

User Interface Design

RoboNews.com

“Your Source For Robotics Coverage”

Client

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RoboNews.com
User Interface Design Document

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1. Introduction

1.1 Purpose of this document

This document will give detail on how to navigate through the RoboNews website in order to access its features. We will explain how the User Interface works and what each specific feature of the website will be used for. Readers will gain a better understanding of the RoboNews site through reading this document.

1.2 References

1. System Design Document

2. User Interface Standards

One key feature of our design that allows for consistency across the website is the inclusion of common elements on all pages, including the background image, header bar (with links to the homepage and most popular tags), and right side menu bar. This design allows dynamic content to be placed in a designated areas, while the rest of the page remains static, thus providing a consistent feel across the website.

Figure 1 shows which areas are dynamic (boxed in red) and which areas are static (boxed in blue). The dynamic areas will change in response to a user's actions, while the static areas will always remain the same. Dynamic content areas are managed and updated using Asynchronous JavaScript and XML (AJAX).

Figure 1. Home page (showing static and dynamic content)

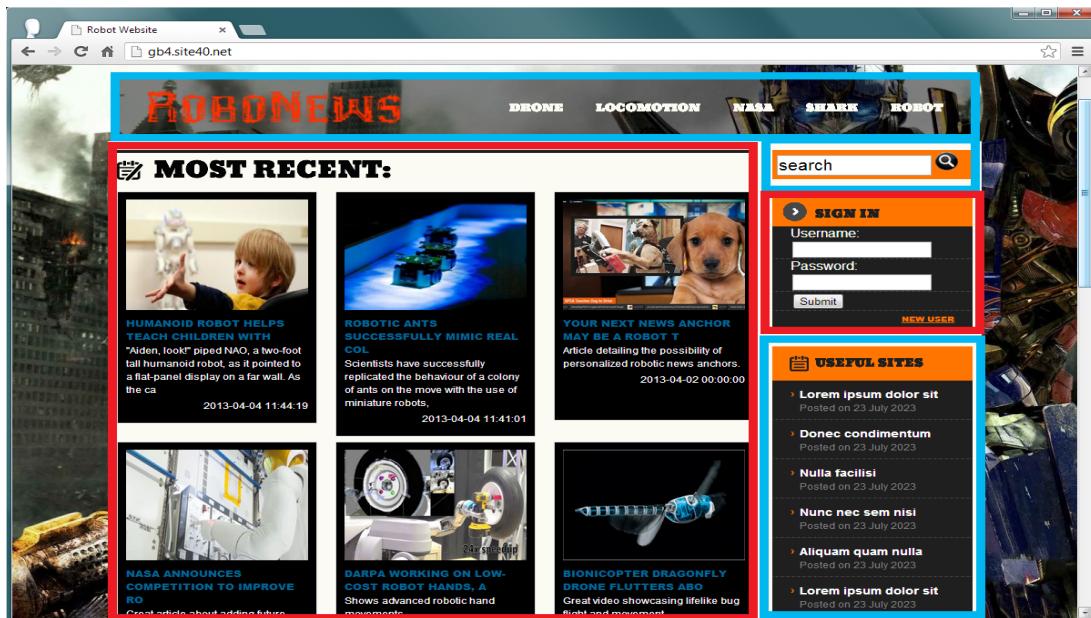
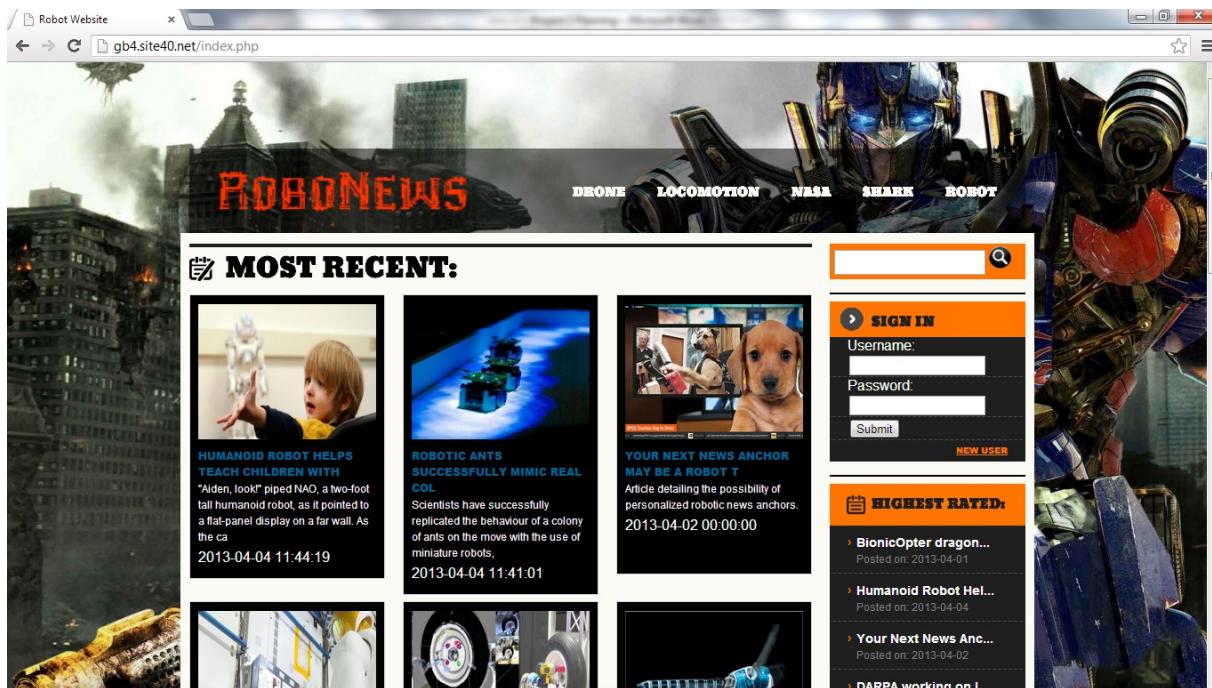


