates the physical artifacts involved in the task, which is the Piazza website itself in our case. Breakdowns are highlighted in the models shown on the following pages.

The Artifact Model shows us where breakdowns happen on the webpage. This helped us get an idea of which elements of the website needed to be redesigned. For our project, we focused on problems relating to the Dashboard, Settings and Resources pages.

# PROBLEM UNDERSTANDING: WORK MODEL

## ARTIFACT MODEL: DASHBOARD

This figure shows the landing page when users first log in to Piazza. We found out that users will typically ignore the "Class at a Glance" and "Network at a glance", which takes up more than 3/4 of the whole webpage, because they do not provide the user any useful information. Though it is not a significant breakdown, it suggests the potential of Piazza to be better designed.

The screenshot shows the Piazza dashboard. A red box highlights the 'Class at a Glance' section, which contains the following statistics:

| Category             | Value |
|----------------------|-------|
| unread posts         | 41    |
| unanswered questions | 5     |
| unresolved followups | 3     |

Below this, another red box highlights the 'Network at a Glance' section, which contains the following statistics:

| Category          | Value |
|-------------------|-------|
| total connections | 254   |
| profile completed | 84%   |
| companies viewed  | 0     |

Red arrows point from the text annotations to these specific sections on the dashboard.

**Useless Dashboard. No one reads this, but it takes more than 2/3 of the page**

# PROBLEM UNDERSTANDING: WORK MODEL

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## ARTIFACT MODEL: ADD & DROP COURSE

When it comes to adding and dropping a course, our subjects were able to add courses easily but faced great trouble trying to drop a course. The poor icon location is blamed.

Intuitively, the option to add and drop a course should be placed in the same page and relatively close to each other. However, the current design Piazza separates the two actions into two webpages. Moreover, it is misleading to place the "Drop Class" button inside the Account/Email Settings menu, resulting in additional confusion for users. These breakdowns are displayed on the next page.

# PROBLEM UNDERSTANDING: WORK MODEL

## ARTIFACT MODEL: ADD & DROP COURSE

**Class at a Glance** Updated 24 seconds ago. [Reload](#)

|  |                            |
|--|----------------------------|
| <span style="color: red;">!</span> 228 unread posts          | 372 total posts            |
| <span style="color: green;">✓</span> no unanswered questions | 1379 total contributions   |
| <span style="color: red;">!</span> 1 unresolved followups    | 280 instructors' responses |
|  | 90 students' responses     |

Add course and drop course are not in the same place. It took user a lot of effort to find the drop course button.

**Network at a Glance**

|  |  |
|--|--|
| <span style="color: green;">✓</span> 206 total connections | 2020 Job Status: <span style="border: 1px solid #ccc; padding: 2px;">Seeking Internship</span> |
| <span style="color: red;">!</span> 84% profile completed   | Worked at: Not set <a href="#">edit</a>  |
| <span style="color: red;">!</span> 0 companies viewed      | Visa requirement: Not set <a href="#">edit</a>   |

Companies recently added:

**Class at a Glance** Updated 3 minutes ago. [Reload](#)

|   |                           |
|---|---------------------------|
| <span style="color: red;">!</span> 41 unread posts        | 114 total posts           |
| <span style="color: red;">!</span> 5 unanswered questions | 418 total contributions   |
| <span style="color: red;">!</span> 3 unresolved followups | 71 instructors' responses |
|   | 19 students' responses    |

Edit Email setting and Drop class are hidden inside here, which is too much click for user, making it really hard to find.

**Network at a Glance**

|  |  |
|--|--|
| <span style="color: green;">✓</span> 254 total connections | 2020 Job Status: <span style="border: 1px solid #ccc; padding: 2px;">Seeking Internship</span> |
| <span style="color: red;">!</span> 84% profile completed   | Worked at: Not set <a href="#">edit</a>  |
| <span style="color: red;">!</span> 0 companies viewed      | Visa requirement: Not set <a href="#">edit</a>   |

Companies recently added:

# PROBLEM UNDERSTANDING: WORK MODEL

## ARTIFACT MODEL: EMAIL NOTIFICATION

The Email Notification setting button is hidden inside the Account/Email Settings menu. The two subjects we interviewed did not know where to look and tried searching in many different places before reaching this page. Even if you know the website well, it costs extra effort to do this operation.

The screenshot shows the 'Account Settings' page. At the top, there's a 'Personal Settings' section with fields for Full Name (Zixuan Yao), Password (Change Password), Preferred Email (zyao5@jhu.edu), and Other Emails (+ Add Email). Below this is a 'Save Profile' button. A red box highlights the 'Class & Email Settings' section, which lists several classes with their names, descriptions, and notification preferences. Red arrows point from the text annotations to the 'Edit Email Notifications' button in the first class row and the 'Drop Class' button in the second class row. The text annotations read: 'Edit Email Notification was hidden here with tiny font.' and 'Drop Class button is hidden here with tiny font as well.'

Account Settings

Personal Settings

Full Name: Zixuan Yao

Password: Change Password

Preferred Email: zyao5@jhu.edu

Other Emails: + Add Email

Save Profile

Class & Email Settings

601.465 | Natural Language Processing | Fall 2019  
Daily Digest | Real Time | **Edit Email Notifications**

601.475 | CS 601.475/675: Machine Learning | Fall 2019  
Daily Digest | Real Time | Edit Email Notifications

601.433 / 601.633 | Introduction to Algorithms | Fall 2019  
Daily Digest | Real Time | Edit Email Notifications

601.467/667 | Introduction to Human Language Technology | Fall 2019  
No Emails | No Emails | Edit Email Notifications

601.464/664 | Artificial Intelligence | Fall 2019  
Daily Digest | Real Time | Edit Email Notifications

Edit Email Notification was hidden here with tiny font.

Drop Class button is hidden here with tiny font as well.

