

Poll Portal

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*A truly excellent job from start
to finish. Congratulations.*

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1 Project Goal

Poll Portal is a web-based application that will allow users to vote on different topics in various categories and add comments to justify their choices, so as to create an easy-to-use medium for debate on all kinds of topics.

2 Feature Description

2.1 Alpha Features

The core feature of Poll Portal is the ability for users to post questions, or “topics,” which may fall into one or more “categories.” Poll Portal is designed to provide users with a complete and easy to use voting experience. A full diagram of how users could navigate through our site is shown in Figure 1.

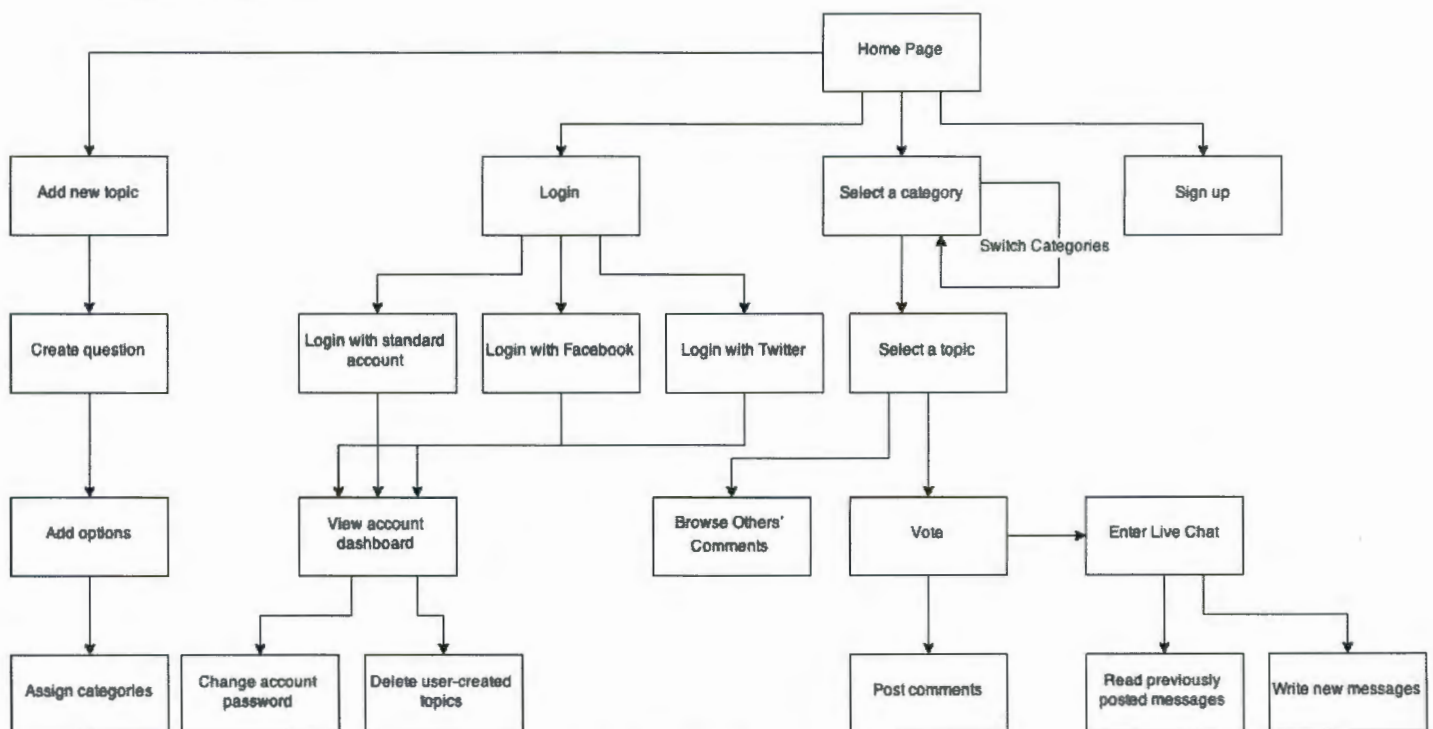


Figure 1: Site Workflow Diagram

New users will be able to create their own accounts. When users are creating their accounts, they are asked for an email address, a username, and a password. This password must be re-entered for confirmation. To eliminate the possibility of attacks from bots, we will place a CAPTCHA

below the password re-entry field. A sample registration screen (without the CAPTCHA) is shown in Figure 2.

The image shows a web browser window titled "A Web Page". The address bar contains "http://". The page has a navigation menu with links: [Home](#), [Categories](#), [About](#), and [Contact Us](#). The main content area is titled "Sign Up" and contains the following form fields:

- Email Address:
- Username:
- Password:
- Re-enter Password:

Below the "Re-enter Password" field is a button.

Figure 2: Sample Registration Screen

If users already have existing accounts, they can login using their username and password. Users can also skip registration and login directly with Facebook or Twitter. A sample login screen is shown in Figure 3.