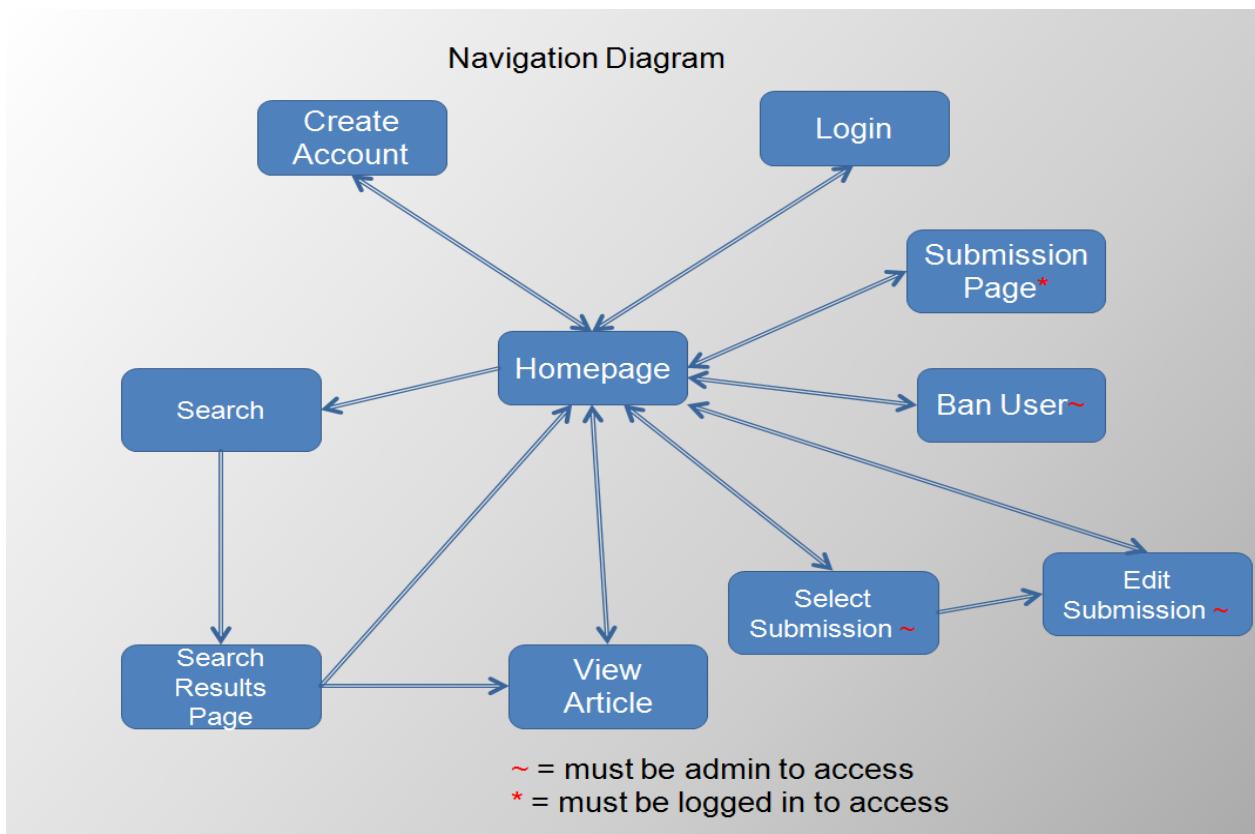
Figure 2 below shows the layout of the homepage when a user is not logged in.

Figure 2. Home and Login page



The User Interface Walkthrough section will go into greater detail about the features of RoboNews and how they are accessed. These features include the login form, search bar, website logo, administrator functions, and several others. Many features that were previously going to be separate pages are now accessible directly from the home page. For example, instead of having a separate login page, the login form is accessible from the menu bar on the right side of the homepage.

3. User Interface Walkthrough



When initially accessing the RoboNews website, users are taken to the homepage where they can access several basic features [see figures 3-5]. The most recent articles submitted to the website are displayed in the large dynamic content portion of the homepage. These articles are displayed in the form of a “summary block” - a square format that displays the article title, image, and part of its summary/review. This format gives users a snapshot of the article, allowing them to quickly determine if it is relevant to their interests. The search bar on the right finds any articles related to the given search parameters and updates the large dynamic content area on the homepage to display the results. From the search results page [see figure 6], the user can click the summary block of any article that was produced by their search query. Doing this redirects the user to a page where the article title and its attributes are displayed in more detail [see figure 7]. Since the user is not logged in, they will always see a login form on the right side of the page. Users may use this form to login, or click the “new user” link to display the account creation form where they can register a new account [see figure 8].