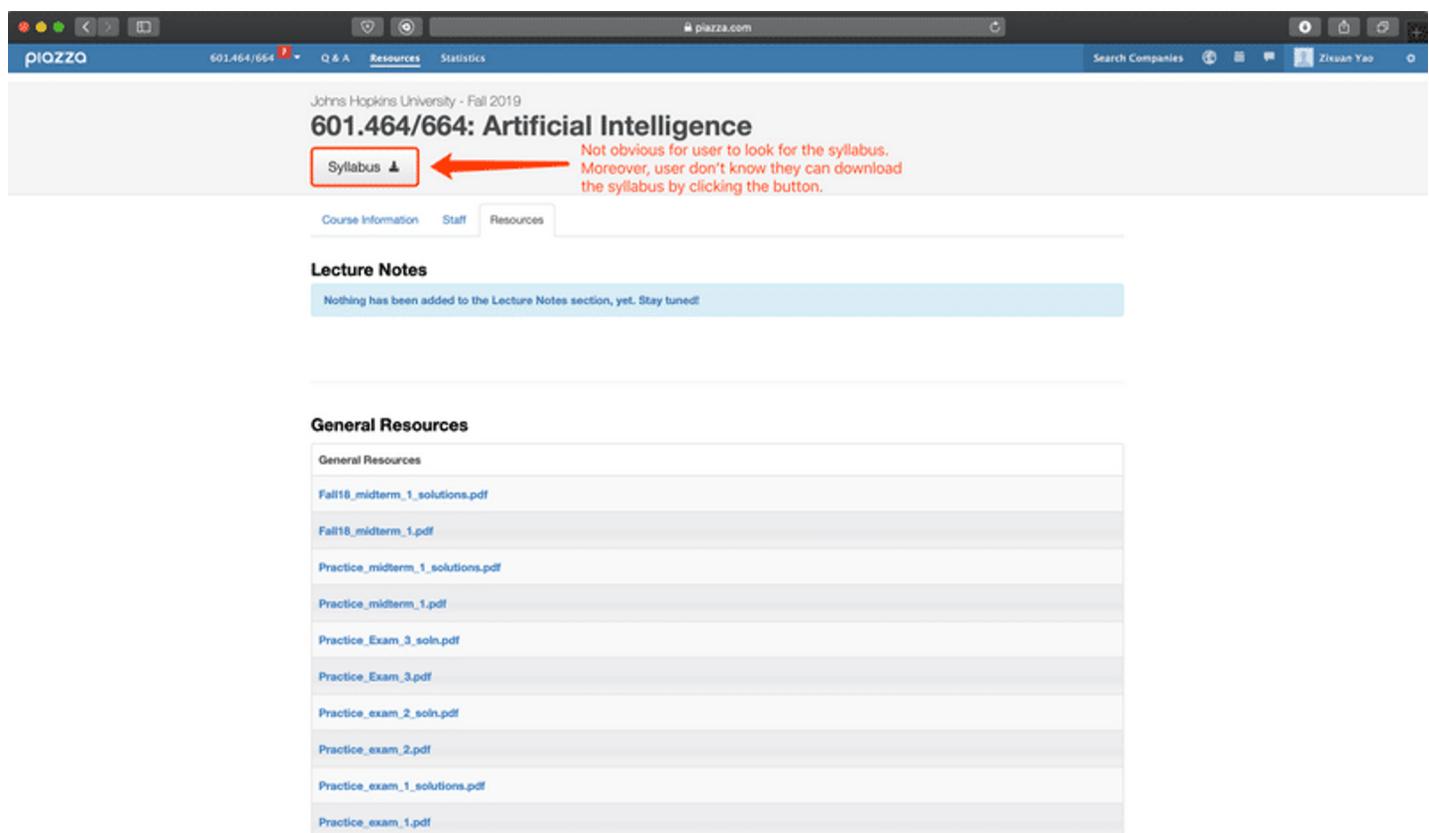
X Drop Class

# PROBLEM UNDERSTANDING: WORK MODEL

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## ARTIFACT MODEL: DOWNLOAD SYLLABUS

The resource page is badly organized in terms of discoverability. For example, the grey Syllabus icon is indistinguishable from the grey of the website background, making it difficult for first-time users to find and download the course syllabus.



A screenshot of a web browser displaying a course page on piazza.com. The page title is "Johns Hopkins University - Fall 2019" and the course number is "601.464/664: Artificial Intelligence". Below the title, there is a "Syllabus" button with a downward arrow icon. A red arrow points to this button, highlighting it. To the right of the button, a note reads: "Not obvious for user to look for the syllabus. Moreover, user don't know they can download the syllabus by clicking the button." Below the syllabus button, there are tabs for "Course Information", "Staff", and "Resources". Under the "Resources" tab, there is a section titled "Lecture Notes" with a message: "Nothing has been added to the Lecture Notes section, yet. Stay tuned!" At the bottom of the page, there is a "General Resources" section containing a list of PDF files:

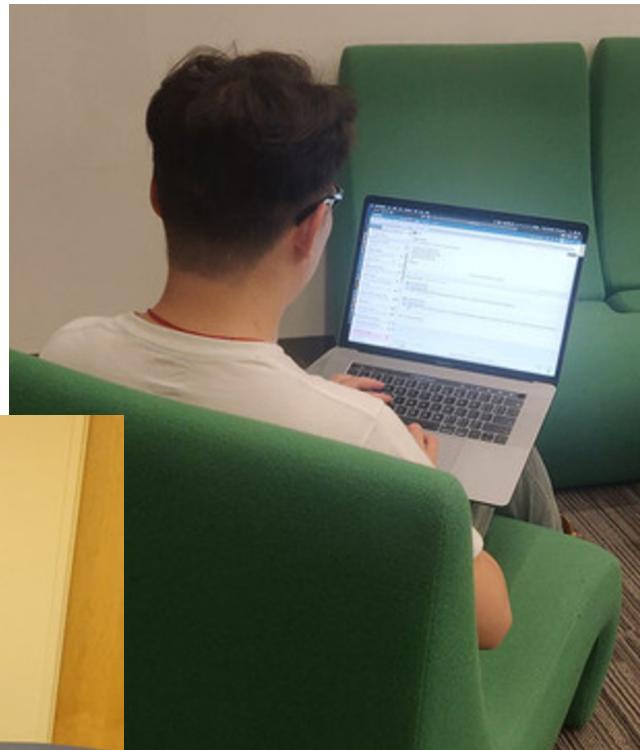
- Fall18\_midterm\_1\_solutions.pdf
- Fall18\_midterm\_1.pdf
- Practice\_midterm\_1\_solutions.pdf
- Practice\_midterm\_1.pdf
- Practice\_Exam\_3\_soln.pdf
- Practice\_Exam\_3.pdf
- Practice\_exam\_2\_soln.pdf
- Practice\_exam\_2.pdf
- Practice\_exam\_1\_solutions.pdf
- Practice\_exam\_1.pdf

# PROBLEM UNDERSTANDING: WORK MODEL

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## PHYSICAL MODEL

This physical model shows the environment where the user typically uses Piazza.