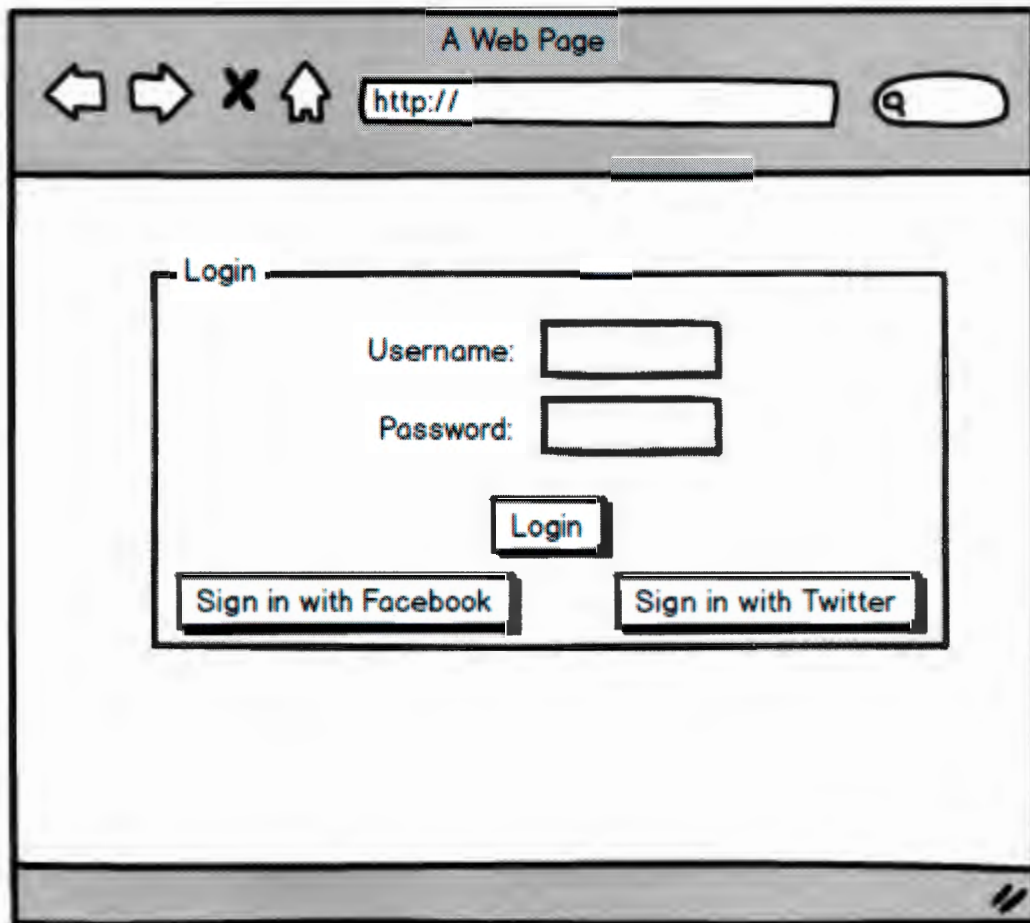


Figure 3: Sample Login Screen

Once users log in, they are directed to the homepage. On the home page, users can log out, select a category or manage their account preferences. A sample home screen, which allows users to select a category, is shown in Figure 4.

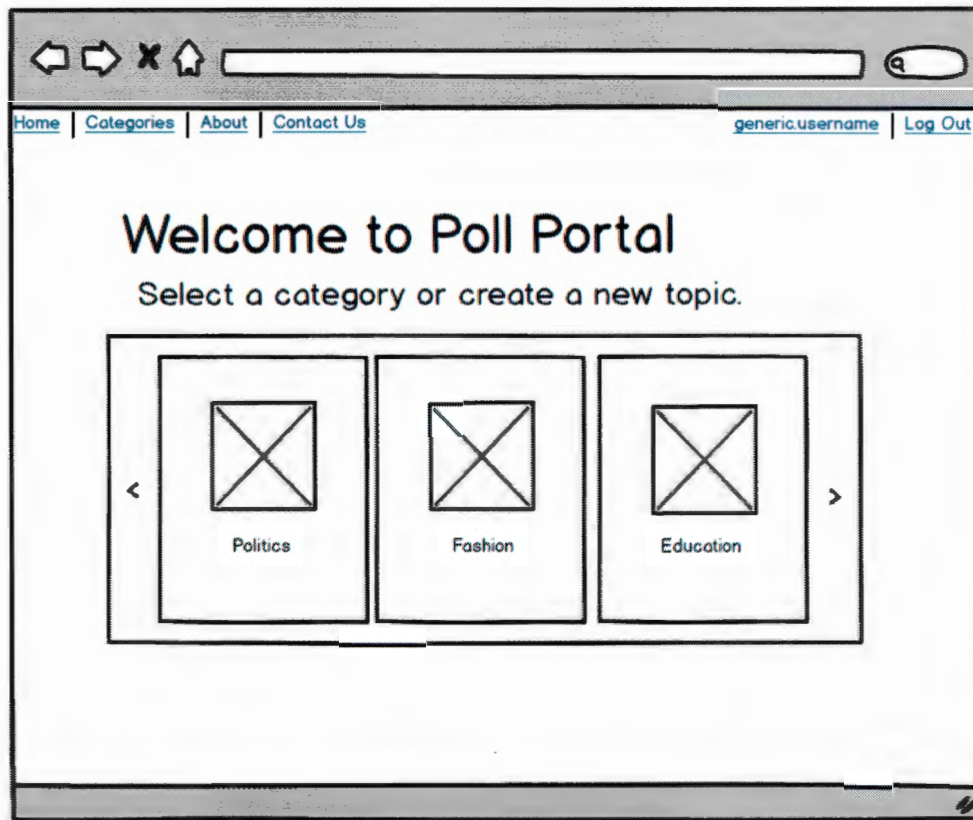
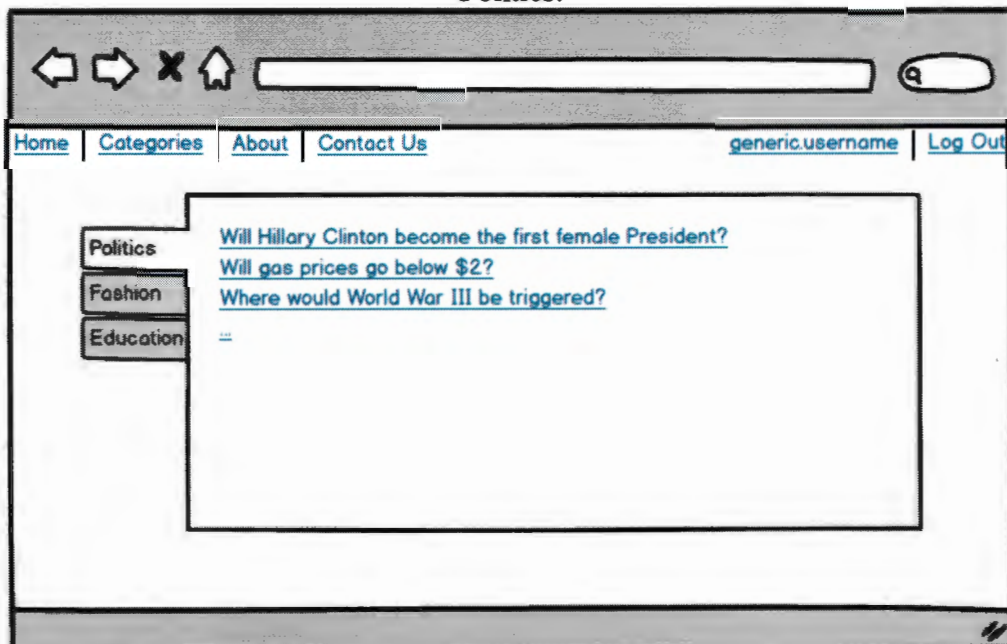