After logging in, the page changes slightly: an account settings panel takes the place of the login form in the menu bar on the right side of the page[see figure 9]. The bottom of this panel includes a link to log out. The account settings panel has links to submit an article, view a user's submissions, and edit a user's submission [see figure 10]. Users have the ability to submit robotics articles to RoboNews via a template on the submission page. When the user has completed and submitted this template, the article will be available on the site. Logged in users also have the ability to rate articles. The rating system is a simple +1/-1 system where user ratings directly affect the overall popularity of an article. Users can rate an article by clicking the up or down arrow on its summary block. The most popular articles are displayed on the homepage in a panel on the right. The final feature that regular users have access to is the ability to edit their submissions. Users would first have to select one of their submissions to edit [see figure 13], and then modify attributes of that submission in the edit form [see figure 14].

Users ranked as “administrators” have special abilities beyond those of regular users. These abilities are: banning/unbanning regular users, and editing any articles that have been submitted to the site. Admins have a special administrator-only homepage that provides this additional functionality [see figure 11]. The ban page displays a table of all registered users. Admins can fill out a form (text box and a radio button) to ban or unban a specific user [see figure 12]. The edit submission page consists of two parts: submission selection, and submission editing. The submission selection page allows an admin to pick an article from a list of all articles on the site [see figure 13]. After selecting an article, the admin is redirected to the editing page, where they can modify attributes of the selected article [see figure 14].

Figure 3. Home page

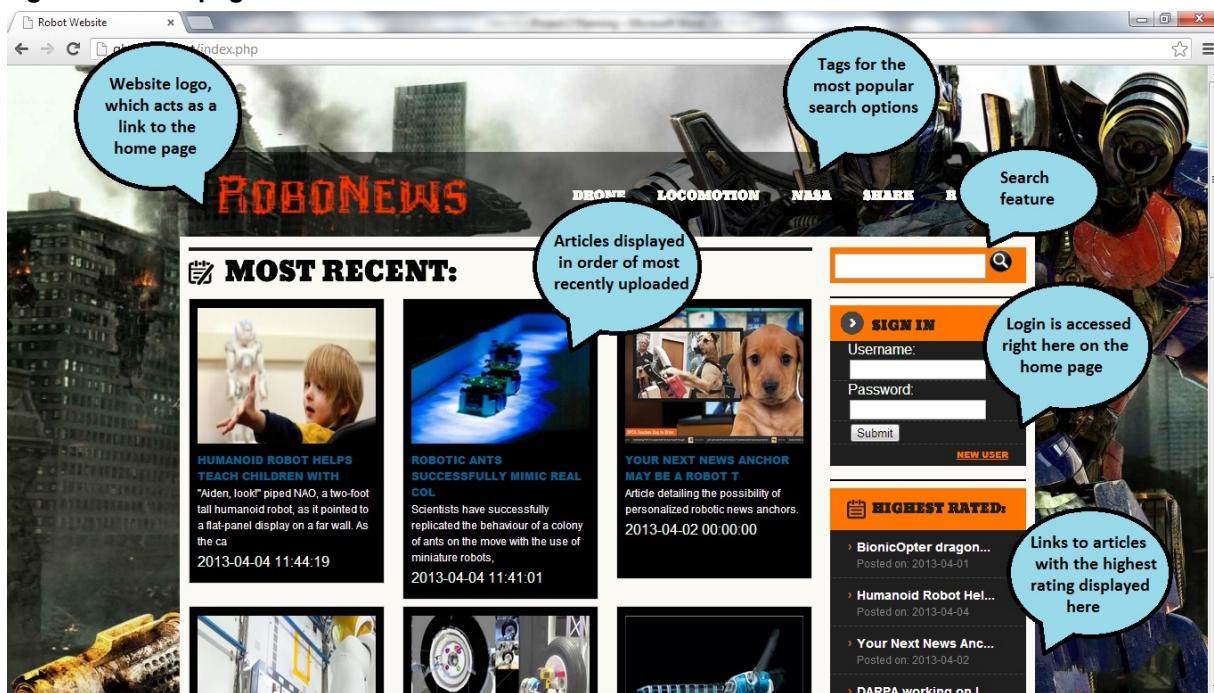


Figure 4. Home Page (continued)