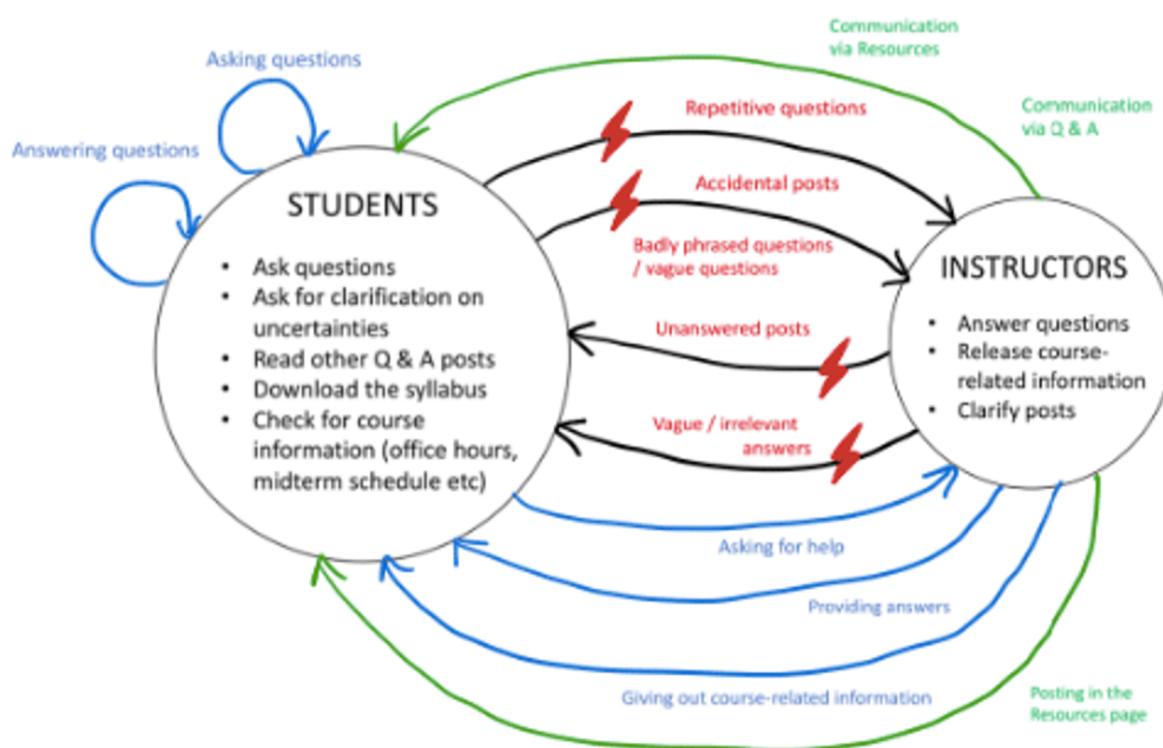


We picked the most common scenario, which is a student sitting in the Brody library and using Piazza on their laptop.

# PROBLEM UNDERSTANDING: WORK MODEL

## FLOW MODEL

## FLOW MODEL

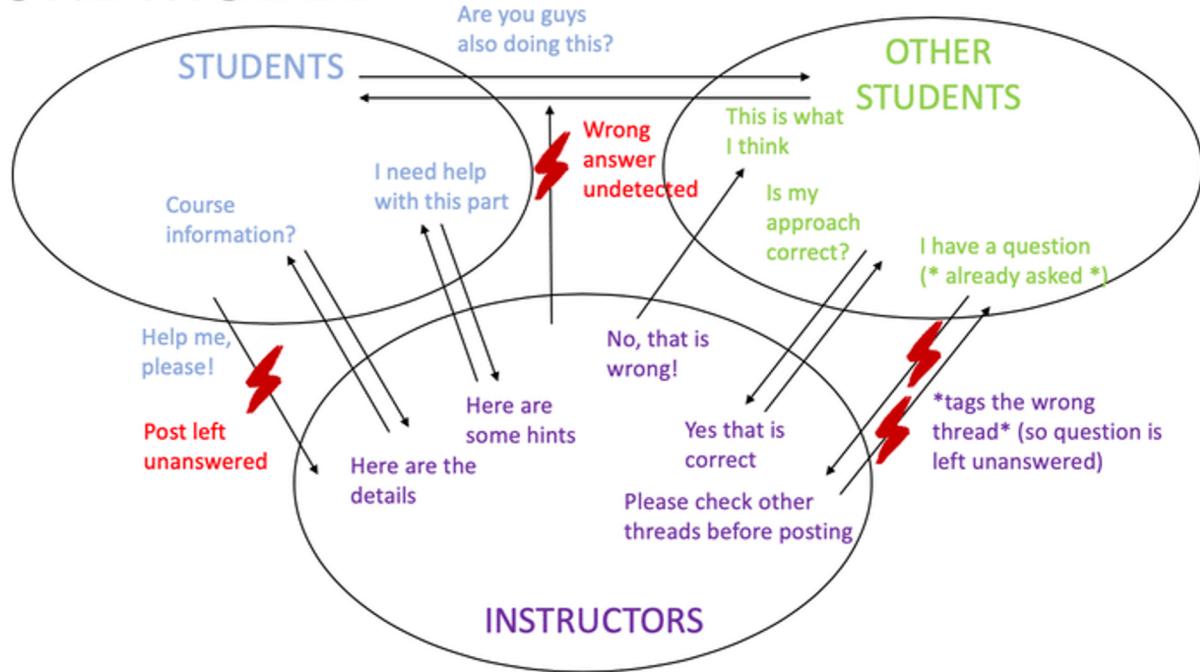


The artifacts used for communication are the Q & A page, the Resources page and the Q & A posts themselves. These are labelled in green in the model diagram. Instructors and students have access to all of these pages. Instructors can upload items to the Resources page, while both instructors and students can post on the Q & A page.