Figure 4: Sample Home Screen

Once users select a category, either on the home page or on the category selection page, they are directed to select a topic. Two sample category selections screens are shown in Figure 5.

Politics:



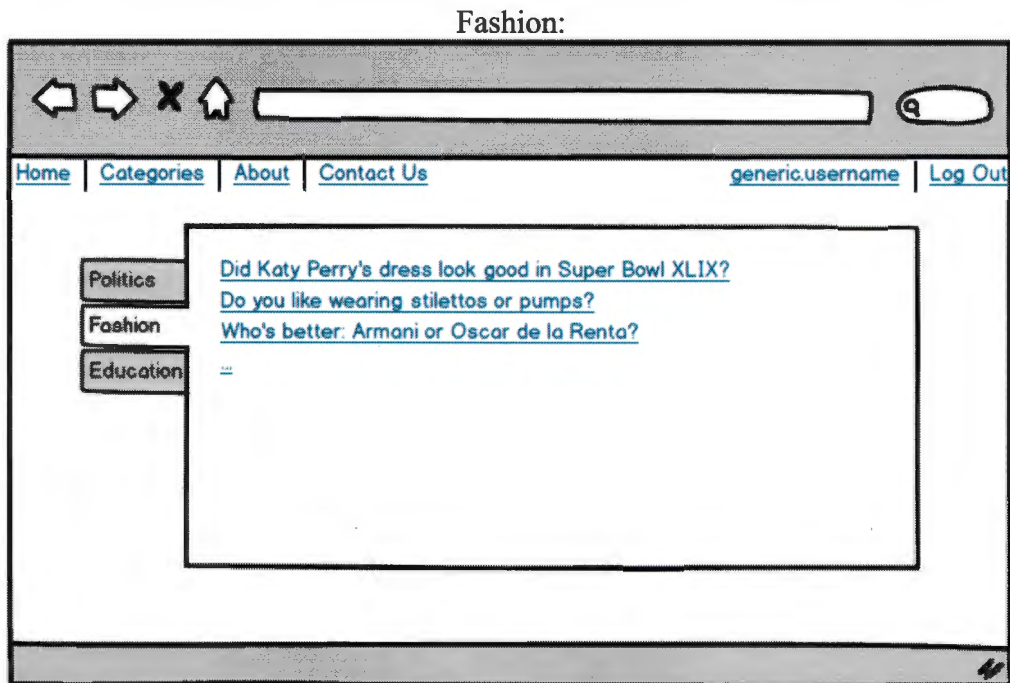


Figure 5: Sample Category Selection Screens

Each topic will have a minimum of two choices to pick from. Users can vote on any topic of their choice and then add a comment on their justification. Users will also be able to change their minds later about a particular topic. If they do so, their earlier comment will be deleted. For example, if a given user creates a question “Do you like pizza?” with options “Yes” and “No,” other users can find the question, vote, and then write a comment saying why they do or do not like pizza. A sample voting screen mockup for our application is shown in Figures 6 and 7.