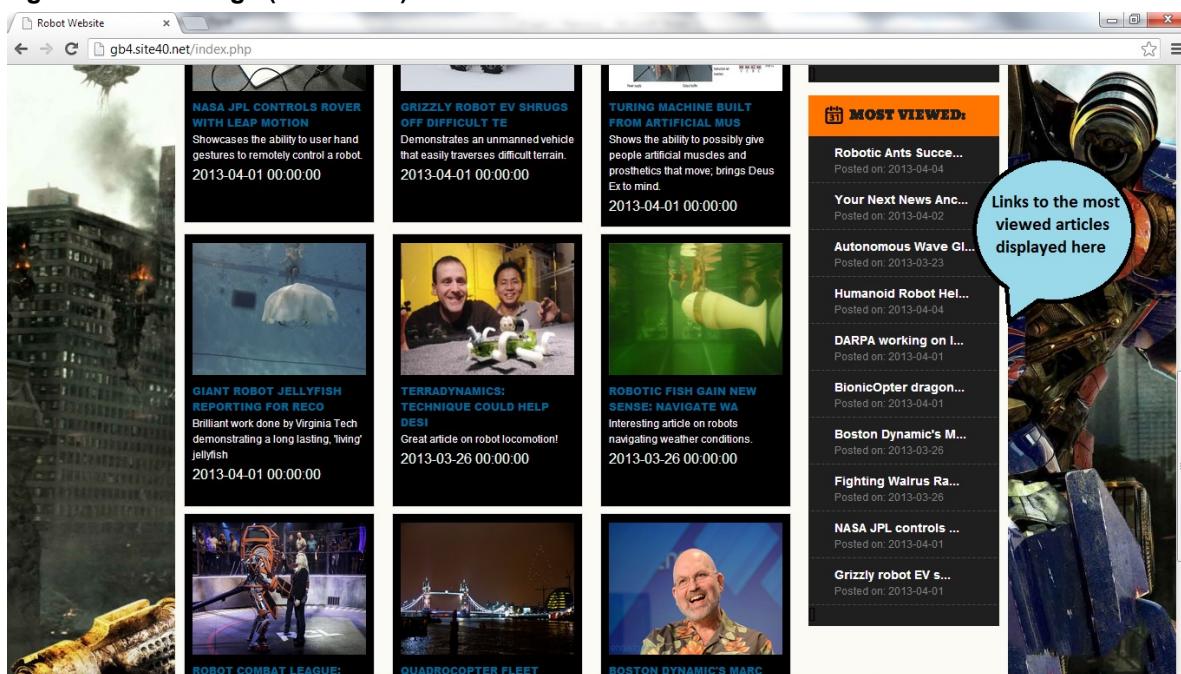


Figure 5. Home page (continued)