# PROBLEM UNDERSTANDING: WORK MODEL

## CULTURE MODEL

## CULTURE MODEL



The culture model shows the overall culture behind the usage of Piazza. It includes a range of interactions that happen between the two user types: students and instructors. The main interactions revolve around questions related to assignments from students and responses from instructors giving appropriate feedback. Some key breakdowns include posts being left unanswered by instructors and wrong answers being posted, providing the wrong information for all of the students.

# IDEATION AND PAPER PROTOTYPE

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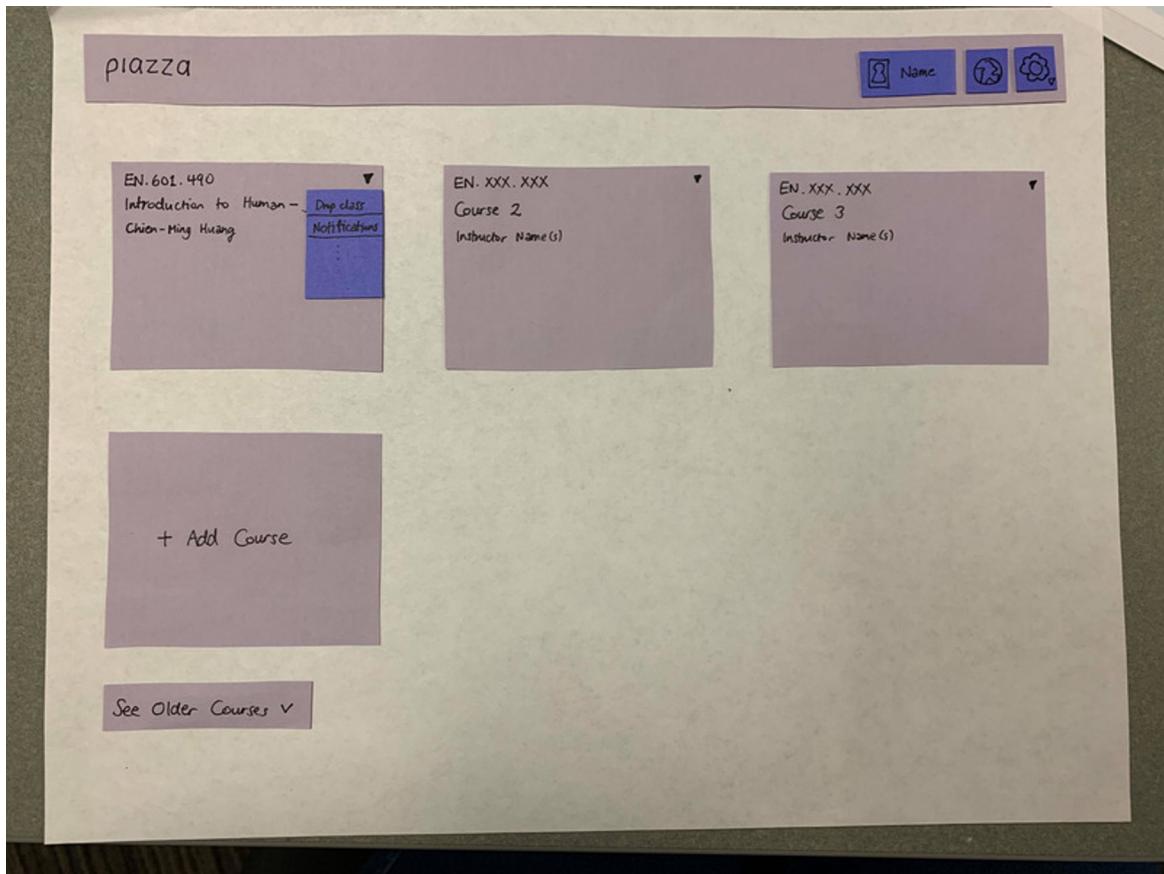
After conducting the contextual inquiry and gathering solutions for our affinity diagramming, we identified the most imperative issues to inform our redesign of elements in the Piazza homepage, dashboard, and resources page.

In our revamp of Piazza, we aimed to create an experience that focused on making the most commonly performed tasks more intuitive and easy to find.