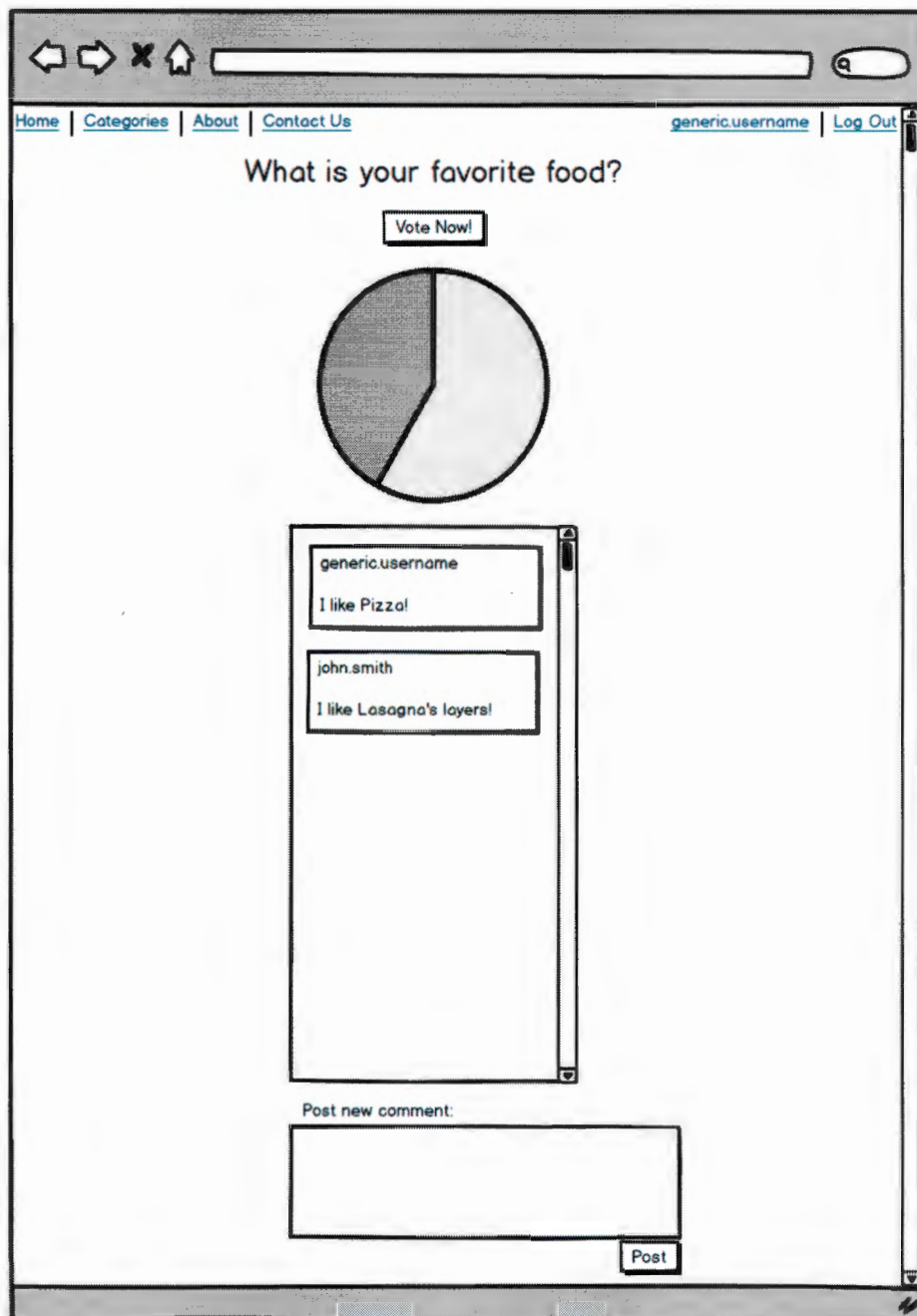
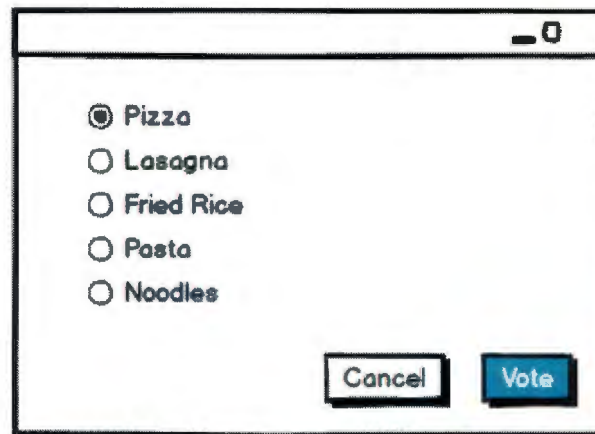


