### University of Puerto Rico Mayagüez Campus Mayagüez, Puerto Rico

Department of Electrical and Computer Engineering

### E-Voting - Phase II

by

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For: Professor Amirhossein Chinaei Course: ICOM 5016 Date: October 7, 2010.

### **User requirements:**

Investigate all user requirements of your projects; and decide on the requirements that you want to implement in this semester.

- Bilingual interface that supports English and Spanish.
- If a user is not registered or logged in before posting a comment or a new topic he's asked to register or log-in. For registration he should provide:
  - 1. Valid email address
  - 2. Valid user name
  - 3. Valid password
  - 4. Country (ie. "Puerto Rico")
  - 5. Captcha

Note: Valid generally means it's not already in the database (ie. just one user may be named "carlos") and it passed a regular expression check (ie. email addresses contain alphanumeric characters and symbols an "@" and alphanumeric characters and symbols.) It also must be sanitized for SQL injections.

• Before posting a topic its author may set certain rules, e.g., allow/disallow posting with @upr.edu emails in the topic.

*Note:* After posting the topic creator may not modify, add or remove anything. This is done to preserve "democracy". A grace time will be given from the moment the topic is created. After this grace is over, the topic is permanent as it is.

- Visual feedback that the topic creator posted a comment is achieved by setting the background of his comment in a different color/style.
- Users may choose to have a display picture (avatar). A display picture will give users
  a sense that their account is really theirs, in the same way people like to decorate their
  computer with a wallpaper of their family or their work office with pictures and other
  personal items.
- Display pictures (avatars) are automatically generated for users that did not select one.
- Users may search our database for:
  - 1. Active
  - 2. Non-Active topics.

- Advanced searching features will be provided to facilitate finding a topic quickly, such as filters for:
  - 1. Active Topics
  - 2. Non-Active Topics
  - 3. Tags
  - 4. Authors
  - 5. Comments
- User may add "tags" to every topic. For example, imagine there's a topic about a strike in UPRM, users may add some of the following tags: *UPR*, *Strike*, *Huelga*, *RUM*, *Mayaguez*. The amount of tags per topic is limited to five.
- Users should be able to contact us and know who we are (about us/contact page).
- On the main page of our site a list of the most popular tags is shown. Clicking on a tag lists all topics that also have that tag.
- Visual feedback for tags is achieved by setting the font slightly bigger for more popular tags (ie. many topics have that tag) and slightly smaller for less popular tags (ie. few topics have that tag).
- Users may give positive or negative votes to paragraphs in documents for a particular topic.
- On paragraphs, visual feedback will help users distinguish between liked, controversial and disliked paragraphs. For example:
  - 1. **Disliked** paragraphs are represented with a **red** thin line beside the paragraph, it means there's a substantial amount negative votes.
  - 2. **Liked** paragraphs are represented with a **blue** thin line beside the paragraph, it means there's a substantial amount positive votes.
  - 3. **Controversial** paragraphs are represented with a **yellow** thin line beside the paragraph, it means the amount of positive and negative votes is similar.
- Users may give positive or negative votes to comments in topics. They are allowed to
  vote because it gives feedback to the author of the comment. The positive and negative
  voting allow us to sort comment in various ways that hopefully our users will find useful
  and user friendly.