# IDEATION AND PAPER PROTOTYPE

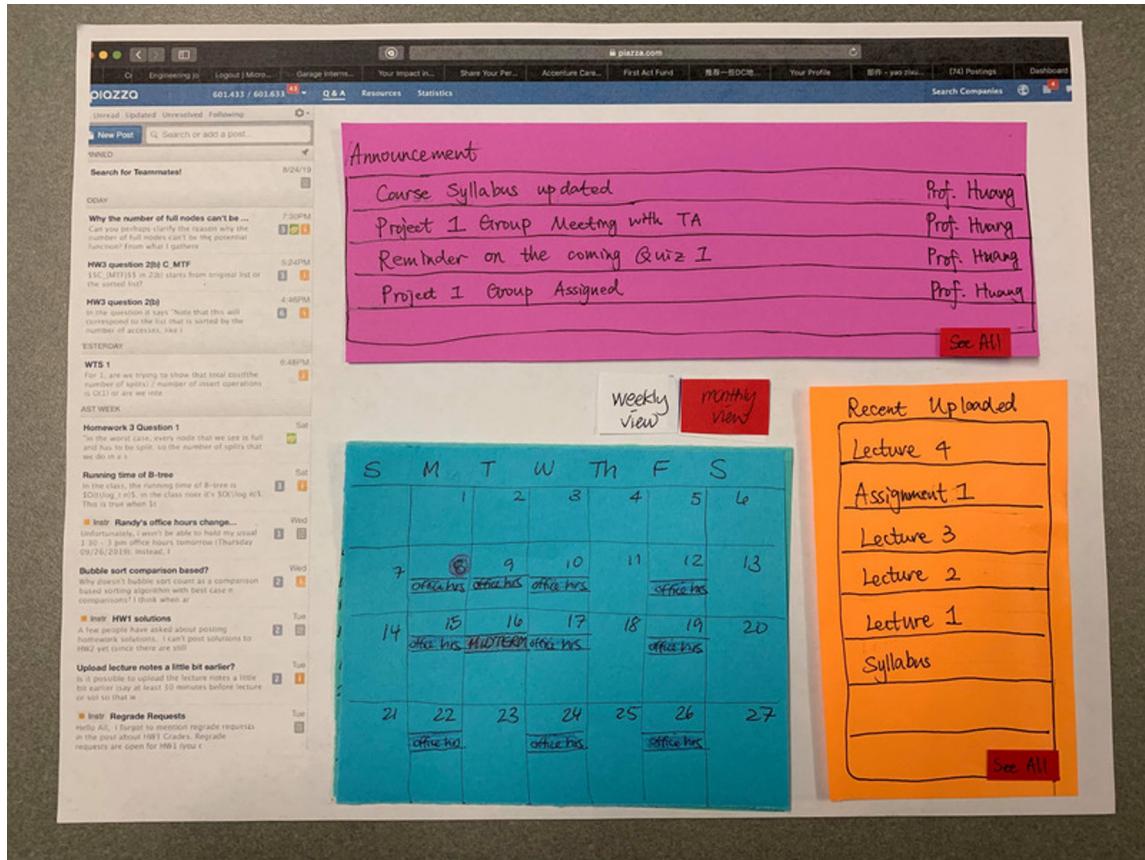
## Homepage



When a user currently logs into Piazza, no homepage exists. We decided to add on a homepage that lists out all courses a user is enrolled in. We thought it would be more convenient to be able to select the course to look at instead of automatically being redirected to a course's homepage. Underneath the currently enrolled courses, we added an "Add Course" button to make it easier to add new courses. We also included a "See older courses" drop-down menu to allow users to access older courses if they wish to revisit them. We added a drop-down menu button for individual courses. In the drop-down, users could alter course notification settings or drop courses.

# IDEATION AND PAPER PROTOTYPE

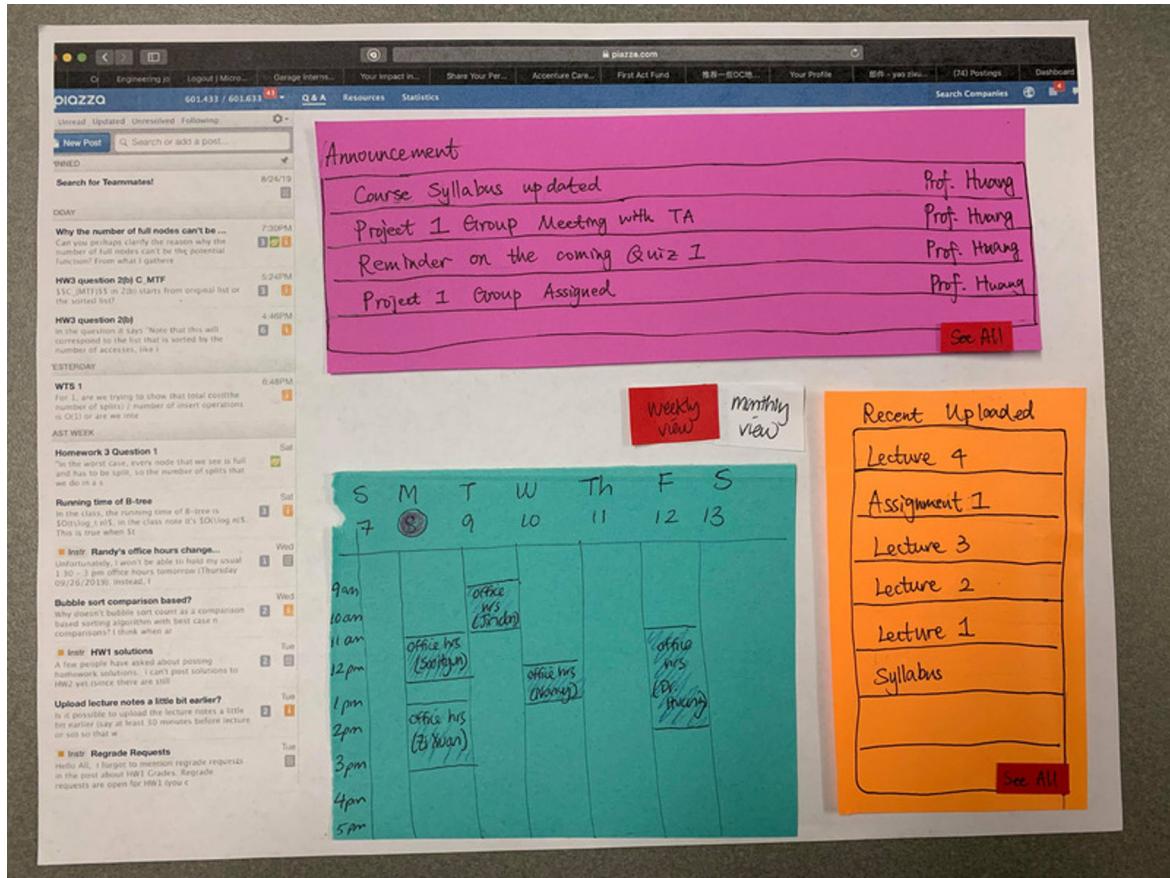
# DASHBOARD



We removed the original content of the dashboard of Piazza and restructured it to allow users to access information that is more in-demand. We added three features to the dashboard: announcements, recently uploaded and calendar. If instructors were to upload important information, we wanted this to be easily available to the students. We thought it would be helpful to add a section that lists out recently uploaded files. This way, if instructors were to upload new homework assignments, the student users would be able to access them easily. The calendar feature is something new we came up with.