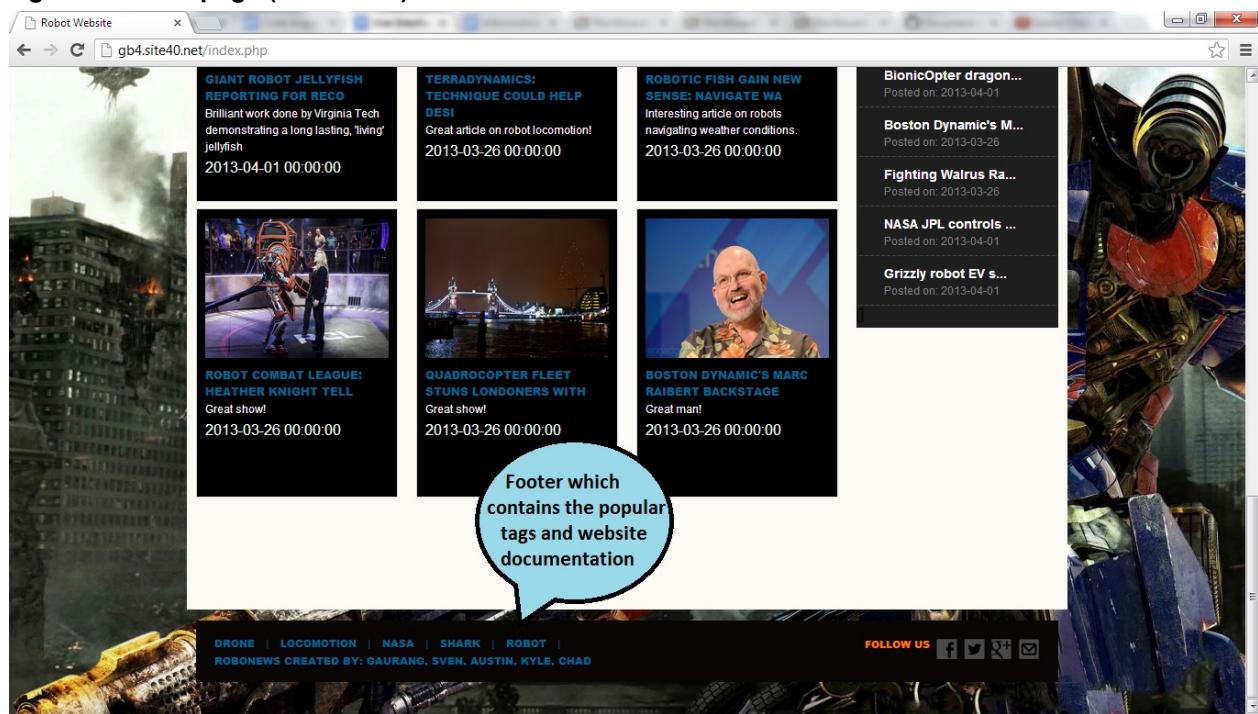


Figure 6. Search results page

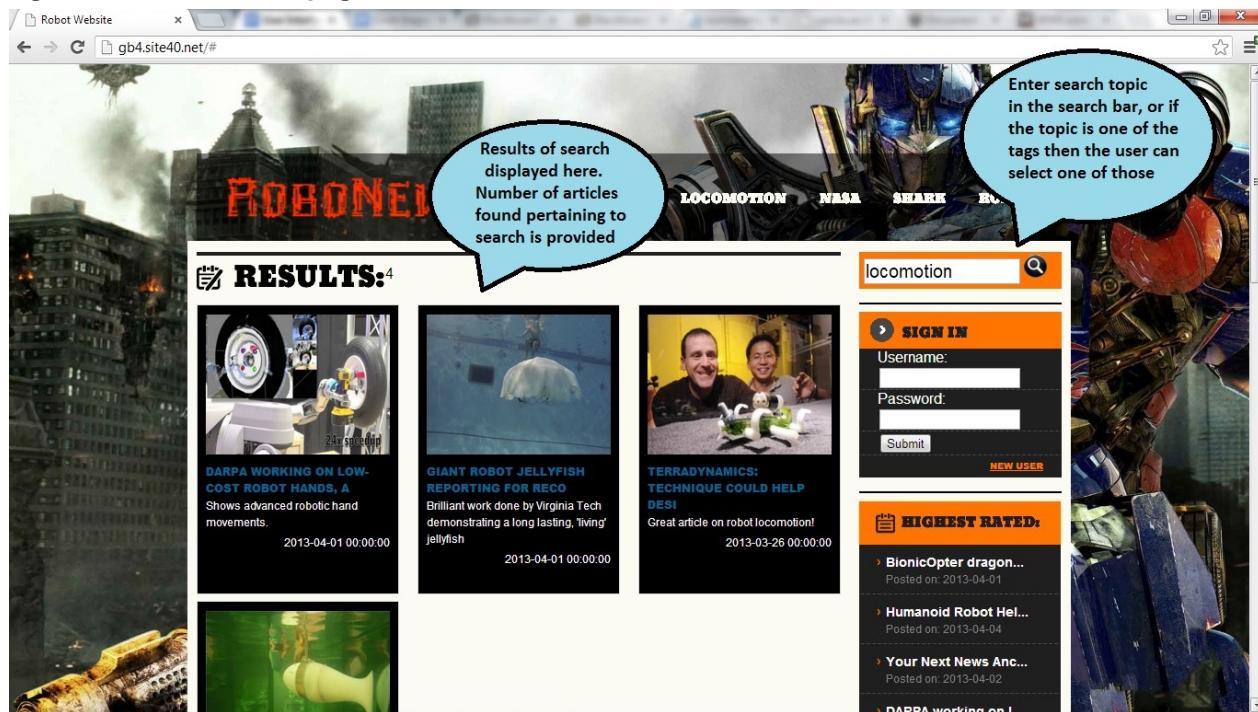


Figure 7. View article page

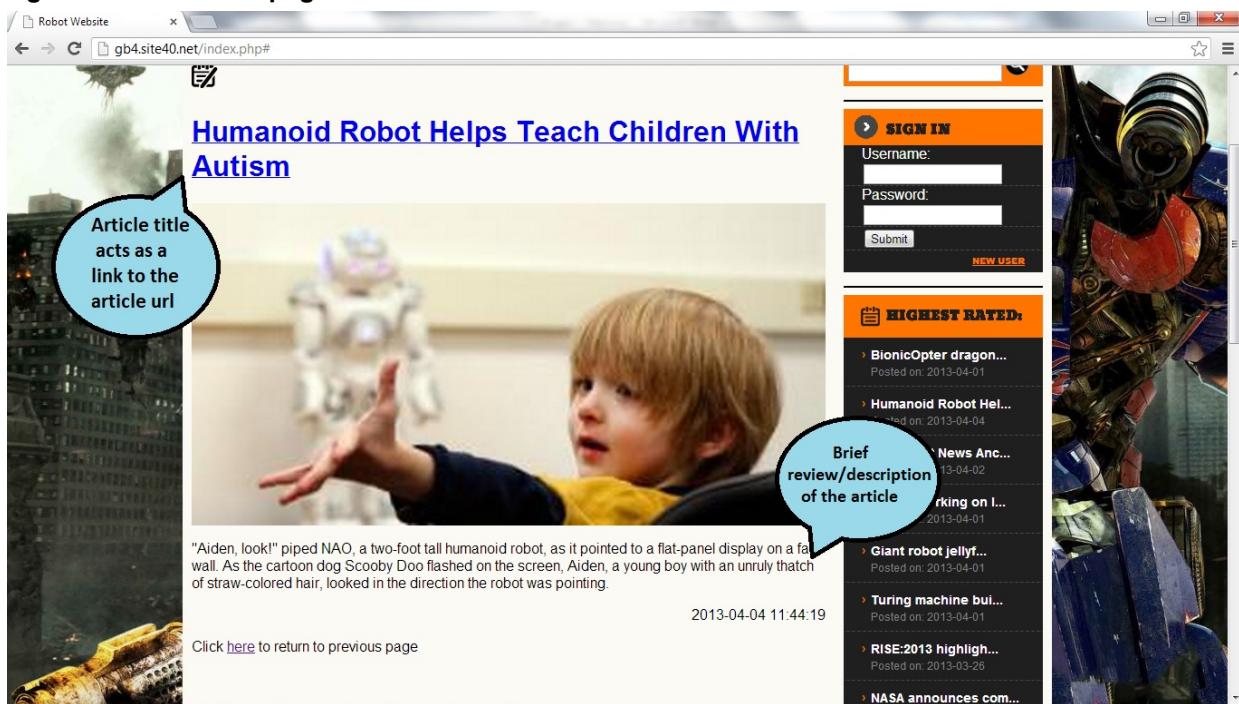


Figure 8. Account registration form

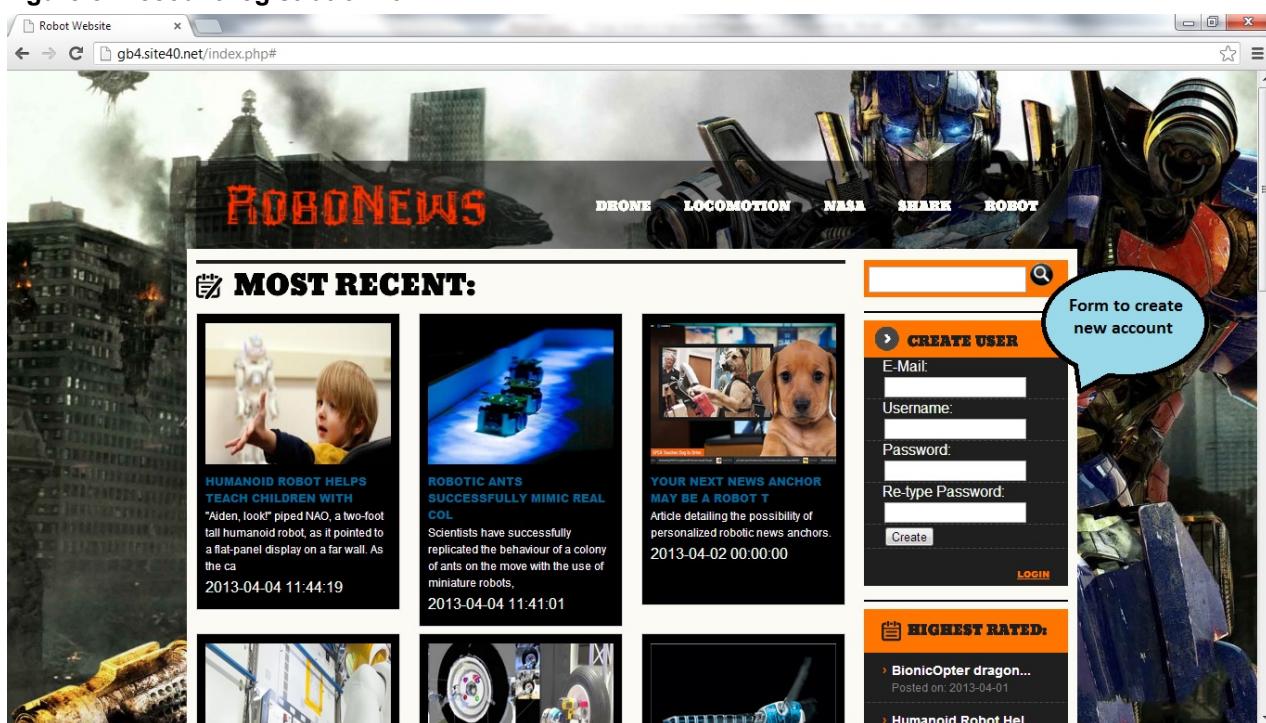


Figure 9. Homepage for logged in users

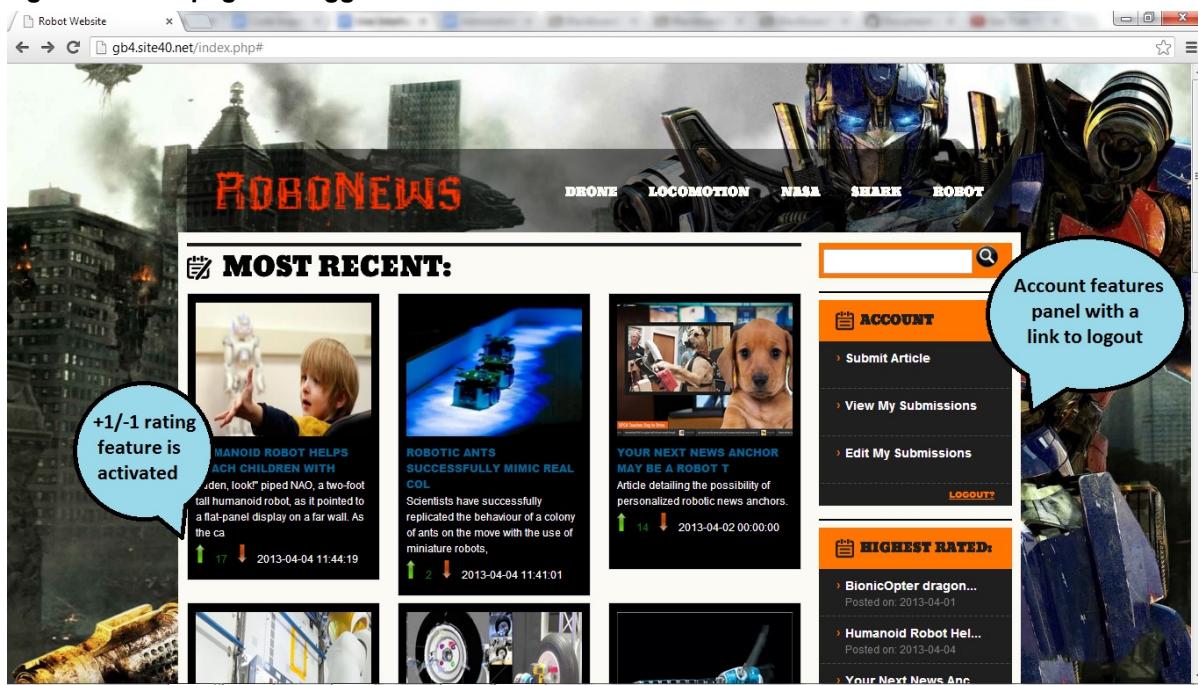


Figure 10. Article submission form

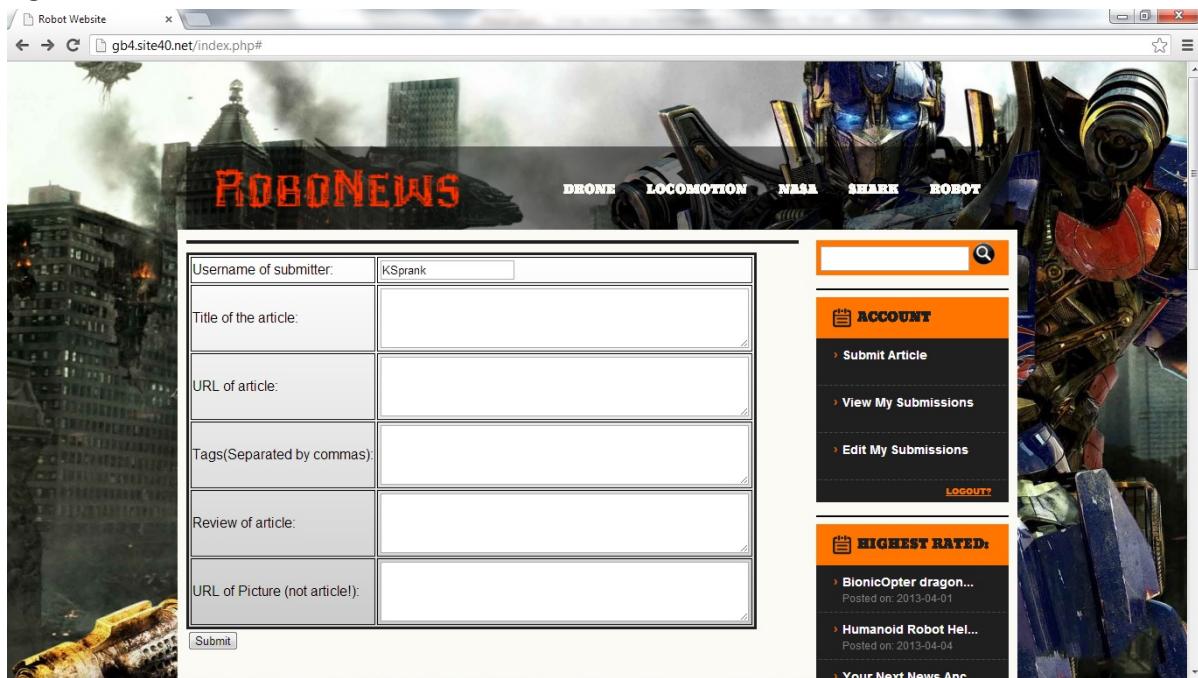


Figure 11. Administrator-only homepage

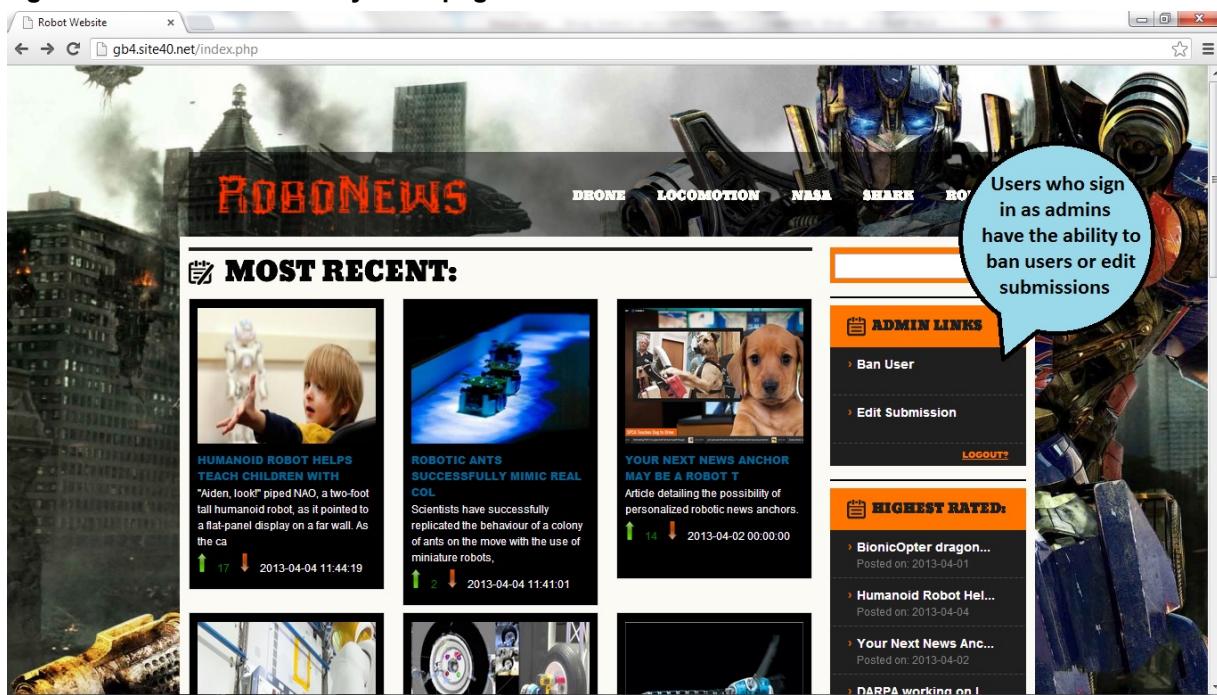


Figure 12. Ban page

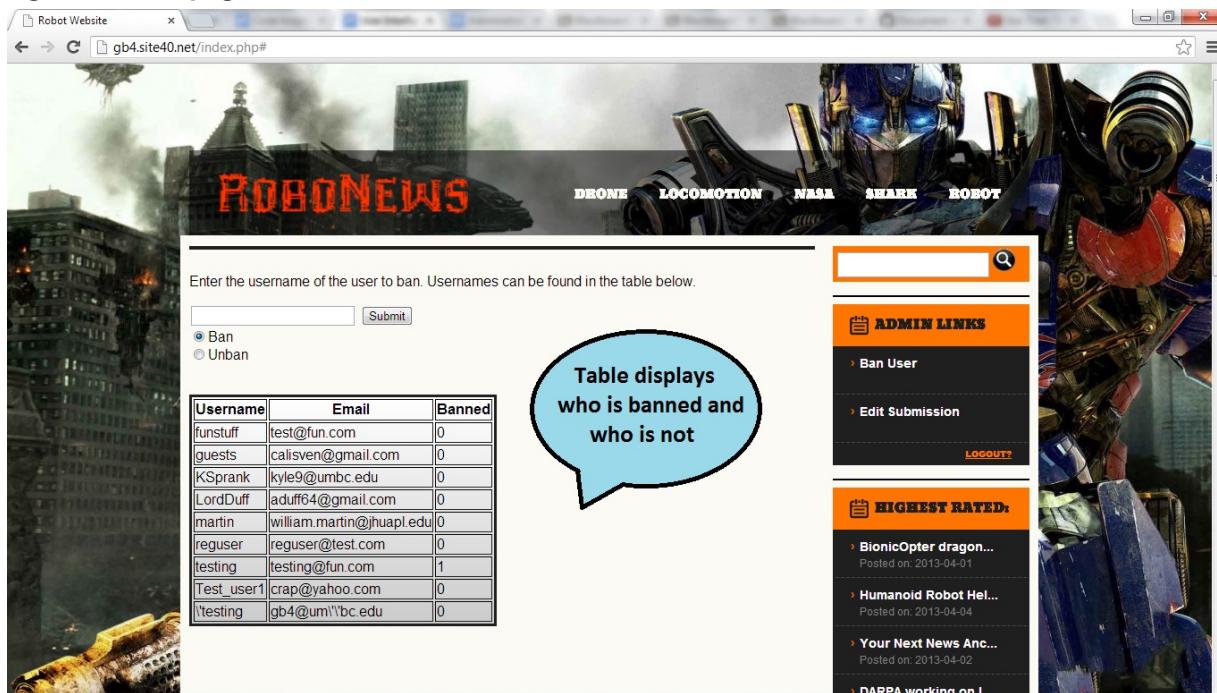


Figure 13. Submission selection page

Article Title	Submitter	Date Submitted
Autonomous Wave Glider bot launched to track sharks, beam real-time data to your iPhone and iPad	reguser	2013-03-23 00:00:00
Bartendro cocktail mixing robot lands on Kickstarter, wields Raspberry Pi	reguser	2013-03-26 00:00:00
BionicOpter dragonfly drone flutters about, blows minds	regUser	2013-04-01 00:00:00