- Comments are sorted in various ways to provide our users an easy way to read what's most relevant to them, especially in very popular topics with many comments.
  - 1. **Best** Selected by default, Ranked by: 95% confidence interval.
  - 2. Old Ranked by: Date (ascending order).
  - 3. New Ranked by: Date (descending order).
  - 4. **Hot** |(Positive votes)| + |(Negative Votes)|.
  - 5. **Top** Ranked by: |(Positive votes)| |(Negative Votes)|.
  - 6. Controversial Ranked by: Positive and Negative vote ratios.
- Users may edit comments, an indicator such as an asterisk (\*) will show other users that comment has been edited.
- Comments will display it's author's username. For example: "by CarlosMarx".
- Comments will display the amount of time that has passed after it's been posted. For example:
  - 1. "Posted 45 minutes ago."
  - 2. "Posted 3 hours ago."
  - 3. "Posted 10 days ago."
  - 4. "Posted 2 months ago."
  - 5. "Posted 1 year ago."
- Users take care of "spam filtering", after comments receive a certain number of negative votes they are hidden. Users may still view them by clicking on "Show hidden comments".
- A poll that allows positive and negative voting may be enabled with a starting date and an expiration date. For example:
  - 1. Poll opens: 4 July 2010 at 9:00PM GMT -4
  - 2. Poll closes: 10 July 2010 at 9:00PM GMT -4d
- To avoid spam, users are asked to complete a "captcha" before submitting a topic or a comment.
- Users may reply to other user's comments, and other users can vote on these comments.
- Social media integration, this allows our users to share topics they liked with their online friends. For example:
  - 1. Users may "tweet" topics. (twitter integration)
  - 2. Users may "like" topics. (facebook integration)
  - 3. Users may share the topics on Tumblr.
- Email integration, this allows users to receive email updates when a new comment has

been posted.

- Comments will be parsed, and comments with foul language will not be posted, and the user will receive a message telling them to remove the offensive language.
- RSS feed, users may "subscribe" to a certain topic and their RSS Reader will notify them when new comments have been posted.
- Users are able to view a list of topic they started in their profile.
- Users are able to view a list of comments they posted in their profile.
- Users may privately message other users.
- Users earn "karma points" by receiving positive votes on their topics and comments.
- Support for adding links, lists, quotes, having bold text and italic text for comments and topics. For example:

You type:	You see:
*italics*	italics
**bold**	bold
[wikipedia](http://wikipedia.org)	<u>wikipedia</u>
* item1 * item2 * item3	<ul><li>item1</li><li>item2</li><li>item3</li></ul>
> quoted text	quoted text

• Statistics for the contents of our data base will be shown on our main page. This will give our users an idea of the number of data we manage, they might be willing to give our site a shot if they see plenty of other people use our site. For example:

"Active topics: 42, Archived Topics: 6969."

• Statistics for the number of comments in every topic will be generated. For example:

"UPR - Strike" (23 comments)

- A space for advertising will be available to monetize our site. Maintaining a site, especially one that's popular is a relatively notable expense because we have to pay for the server's power consumption, bandwidth and other costs.
- Users may chose to become "gold members" by paying us. They will get various benefits like reduced advertising and sponsored topics.
- Users may pay to us with:
  - 1. Paypal
  - 2. Google Checkout

It'll be integrated with those services because they are the most popular ways of paying for things on the Internet without having to give us your credit card information. Instead of paying for expensive security certificates and risk being hacked we outsource that to the services mentioned above.

Administrators will have a clean, easy-to-use interface to edit the contents of the database. They should not be confused with users, that are only allowed to leave comments, delete their comments and vote positively and negatively on: paragraphs, comments and active surveys on active topics. They should also not be confused with topic-creators that are users that have created a new topic, after that they can delete their topic and their comments, but have no further control over the topic in order to preserve transparency and democracy.

### Tools:

Python	Ruby	PHP
<ul> <li>Very readable         (some people         call it "executable         psudocode").</li> <li>Very popular (a lot of         documentation and         examples).</li> <li>Scales well (even big         sites like Google use         it).</li> <li>Many libraries         that extend its         functionality.</li> <li>Implemented on all         major platforms.</li> </ul>	<ul> <li>Multi-paradigm programming language. Meant to be more powerful than Perl, and more object oriented than Python.</li> <li>Follows the principle of least astonishment (POLA), meaning that the language should behave in such a way as to minimize confusion for experienced users.</li> <li>Centralized package management through RubyGems</li> <li>Implemented on all major platforms.</li> </ul>	<ul> <li>One of the most used languages for web applications, it has lots of community support and documentation</li> <li>It is very similar to C/C++, which many are acquainted with</li> <li>Due to its popularity, it is installed or it can be easily installed on any server, and they support it</li> <li>Free and open source.</li> </ul>
MySQL	PostgreSQL	SQLite
<ul> <li>Written in C and C++ (fast).</li> <li>Free and Open Source.</li> <li>GNU General Public License (good for open source projects).</li> <li>Very popular (widely supported by almost every free/cheap web server).</li> </ul>	<ul> <li>Written in C (fast).</li> <li>Free and Open Source.</li> <li>BSD Licence (you can use your modified version of PostgreSQL without releasing your source code).</li> <li>Scales well.</li> </ul>	<ul> <li>Written in C (fast).</li> <li>Free and Open Source.</li> <li>Very simple and small, good for prototyping applications.</li> </ul>