# IDEATION AND PAPER PROTOTYPE

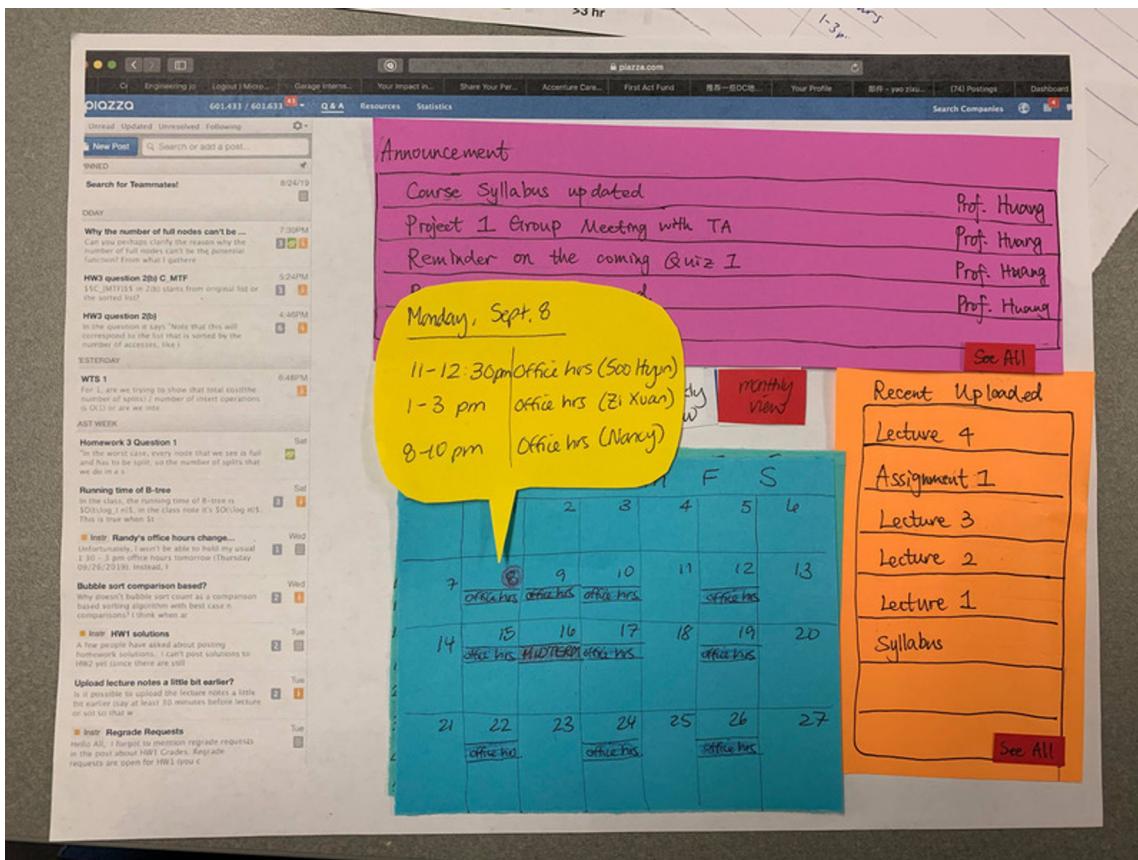
## DASHBOARD



We thought it would be useful to have a calendar with midterm dates and office hours. The calendar has monthly and weekly views where users can toggle between the two options.

# IDEATION AND PAPER PROTOTYPE

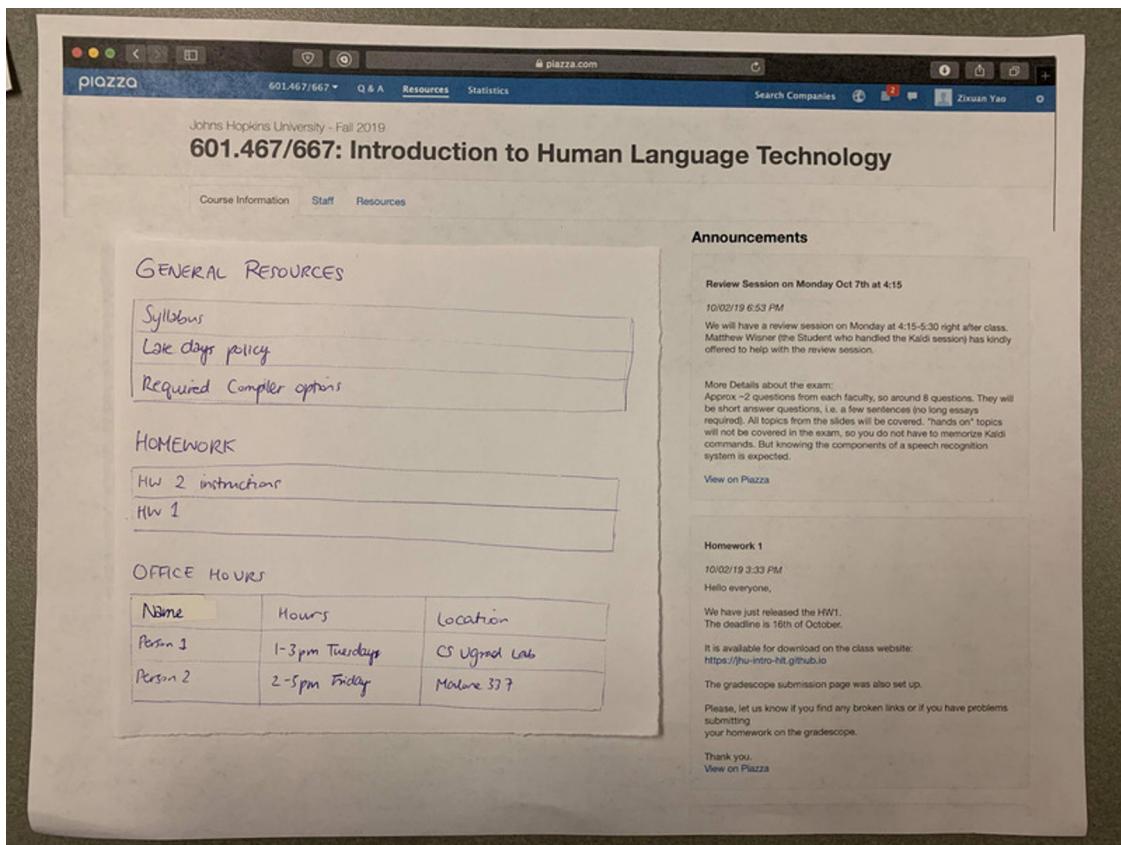
## DASHBOARD



If the user were to click on a specific day, they would be able to see what course-related events are happening that day. In the example above, we see that there are 3 office hours being held on September 8th.