Figure 6: Sample Voting Screen



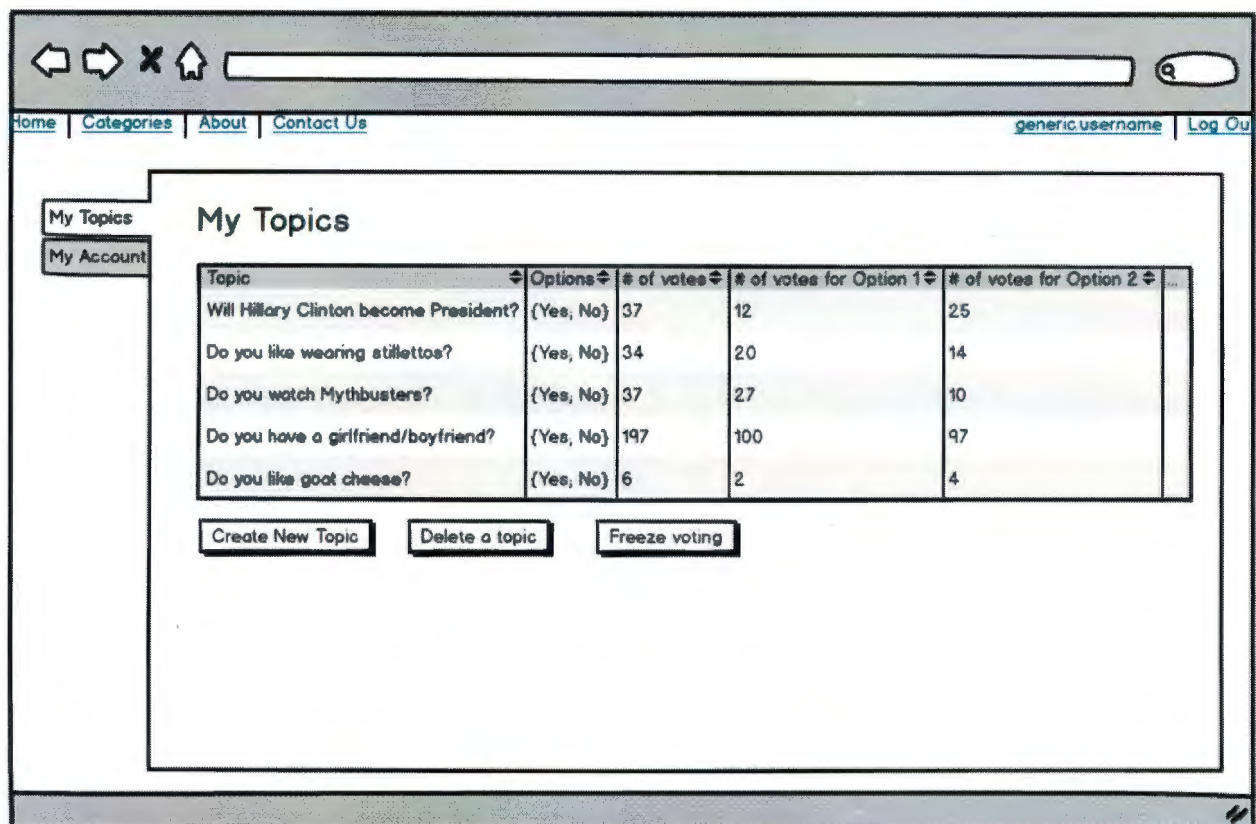
A sample voting dialog box with a title bar containing a close button. It contains a list of five food items, each with a radio button. The first item, 'Pizza', has its radio button selected. At the bottom right, there are two buttons: 'Cancel' and 'Vote'.

- ☒ Pizza
- ☐ Lasagna
- ☐ Fried Rice
- ☐ Pasta
- ☐ Noodles

Cancel Vote

Figure 7: Sample Voting Dialog

Also, logged in users will have the ability to manage their account preferences. This includes changing their passwords, creating a new topic, deleting a topic that they created, freezing voting on a topic that they created, etc. A sample account dashboard is shown in Figures 8 and 9.



A sample account dashboard for a user named 'generic.username'. The dashboard has a navigation bar with links for Home, Categories, About, and Contact Us. On the left, there are tabs for 'My Topics' and 'My Account'. The main content area is titled 'My Topics' and contains a table of topics created by the user. Below the table are three buttons: 'Create New Topic', 'Delete a topic', and 'Freeze voting'.

Topic	Options	# of votes	# of votes for Option 1	# of votes for Option 2
Will Hillary Clinton become President?	{Yes, No}	37	12	25
Do you like wearing stilettos?	{Yes, No}	34	20	14
Do you watch Mythbusters?	{Yes, No}	37	27	10
Do you have a girlfriend/boyfriend?	{Yes, No}	197	100	97
Do you like goat cheese?	{Yes, No}	6	2	4