Boston Dynamic's Marc Raibert backstage at Expand	reguser	2013-03-26 00:00:00
DARPA working on low-cost robot hands, aims to make yours even more idle	regUser	2013-04-01 00:00:00
Fighting Walrus Radio turns your iPad or iPhone into a UAV controller	reguser	2013-03-26 00:00:00
FlipperBot: Sea Turtles and Flipper-Driven Robot Reveal Principles of Moving On Sand and Other Granular Media	reguser	2013-04-29 22:47:50
Giant robot jellyfish reporting for recon duty, sir	regUser	2013-04-01 00:00:00
Grizzly robot EV shrugs off difficult terrain, laughs at heavy loads	regUser	2013-04-01 00:00:00
Hitachi ROPITS transport robot takes you where you choose on your tablet	reguser	2013-03-26 00:00:00

Figure 14. Submission edit page

4. Data Validation

Throughout the website there are many data entry points. The following table lists the types of data entered and acceptable values for each.

Entry Point	Datatype	Constraints
Username (login/account registration forms, ban form)	String	At least 6 characters, less than 255 characters
Password (login/account registration forms)	String	At least 6 characters, less than 255 characters
Email (account registration form)	String	Maximum of 65,535 characters
Article title (submission form, edit submission form)	String	Maximum of 65,535 characters
Article url (submission form, edit submission form)	String	Maximum of 65,535 characters
Article tags (submission form, edit submission form)	String	Maximum of 65,535 characters
Article picture url (submission form, edit submission form)	String	Optional field, maximum of 65,535 characters
Article review (submission form, edit submission form)	String	Maximum of 65,535 characters
ArticleID	Unsigned Integer	Maximum of approx. 18 quintillion (20 digits)

Appendix A – Agreement Between Customer and Contractor

The customer agrees to a Robotics site that compiles relevant news and informational articles. Articles will be submitted by users of the site, though the team will research and attempt to include a web trawler if time permits. The site will also include search functionality through the use of tags (i.e. categories). Users of the site will also be able rate articles using an upvote/downvote system. The most popular articles and tags will be presented on the front page. The team will continue to implement these features in further development spirals.

Client

Name (signature): _____
Name (print): _____
Date: _____

Team

Name (signature): _____
Name (print): _____
Date: _____

Appendix B – Team Review Sign-off

All members of the team have reviewed this document and agree on its content and format.
Any minor disagreements are to be listed in the comments section below.

Client

Name (signature): _____

Name (print): _____

Date: _____

Team

Name (signature): _____

Name (print): _____

Date: _____

Comments:

Appendix C – Document Contributions

This document was completed by Kyle Sprankle and Chad Auld. Editing and review was conducted by all team members.