Piazza as a course management platform

• Why the name *Piazza*?
Piazza is Italian for plaza—a common city square where people can come together to share knowledge and ideas. Piazza strives to recreate that communal atmosphere among students and instructors.

• Anyone can register a new course for free in a matter of minutes at http://piazza.com
• If other people at your institution already added courses, then your institution is already in the system and you can see the names of other courses
  ▪ Otherwise, you need to add your institution
Piazza as a course management platform

- All course management is done online, via a browser
- Every class has a traditional home page:
  - Syllabus
  - Course information: Description, General Information, Announcements
  - Staff: Person(s) teaching the course, email, office hours
  - Resources: Homework (+due date), Lecture Notes (+date posted), Readings, General Resources
  - Students need to log into Piazza to view the class home page
  - Example, this workshop has this home page: http://piazza.com/class_profile#summer2012/cc100

Piazza for class discussion

- The most powerful feature in Piazza is the ability to manage out-of-class questions and answers
  - Students can ask questions and collaborate Wikipedia-style to edit responses to these questions
  - Instructors can also answer questions, endorse student responses, and edit or delete any posted content
- Piazza can be used as an alternative forum with any other course management solution
- Piazza is highly catered to getting answers to students’ questions fast and efficient from:
  - Classmates
  - TAs
  - Teaching staff
  - (as opposed to students always emailing questions to teaching staff)
How is Piazza different?

• Piazza is designed to stimulate real class discussion
  ▪ Aims to get high quality answers to difficult questions, fast
• Students collaborate Wikipedia-style to edit a single Students’ Response to each question
  ▪ No need to sift through through a long mess of comments or threads to find answers to their questions.
• Easy to browse through and filter content
  ▪ Tag questions and answers for rapid sorting
  ▪ Visual clues (icons) to keep track what’s new and needs attention
• Instructors in complete control of their class
  ▪ manage the list of enrolled students
  ▪ edit or delete any class content.
  ▪ control anonymity options for their class

How does Piazza save time for instructors?

1. Piazza lets you answer once.
   ▪ Unlike writing individual emails, you don’t have to waste time answering small variations on the same question over and over again

2. Piazza streamlines your workflow.
   ▪ On forums and newsgroups, there is no distinct notion of a question that needs attention.
   ▪ On Piazza, it is clearly indicated if a question is unanswered (it’s red!), or has a lingering, unresolved issue (“unresolved followup”)
   ▪ Piazza has filters to show specific types of posts

3. Piazza encourages students to answer for you.
   ▪ Instructors can endorse student answers (this motivates students to answer their colleagues’ questions)
Adding students to a class

• Two ways
  ▪ Students can enroll in a class
    • they need to have an email address from the same institution where the class is offered
  ▪ The instructor can enroll students in a class using the students email addresses
    • in this case, the email address does not have to be from inside the same institution where the course is offered

• To enroll in a class, students must create an account with Piazza
  ▪ Requires student’s full name and email address, plus a password

Piazza features

• Piazza can accommodate multiple instructors for a class (e.g., a class with multiple sections and multiple instructors)
• Make a new post
  ▪ Question
  ▪ Note (can be also classified as an Announcement which will appear on the course home page)
  ▪ Poll
• New posts can be seen in real time (based on Javascript technology)
• Information about existing posts is readily available based on visual hints (text + icons)
  ▪ Post type
  ▪ Question has a students’ answer
  ▪ Question has an instructors’ answer
  ▪ Number of updates since you last viewed this post
• Posts can be pinned (remain on top of the post list)
• Archive posts (hides them from current feed)
Piazza features

- There is a “Sandbox” where one can play with a dummy course to test/learn features
- Filter what posts are displayed are based on various criteria
  - Unread
  - Unresolved
  - Updated
  - Following
  - Archived
  - Based on tags
- Full-text search on all existing content for a question or answer
- Posts can contain tags in order to make it easy to filter posts based on tags
  - Instructor can define in the beginning of the course a list of common tags
  - More tags can be defined afterwards
  - Use numbered tags for homework assignments (e.g., #homework1, #homework2)
  - Use key tags for key subjects (e.g., #final_exam, #grading, #networks)

Piazza features

- Questions have two Answer sections: “Students’ answer” and “Instructors’ answer”
- Questions can be answered collaboratively
  - Instructors collaborate to edit the same Instructors’ answer
  - Students can collaborate to edit the same Students’ answer
  - Instructors can edit the Student’s answer
- It is possible to view the edit history of an answer
  - Can view previous versions of the answer
  - Can view who has edited which parts of the answer
- **Endorse a student’s answer:** Instructors can approve a student’s answer by marking it as a good answer
Piazza features