Create New Topic Delete a topic Freeze voting

Figure 8: Topics shown in sample account dashboard

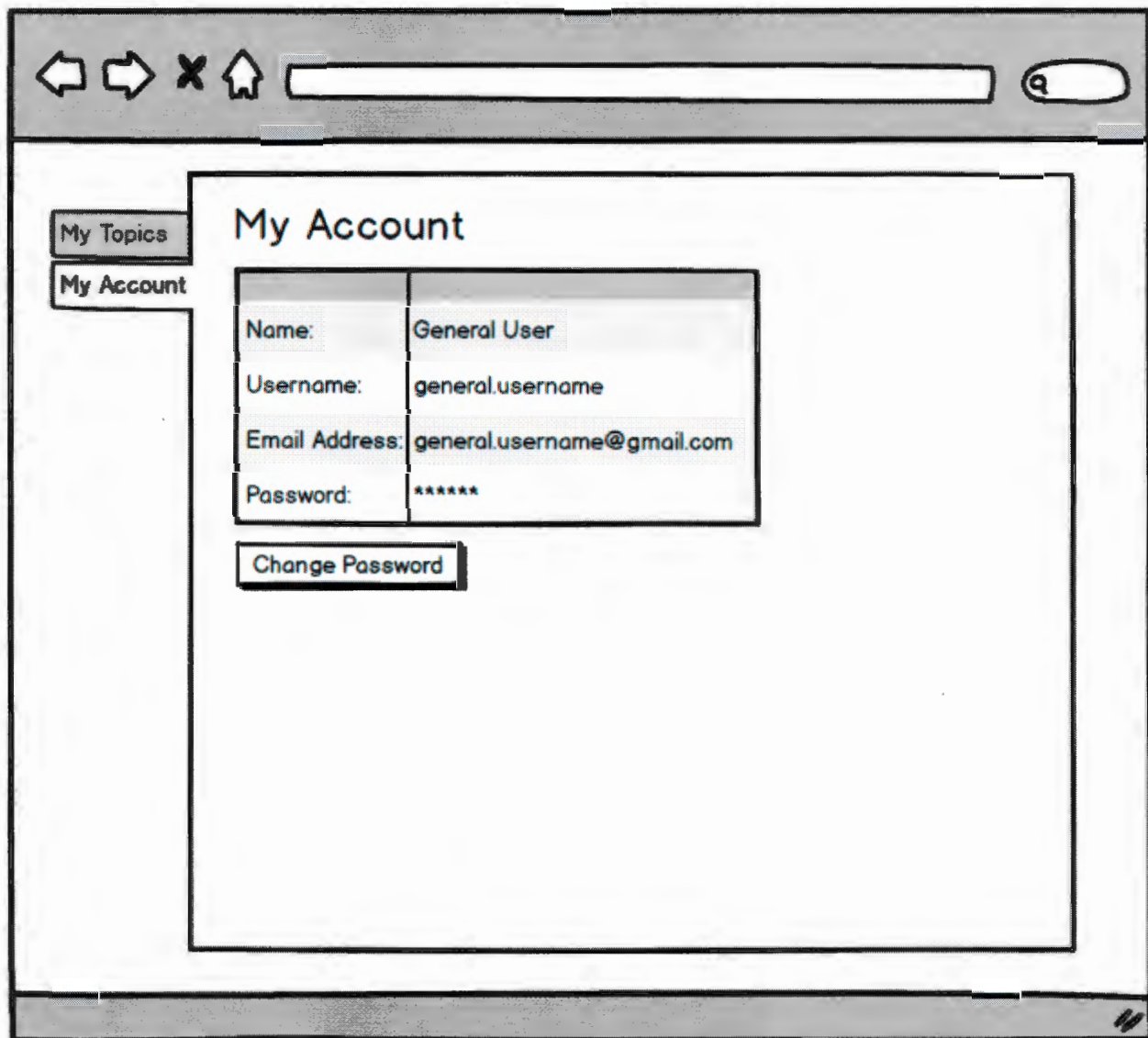


Figure 9: Account settings shown in sample account dashboard

2.2 Beta Features

One of the beta features is “Live Debate,” which enables users to participate in a chat style live debate about a topic with other logged in users. A sample chat window screen is shown in Figure 10.

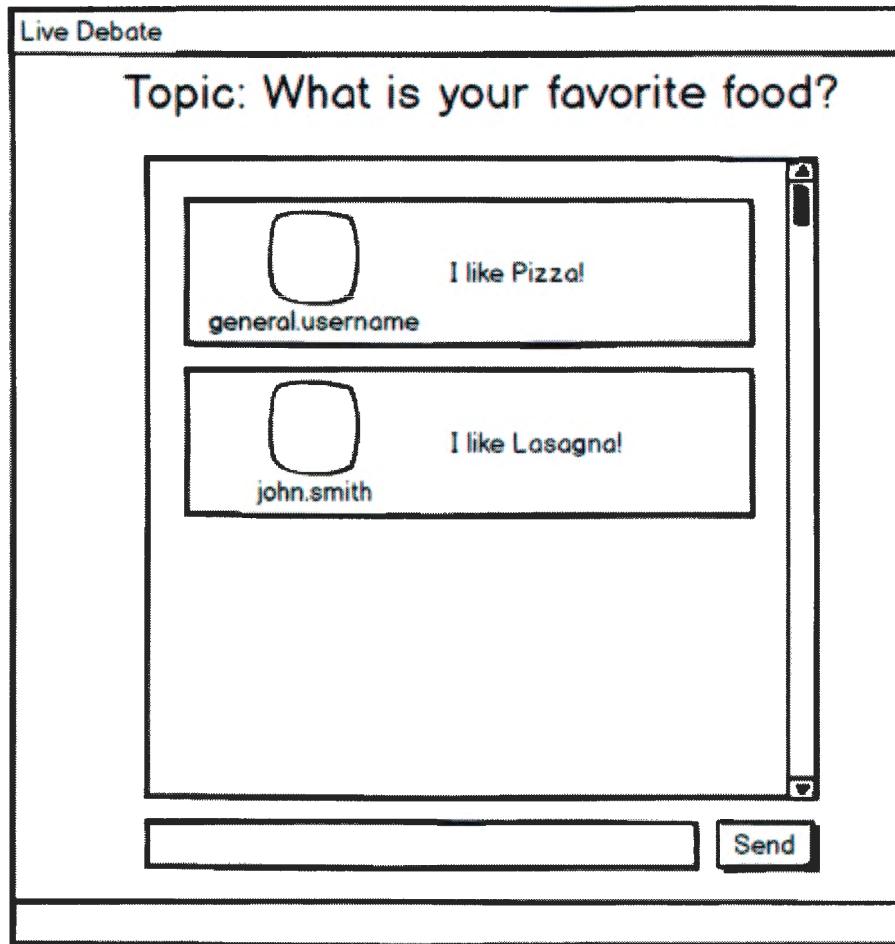


Figure 10: Sample Chat Screen

Another feature is dynamic PDF report generation, which enables users to generate a PDF summary report of all the topics they created, along with the total vote count each option secured. Users will be able to generate this report from their account dashboard.

2.3 Possible Additional Beta Features

There are some features we'd like to implement, but we are not sure that we will be able to implement and test them to our satisfaction within the time limit of one semester. In particular, we'd like for users logged in through Facebook and Twitter to be able to share topics on Facebook and Twitter, or even vote without actually leaving Facebook at all. These are features that we would definitely like to have, and we will attempt to implement them if time permits.

In addition, one additional feature of this application is Intelligent Content Recognition: if users paste image links into comments, when the comments are displayed the links would be replaced

by the images. Similarly, if users paste YouTube or DailyMotion links into comments, when the comments are displayed the links will be replaced by embed code for the videos.