Django	Ruby On Rails	CakePHP
<ul> <li>Reusable Code         (via "django apps")</li> <li>Free and Open         Source</li> <li>Clear separation         between code/         application-logic         (models) and the         structure/html         (templates).</li> </ul>	<ul> <li>Uses the Model-View-Controller architecture pattern to organize application programming.</li> <li>Uses a technique called Unobtrusive Javascript to separate the functionality (or logic) from the structure of the web page.</li> <li>Emphasizes Convention over Configuration, and Don't Repeat Yourself.</li> <li>Includes Javascript libraries for AJAX.</li> </ul>	<ul> <li>Solid support         (irc.freenode.org @             #cakephp can be very             helpful).</li> <li>Great documentation.</li> <li>Shades of RoR if you             are into that.</li> <li>Good amount of             plugins available.</li> </ul>

### Our choice of Language:

We decided to work with Python, because we're all familiar with it and the other choices don't offer anything that merits, in our opinion, learning a new language. Also, because we are acquainted with Django, which is a framework written in Python that we can use.

### **Our choice of Data Base Management Systems (DBMS):**

We decided to use MySQL because it's widely supported and we have some previous experience with it. It integrates easily with almost every popular programing language that's used for web development (php, ruby, etc.) and python is no exception.

### **Our choice of Development Tools:**

We decided to use Django because we have some experience with it and there's a lot of documentation available, such as a free book called "The Django Book" [djangobook.com]. It integrates well with Python because it's built with it and it offers "out-of-the-box" integration with MySQL, PostgreSQL, SQLlite, and many other DBMSs.

#### Other tools and languages:

- **Mercurial** for code version control. It's distributed instead of centralized like SVN and we have experience with it.
- HTML+CSS for building the structure and design of our website.

**Javascript** - for special effects, such as AJAX.

### Main Page:



Idea Lorem Ipsum Dolor Sit Amet 23 days left for discussion lacksquaretags, government, economy, jobs, education Idea Lorem Ipsum Dolor Sit Amet 23 days left for discussion 204.5x320 tags, government, economy, jobs, education Idea Lorem Ipsum Dolor Sit Amet 7 days left for voting tags, government, economy, jobs, education Idea Lorem Ipsum Dolor Sit Amet 3 days left for voting tags, government, economy, jobs, education

more popular ideas

Active topics: 42, Archived Topics: 6969.

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tags

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### About

[Information about our site]

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### Contact

[Our emails and whatever...]

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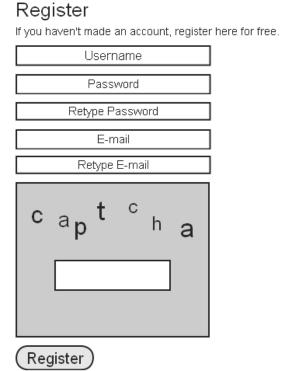






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### **Comment List:**



23

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### Link | Elag



### Username

on February 30, 2012

posted 2 days ago





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#### Link | Flag



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on February 30, 2012

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### Username

on February 30, 2012

posted 1 day ago

Topic Author





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Link | Elag





Username on February 30, 2012

posted 6 hours ago

### **Comment Submit:**





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Last Comment

Link | Elag



Username on February 30, 2012

### Speak Up

# Some Text



### Topic example:

### Idea Lorem Ipsum Dolor Sit Amet

tags, government, economy, jobs, education



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### Discussion Period

#### Link | Elag



Username

posted 10 minutes ago on February 30, 2012



23 days left for discussion





### Idea Lorem Ipsum Dolor Sit Amet

tags, government, economy, jobs, education



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Voting Period

Link | Flag



Username

posted 5 hours ago on February 30, 2012



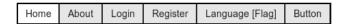
7 days left for voting







### Un-registered user viewing a document:







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### Idea Lorem Ipsum Dolor Sit Amet