- Piazza has two levels of anonymity
  - **Anonymous to classmates**: Students can ask/answer questions such that they remain anonymous from their student colleagues
  - **Anonymous to everyone**: Students can ask/answer questions such that they remain anonymous from the instructors
  - The instructor can set the level of anonymity for a class
  - Instructors do not have the option to answer anonymously

- Polls
  - Can be completely anonymous (no one, even instructors cannot see who voted for what)
  - Can be completely public (everyone can see how everyone else voted)
  - Can be semi-anonymous (instructors can see how students voted, but students cannot see how other students voted)

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Piazza features

- When making a post, there are several useful features:
  - One can attach files associated with the post
  - Embed images anywhere in the post (by attaching the image file and embedding it inline)

- Students can make a post private (only instructors can see it)
  - Useful to submit solutions to instructors
Piazza features – formatting a post

• Basic formatting using HTML tags:
  § Bold: `<b> </b>`
  § Italic: `<i> </i>`
  § Underlined: `<u> </u>`
  § Support for lists: `<ul> </ul>`; list items: `<li> </li>`

• Tags: Type a "#" before a key word to make it a tag (e.g., #exam, #homework1, #data-structure)
  § Create new tags
  § Use existing tags

• Embed images inline:
  § By using the `<img>` tag
  § By uploading the image as attachment

• Support for Latex equations
  § simply place two dollar signs ($$) on each side of the equation
  § Like this: $E = mc^2$

• Code blocks
  § keep code indented and easy-to-read by surrounding it with the `<pre> </pre>` tag

• Referencing other posts
  § Add a reference to other posts by typing @number (for example, "See also question @42")
Piazza features – Class Statistics

- Chart your class progress and track student participation (visual graphs) with analysis tools that show insightful statistics
  - Who’s enrolled
  - Who’s participating
  - When activity peaks
  - How fast questions are being answered
  - Who are the top contributors
  - Etc.

Piazza stimulates student participation

- Students may have unanswered questions in class (for various reasons, lack of time, too shy to ask, etc.)
- Students may be too shy to ask questions in class (embarrassed to ask simple questions, fear that the instructor will remember them and will not think highly of them, fear that colleagues will ridicule them, etc.)
- Students may be hesitant to answer questions (for the same reasons)
- The anonymity feature comes in handy, both for asking and answering questions
- The instructor can endorse and encourage student responses
  - Click "Good Question" or "Good Answer" to encourage students to ask questions and respond to classmates’ questions.
How to deal with a flood of questions?

• Tell students that Piazza is meant as a tool where students work together to explore the material.
• Tell students you are using Piazza not only to see if there are any unanswered questions, but whether students themselves are participating and working toward answers themselves.
• Endorse good student responses
  § Thank the students who participated in creating the response (in the “Instructor” area of the response)
• You can choose to answer only questions that have a students’ response
  § Make an exception only for questions where you were completely unclear about something in your lecture or your assignment
• At the next class meeting, praise students for taking the initiative, and tell them that you will continue to give priority to questions where students have made an honest attempt to respond themselves.

CCEW ’12 Course Management with Piazza

How to deal with a flood of questions?

• If an assignment is difficult and students really need more help, you may adopt a “service level” approach, similar to office hours
  § Tell students that 5 days prior to the due date, you will be online between 1:00 and 3:00 and will answer any question immediately
  § But after that time, you will be visiting Piazza only once per day
  § This may have the side benefit of encouraging students to think about the assignment further in advance
• Strategies like these seem to work:
  § In one class at Berkeley, there were over 3,000 questions, but one student alone answered over 400 of them.
  § In another class at Duke, students answered 99% of all of the questions asked.

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What about Privacy?

- Piazza protects the privacy of student education records – FERPA compliant
  - FERPA = Family Educational Rights and Privacy Act
  - Student information is not sold to third parties
  - Instructors retain ownership of all content they post
  - The class and content is not searchable by search engines

Early adopters of Piazza

Piazza is already used by tens of thousands of students and instructors at over 250 universities across the country, including Stanford, MIT, Berkeley, Harvard, and many more.

- John Ousterhout, Mendel Rosenblum, Serge Plotkin, Phil Levis (and dozens more) from Stanford
- Charles Leiserson, Srini Devadas, Rob Miller, Erik Demaine (and more) from MIT
- Greg Morrisett from Harvard
- Jennifer Rexford and Mike Freedman from Princeton
- Umesh Vazirani, Pieter Abbeel, Dan Garcia, Vern Paxson, Brian Harvey, Paul Hilfinger (and many more) from UC Berkeley