3 Components

3.1 UI

The UI portion of Poll Portal will be primarily built using HTML, CSS, and JavaScript. For our API backend we are using Python in conjunction with Django. For the connection between the UI and the backend, we are using JavaScript. Poll Portal depends heavily on jQuery¹ for general site management, as it is a very powerful library. To make the site look professional, Poll Portal uses Bootstrap². Lastly, Poll Portal uses Highcharts³ to make the charts for showing vote tallies look professional.

3.2 Connectivity

The primary framework used to connect the Poll Portal UI to its database is Django⁴ for Python. It was selected out of all other options simply because it was the simplest for the developers to learn and use for a project of this size. In addition, jsPDF⁵ is used to generate PDF reports.

3.3 Database

Poll Portal's database has 5 different tables, created in the SQLite⁶ framework with Django as a frontend. Figure 11 shows an RDBMS diagram for the database schema.

¹ "jQuery." *jQuery*. N.p., n.d. Web. 31 Jan. 2015. <<http://jquery.com/>>.

² "Bootstrap · The World's Most Popular Mobile-first and Responsive Front-end Framework." *Bootstrap · The World's Most Popular Mobile-first and Responsive Front-end Framework*. N.p., n.d. Web. 30 Jan. 2015. <<http://getbootstrap.com/>>.

³ "Highcharts." *Interactive JavaScript Charts for Your Webpage*. N.p., n.d. Web. 31 Jan. 2015. <<http://highcharts.com/>>.

⁴ "Django." *The Web Framework for Perfectionists with Deadlines*. N.p., n.d. Web. 31 Jan. 2015. <<https://www.djangoproject.com/>>.

⁵ Hall, James. "JsPDF." *Create PDFs with HTML5 JavaScript Library*. Parallax, n.d. Web. 31 Jan. 2015. <<http://mrrio.github.io/jsPDF/>>.

⁶ "SQLite Home Page." *SQLite Home Page*. N.p., n.d. Web. 31 Jan. 2015. <<http://sqlite.org/>>.

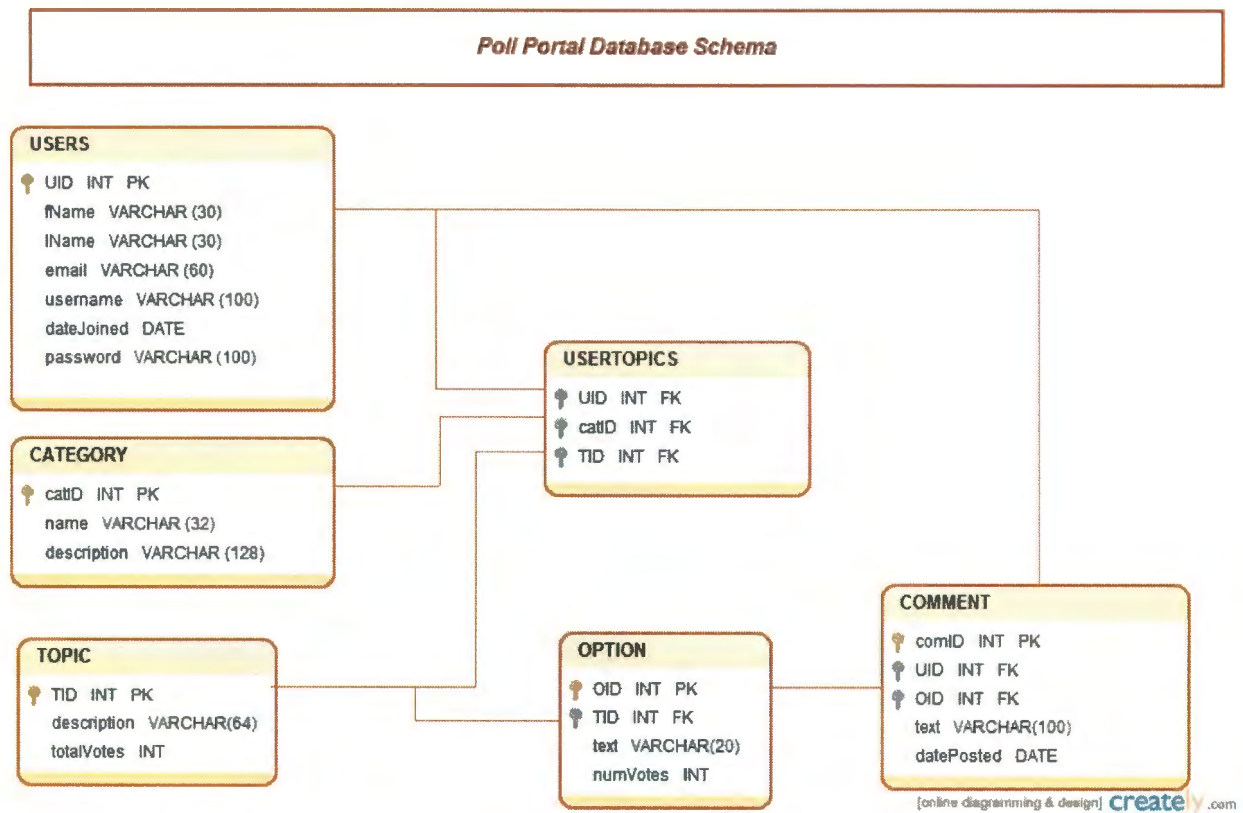


Figure 11: RDBMS diagram

4 User Descriptions

Poll Portal is designed to support a large user base. There are a few requirements for users to use Poll Portal. One, computer knowledge is required to use our application. At minimum, users should be able to browse the Internet and use a word processor. We do not expect users to need complex computer knowledge. This website is designed for people looking for an easy way to participate in debates about a myriad of topics in a wide variety of categories.