# IDEATION AND PAPER PROTOTYPE

## RESOURCES

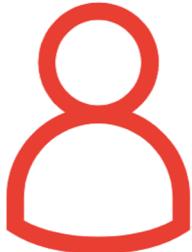


We adjusted the resources page to have four sections: resources, homework, office hours and announcements. The general resources section would also include the syllabus because we thought it would be more appropriate to have them with other general resources instead of having a button of its own. We thought it made sense to move the office hours information to this section so that all of the information would be available together.

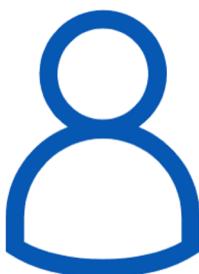
# EVALUATION OF PROTOTYPE

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## INITIAL SUBJECT FEEDBACK



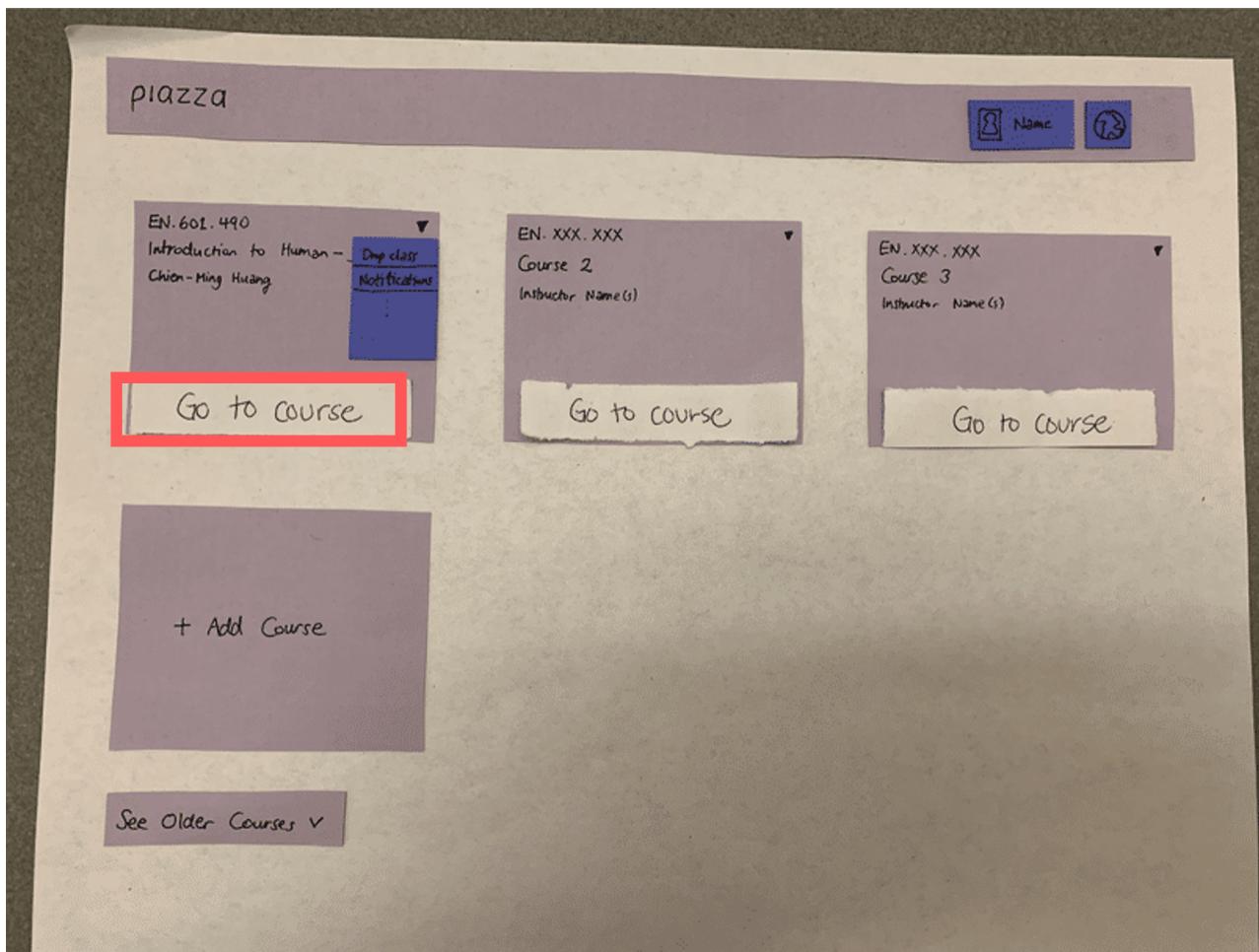
When we showed the initial prototype to subject A, she was able to carry out most tasks easily. However, she indicated that it was a bit confusing as to what exactly to click on to enter the course. She also pointed out that we were missing some kind of button to redirect the user to the homepage.



Subject B was able to perform nearly all tasks with our new design of Piazza. To add a course, he pressed the purple “Add a course” button on the homepage. He noted that he liked being able to open up the homepage and see all the information for a specific course, but asked how he would be able to switch between courses in this new design. Subject B pointed out that he liked the drop down on each course in the homepage, which made it clear to him how to drop a class and change notifications for that specific class. However, he suggested it may be redundant to have both the drop down for each class and the settings button, since having both icons made it unclear which to click for changing notifications. Subject B noted that he liked the office hours calendar, as he currently typically needs to log into Piazza and check the Office Hours post every time. Subject B was excited and stated he would much rather use this version of Piazza than the currently existing web service.

