



R3DLINE: Site Documentation

colinbernard.ca/cosc360/home.php

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Introduction	3
Version Control	3
Features	3
User Accounts	3
User Profiles	3
Create a Post	3
View a Post	4
Search for a Post	4
Comment on a Post	4
Post Points System	4
Forums	4
Forgotten Passwords	4
Admin Features	4
Technical	5
Database	5
Forums Table	5
Threads Table	5
Thread Replies Table	5
Users Table	5
Javascript	5
Site Styling (CSS)	6
Site Files & Directories	6
Images Directory	6
Admin.php	6
Config.php	6
Known Limitations	7
Points	7
Browse Forums Button	7
Forgotten Password	7
Conclusion	7

Introduction

R3DLINE is a site for E30 enthusiasts. The BMW E30 is a specific generation of the BMW 3 series produced between 1983 and 1993. However, since the creator, Colin Bernard, no longer has an E30, there will likely be content related to his two dirty, loud, old, and perpetually broken subarus.

The website is meant to be a fusion of a traditional forum (often used by car clubs/fans) and a more modern news site such as Reddit.

Version Control

Git was used for version control during software development. The repository is hosted on GitHub and available at <https://github.com/colinbernard/cosc360>.

Features

For a more in depth walk through of the features from a user's perspective, please read the R3DLINE User Guide.

User Accounts

Users can browse the website as guests, or create an account. Users will not be able to create a post or comment on posts until they are logged in.

User Profiles

When users are viewing their own profiles, they are given an option to update their information, as well as their profile image. If a user is viewing the profile of another user, they will only be able to view this information, not edit it.

Create a Post

If a user is logged in, they may create a post. Posts must be made in a specific forum, and given a title and content. Users may include pictures in their posts.

View a Post

Users can view posts, and the comments on them.

Search for a Post

Users are able to search for posts by keywords in the title.

Comment on a Post

When viewing a post, logged in users are able to comment on it by adding a reply. This commenting uses AJAX and is instant (no page reloading required).

Post Points System

All posts/threads are assigned zero points when they are created. They can be upvoted and downvoted.

Forums

Users can filter posts displayed on the home page by selecting a specific forum. When creating posts, users must specify a forum to create the post in.

Forgotten Passwords

If a user forgets their password, they are able to reset it by entering their email address. An email with a new temporary password will be emailed to them immediately.

Admin Features

If a user has admin privileges, they will be able to access admin controls. Admins can search for users, search for posts, ban users, and remove posts.

Technical

Database

A MySQL database is located on the server, and stores all information for the website. User passwords are hashed. Images are not stored in the database, however the path to user profile images are stored. The images themselves are stored on the server.

All PHP queries to the database use prepared statements to prevent SQL injections. In the future, inputs should be sanitized and stripped of unnecessary characters and symbols.

Forums Table

The names of forums are stored in this table, as well as their unique IDs.

Threads Table

Thread titles, content, poster ID, points and timestamps are stored in this table.

Thread Replies Table

Rows in the thread replies table reference a thread. These rows contain the content of comments/replies, the poster ID, as well as a timestamp.

Users Table

This table stores the users. The following user data is stored: username, email, location, bio, password, profile_image_path, is_admin, and is_banned.

Javascript

Javascript is mainly used for form validation. Forms are checked to make sure they are completely filled out, and unfilled fields will be highlighted so the user knows what to correct. Javascript is also used to toggle/expand the list of forums on the home page.

The Javascript library TinyMCE is used to enhance the HTML textarea and provide support for pictures as well as other formatting. These enhanced textareas are used for submitting post content, as well as comment content. Pictures may be included in posts and comments, however they must be linked externally, and may not be uploaded.

Site Styling (CSS)

There are several CSS files which style R3DLINE's user interface. There is a master file titled "all.css" which is applied to all pages, and provides default styling. Several pages which have specific styling needs have their own CSS files as well which override or build upon the main CSS file.

Site Files & Directories

All PHP files are organized in a way such that there will be a PHP file containing the HTML of a page. This PHP file can be thought of as the "view" in a MVC approach. There is generally an accompanying PHP file usually prefixed "process", which contains the logic required to submit user data or redirect a user appropriately. Below are several important files and directories which do not follow this structure.

Images Directory

The "images" directory stores site logo, as well as other assets used by the site. User profile pictures are stored in a subdirectory titled "uploads", this directory is only available on the server.

Admin.php

Contains all logic for the admin controls. A very simple web page with no styling applied.

Config.php

Contains the database connection information such that it does not have to be redundantly copied to each PHP file which connects to the database. In the future, this file should be placed above the accessible layer of files on the server, such that a hacker can not access it and view the database account information.

Known Limitations

Points

There is currently no limit on the points. There is a chance that the points value of a post may exceed the maximum or minimum allowable integer value.

In the future, points should be updated to use AJAX, such that the home page does not need to be reloaded to vote for a post.

Browse Forums Button

To expand the list of forums, this button will need to be clicked TWICE, but only the first time. Furthermore, this feature is not functioning when a specific forum is selected.

Forgotten Password

Although an email is sent with a temporary password, the user is never able to change this temporary password. So it is actually a very permanent password.

Conclusion

R3DLINE is a functioning website created without a framework. I am proud that it is useable and doesn't look completely terrible. I hope to continue development of it over the summer, and perhaps use it to document my adventures as a "shade tree" mechanic. Have a fabulous summer Scott!