One type of expected users consists of those users who wish to use this site as a forum to develop their awareness of political issues or candidates before they cast their vote in an upcoming election.

Another type of expected users consists of new product creators or entrepreneurs who wish to gather the opinions of potential consumers before they launch product development.

Yet ² Another type of ~~expected users~~ consists of potential buyers who wish to gather opinions on the products they intend to buy before making their final purchase.

5 Issues

There is one issue that we have encountered so far: Highcharts does not have the exact chart type we need. We initially had the idea of a stack, similar to a single stack from a stacked bar chart, stacked by percentage. Although there are other chart libraries, such as Chart.js and D3.js, none of the other libraries has the chart type we want. We chose Highcharts because it was the easiest to customize and is still a very powerful library for charts. We eventually settled on using the workaround for this problem, which is to use a pie chart.

Another issue that we have anticipated has to do with vertical tabs. We are not sure that Bootstrap fully supports vertical tabs. The only example on the Bootstrap website deals with horizontal tabs. One possible workaround to this potential problem is to simply use horizontal tabs. Another workaround is to use jQuery UI⁷ for the vertical tabs. At this time, we have not made a decision as to which approach to take.

much better than original draft

Another problem we may run into involves Facebook and Twitter integration. As we have never worked with the Facebook and Twitter APIs, we may run into some problems associated with the learning curve. One possible solution is to just remove the Facebook and Twitter functionality entirely. However, this solution is not ideal, and would only be a last resort. Therefore, we have decided to start development early on our site so that we have time to accommodate the learning curve.

6 Project Schedule

Date	Task	Assignee
1/27/2015	Setup GitHub repository for the project This includes giving permissions to the two students not hosting the repository	Bobby

⁷ "jQuery UI." *jQuery UI*. N.p., n.d. Web. 09 Feb. 2015. <<http://jqueryui.com/>>.

Date	Task	Assignee
	Database Schema Design Draft	
2/2/2015	Design the database schema for the project, including the names of the tables, the fields in each table, and the data types of the fields.	Virinchi
	Home Page UI Alpha	
2/3/2015	Create an alpha version of the site's homepage, including login, registration, and the site menu. The links need not be fully functional.	Ana
	Voting Page UI Alpha	
2/3/2015	Create an alpha version of the site's voting pages, including the vote tally indicator, comment display, and new comment button. The page need not be fully functional.	Virinchi
	Category Page UI Alpha Version	
2/5/2015	Create an alpha version of the category selection page UI. The page need not be fully functional.	Ana
	Login Page UI Alpha Version	
2/8/2015	Create an alpha version of the Login page UI. The page need not be fully functional.	Ana
	About Page	
2/8/2015	Create the about page for the application.	Virinchi
	Contact Us Page UI	
2/8/2015	Create the contact us page for the application. The form on the page need not be fully functional.	Virinchi
	Registration Page UI Alpha Version	
2/10/2015	Create an alpha version of the Registration page UI. The page need not be fully functional.	Ana
	Project Proposal Due	
2/12/2015	Our project proposal will be fully completed and submitted by this date.	Ana, Virinchi, and Bobby
	Account Dashboard UI Alpha Version	
2/17/2015	Create an alpha version of the account dashboard page UI. The page need not be fully functional.	Virinchi
	Django Backend	
2/19/2015	Code the alpha version of the Django backend, with code linking the UI to the database.	Bobby
	Home Page Alpha Version	
2/24/2015	Expand on the alpha version of the UI, adding the complete functionality for login, registration, and the menu.	Ana and Bobby
	Voting Page Alpha Version	
2/24/2015	Expand on the alpha version of the UI, adding the complete functionality for voting, vote tally	Virinchi and Bobby

Date	Task	Assignee
	display, comment display, and new comment entry.	
	Alpha Version	
2/26/2015	A full alpha version of the web application will be complete by this date.	Ana, Virinchi, and Bobby
	Research into Live Chat	
3/5/2015	This research will allow us to implement a live debate session for each topic.	Bobby
	Implement PDF Summary Reporting	
3/24/2015	This includes debugging and testing the PDF feature extensively.	Virinchi
	Implement Live Chat	
3/26/2015	This includes debugging and testing the entire web application.	Ana and Bobby
	Beta Version and Usability Testing	
4/14/2015	By the beta release, our project will have our additional features, PDF reports and live chat, implemented. We will then be doing usability tests to see how people react to using our website.	Ana, Virinchi, and Bobby
	Final Project Presentations	
4/23/2015	Our project will be polished, debugged, and tested completely by this date.	Ana, Virinchi, and Bobby
	Final Project Submission	
5/1/2015	Our project will be submitted to Professor Heines on this date.	Ana, Virinchi, and Bobby

7 Criteria for Acceptability

Our application should allow users to:

- Create a new account
- Sign in using an existing account
- Sign in using Facebook and Twitter.
- View account dashboard.
- Create a new topic with 2 or more options in 1 or more categories.
- Select a category.
- Select a topic from a category.
- Vote on a topic.

- Comment on the selected option.
- Change their vote after voting.
- Freeze polling on a topic they created.
- Delete a topic they created.
- Add option(s) to a topic they created.
- View all topics they voted on.
- Delete their vote on a topic.
- Close their account.

In addition, the application must:

- Flow smoothly, and function reliably across all platforms
- Be user-friendly.