# ITERATION OF PAPER PROTOTYPE

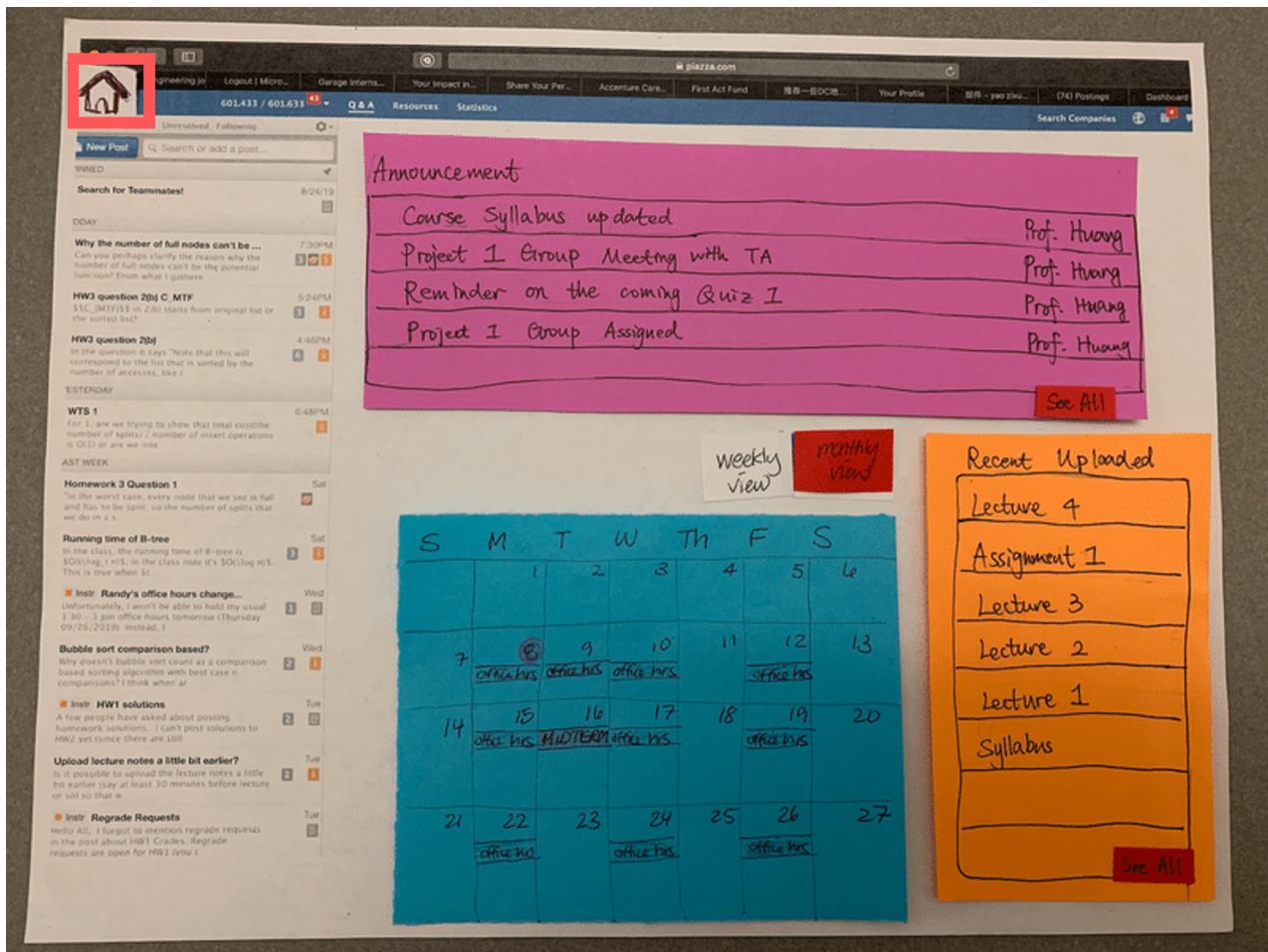
## PROTOTYPE REFINEMENT



We also decided to remove the global settings button from the homepage. Since global settings can be entered by clicking on the "Profile" button, we decided it was better to only keep the drop-down menu button for the courses on the homepage. We also reflected on the point brought up by the new user of Piazza and added a strip at the bottom of each course on the homepage to make it obvious what to click on to enter each course.

# ITERATION OF PAPER PROTOTYPE

## PROTOTYPE REFINEMENT

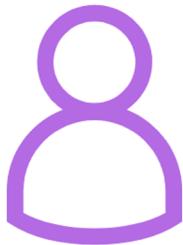


After reflecting on the two users' feedback, we decided to adjust a few features of our prototype. We added a Home button that would allow the user to go from the Q & A page of one course to the newly designed main homepage of Piazza.

# EVALUATION OF PROTOTYPE

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## NEW USER FEEDBACK



**Subject C** is a sophomore student studying Computer Science and Applied Math at Hopkins, and has been using Piazza for a year.

We asked Subject C to explore around the newly designed Piazza without any guidance or instruction on how to navigate the website. They were able to navigate easily between classes from the homepage, which showed that our design was user friendly for newcomers.

Next, we asked them to complete the tasks we used previously to perform contextual inquiry. Subject C was able to performed all the tasks easily.

Subject C mentioned that they liked the homepage very much, since it helped them easily navigate between courses. Subject C also loved the newly designed dashboard for each course, which contains the recent announcements, uploads and calendar related to each class. They pointed out that the integrated calendar function is a great help when they want to look for the course office hours and homework due dates. For the resource page, Subject C mentioned that they wanted homework to be at the top because they didn't need the general resources like syllabus and course policy after the first week or two. Generally, Subject C is satisfied and comfortable with our newly designed Piazza.

# CONCLUSION AND TAKEAWAYS

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1

Currently, the basic functionality of Piazza is there. Users are easily able to add classes, make new posts, and search for posts. However, more advanced features are currently hard to find for new users - things like downloading and finding the syllabus, changing notification settings, even dropping a class.

2

Our redesign of Piazza addresses this by creating a centralized homepage with all courses and a dashboard that enables users to easily access information from the most commonly performed tasks on Piazza.

3

Moving forward, designers looking to improve Piazza should consider proper space allocation, intuitive iconography, and seamless navigation.