tags, government, economy, jobs, education

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### Read the discussion

Link | Elag

42



Username on February 30, 2012







### Submit a Topic:







Submit an idea now Login or Register Submit a document now Login or Register

Title:	Advanced Options
what's your idea?	(optional)
Description:	Limit users to emails like:
	.*@upr.edu
Hide format help	
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Tags:	
Choose up to five tags	
enocoo ap te mo tage	
Discussion Period (days): Voting Period (days):	1
21 🕏	
Submit	

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Tags: Government, Education

User: deanMiguelMunoz

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### Tag Listing:







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### Topic with tag [Government]:

Idea Lorem Ipsum Dolor Sit Amet 23 days left for discussion	?≞
tags, government, economy, jobs, education	· •
Idea Lorem Ipsum Dolor Sit Amet 23 days left for discussion tags, government, economy, jobs, education	?▮
Idea Lorem Ipsum Dolor Sit Amet 7 days left for voting tags, government, economy, jobs, education	23 <sup>●</sup>
Idea Lorem Ipsum Dolor Sit Amet 3 days left for voting tags, government, economy, jobs, education	42 <b>®</b>

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### Richard's Profile



Name: Richard B. Kaufman-Lopez

Member for: 1 year, 7 days Website: http://diddy.com

location: Japan

Age: 21

Send Richard a private message



Karma: 420

### Ideas submitted by Richard:

Idea Lorem Ipsum Dolor Sit Amet 23 days left for discussion tags, government, economy, jobs, education	?▮
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### Comments submitted by Richard:



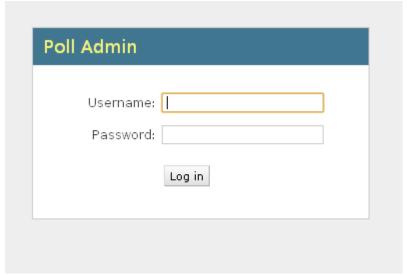
23



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posted 2 days ago

### **Administrator Login: (Django Generated)**



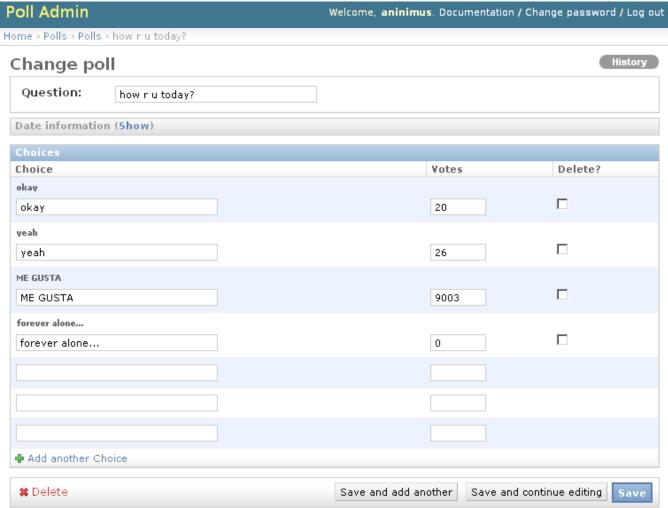
Example with tables Groups, Users, Polls and Sites on the DataBase: (Django Generated)



## Example of edting a table (Poll) whose attributes are Question and Date Published: (Django Generated)



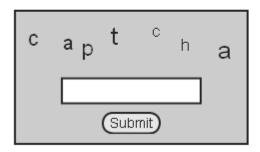
### Example of editing attributes (Changing the Choices in a Poll): (Django Generated)



### **Example of foul language marking:**

### Speak Up

Some text with foul language. \$#@%! \$#@



Format help