

MUD - Multi User Drawing

What is your product, on a high level?

A turn based drawing web app that allows users to contribute small additions each turn, encouraging an interesting and perhaps unexpected evolution of the final image.

Whom is it for?

Firstly it is for anyone with a Facebook account and Facebook friends. This web app is intended for those that want to creatively collaborate in a casual setting. The platform also has potential future business applications in situations where collaborative visual representations are necessary, but equal contribution is valued to deliver higher quality products.

What problem does it solve?

The goal of the app is to establish a foundation which supports the sharing of ideas and creative collaboration in a fun environment. The benefit of a turn based system is that everyone is guaranteed a turn to contribute. In a free for all drawing application, one person might take over and others don't want to interrupt. This aims to foster equal contribution in a free form design process.

What alternatives are available?

- Collaborative drawing apps (not turned based):
 - iScribble: multi user drawing Flash app with online community <http://www.iscribble.net/>
 - Ambereh: Windows-native drawing app that supports multi user drawing and recording <http://ambereh.sourceforge.net/>
 - DrawChat: Flash and Java based apps that support multi user drawing and chat with an online community <http://www.ratemydrawings.com/chat/>
- Turn based drawing apps:
 - Förbind: Javascript turn based drawing app with nonexistent online community <http://forbind.net/examples/drawing-turn-game.html>

What is the core functionality and feature set

- Allow a user to create a drawing session and invite friends to the drawing.
- Allow the author to specify a number of rounds before the image is "done."
- Save an image at the end of each person's turn to display a "timeline" of the image.
- Allow completed images to be rated and shared.
- Rank users based upon the ratings of their previous images.
- Display a main page of the site that shows the highest rated and newest images.
- Display a comment section on each image.
- Maintain access control to define turns and the contributors for each drawing.
- Display a profile page that shows the images a user has taken part in.
- Display a homepage showing the status of the images a user is currently taking part in.
- Create a "picture of the day" that can be used as a starting canvas for drawings.

Why is this project compelling and worth developing?

With preliminary investigation it appears that there isn't a popular implementation of this idea quite like our proposed app. Current popular web-based multi-user drawing applications are either Flash

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or Java based which potentially limits their reachability. This app will leverage the newest features of universally supported web technologies such as HTML5, Javascript, and CSS. Connecting the app with the Facebook network will expand the app's visibility. The Facebook-boosted exposure increases the chances that people will actually use this product. Also, no existing product has a social ranking aspect similar to what we are proposing.

How will this project be built?

The app will follow the modern web model/view/controller design pattern via

- Javascript/HTML5/CSS - handling the frontend canvas and presentation.
- PHP - handling the javascript requests and doing the backend work.
- MySQL - maintaining the user information, access control info, and image info.

Describe at a very high level the system's architecture, identifying the components/modules that will interact.

- Javascript + HTML5 canvas that allows the current user to draw and at the end of the turn sends the image (or draw strokes) to the web service which saves the current revision of the image.
- There will be a Facebook Authentication module that lets users sign in and play games.
- There will need to be some sort of access control to be able to allow users with permission to edit images.
- A user system that keeps track of who is a part of each image, what their ranking is, etc.

What is interesting about this project from a technical point of view?

This application would require programming that is outside of the knowledge taught in the UW CSE department. It ties in multi user web applications, touch based interaction, HTML5, OO PHP, and also requires us to utilize an ACL for security and an ORM for database connectivity. We would be writing web services to handle voting/image submission/etc. which are, again, all items not taught in the UW CS curriculum.

Optionally, what languages/toolkits do you propose to use for the development?

Saros Framework - <http://sarossoftware.com/products> - The Saros Framework is built drawing from the best of Zend Framework, CakePHP, and Symphony, but doesn't have such a long history. This allows it to have important features implemented in a deliberate way rather than as an afterthought with the evolution of popular technologies. It also better fits the size of the project we are working on, Zend would be the other logical option, but it is bloated and isn't as well designed as the Saros Framework for the core functionality we will be using. Saros Framework also uses PHP 5.3, which provides more "correct" OOP than we would be able to use with ZF (PHP 5.2).

JQuery - As the javascript library of choice amongst web developers, there is no reason to choose anything else when developing natively in javascript!

What is the single most serious challenge you see in developing the product on schedule?

The largest challenge we foresee is not a particular technical issue, but rather that we have simply

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overcommitted to the number of features we will make deliverable.

How will you minimize or mitigate the risk?

We will develop in a highly modular way and be able to prioritize and make cuts based upon changing time estimates. This in itself is a conducive style to collaborative projects and should help with other portions of the development cycle.