Development Plan

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November 9, 2009

1 Development Plan

1.1 Application Environment and Development Tools

1.1.1 Mobile Client

Since the prototype is intended for the iPhone OS, there are few options for development environments. The path of least resistance (and greatest productivity) is for the application to be written in Objective C, and built using Apple's iPhone SDK toolchain integrated into the Xcode IDE. It is possible to develop iPhone applications outside of Xcode, using other text editors and foregoing the builtin debugging integration that Xcode offers, but to compile and link, one is still required to use the provided tools by Apple. For this reason, our team will focus on the Xcode environment and the full stack that it has to offer. In particular, we will be using the following:

- development workstations will run OSX
- Xcode
- iPhone 3G S
- iPhone Simulator

1.1.2 Web Service

In order for the applications on the client devices to share content, a centralized web service is required. There are many options within this realm, however, for ease of development since time is short on this prototype, this web service will be built using the following:

- Python scripting language
- Django Web Framework
- Lighttpd HTTP Server
- MySQL Database
- JSON for data transport

This stack of tools has been widely utilized in numerous installations and in particular, the Python language has proven itself to be quite powerful, yet easy to learn.

1.1.3 Version Control & Source Code Management

In order to facilitate sharing our work, we have created a repository at GitHub[1]. This allows us to use Git, a distributed version control system, for all of our created content. Our source code, scripts, and even our papers (written in LaTeX) will be stored in this shared repository. This allows us, as a distributed team working in disparate locations, to share all content and stay up-to-date with others contributions.

Git also provides issue tracking that we have begun using in an effort to track progress and discussion on multiple concurrent items.

[1] http://github.com

1.2 Development Milestones

- 17 Nov – Storyboards and Lo-fi Prototypes
- 19 Nov – Webservice completed and API locked for data transfer
- 23 Nov – pre-Alpha "Sketchable" interface working on Sim with fabricated geo data
- 24 Nov – Initial User Feedback incorporated into final designs
- 26 Nov – Early "Alpha" version of the mobile client ready
- 1 Dec – Prototype due

1.3 Application Architecture

The heart of the mobile application will be the integration of a live video feed overlaid by user contributed sketches for the current location of the device. The application will rely on Apple's CoreLocation service to provide the location and orientation information in order to retrieve user content from the web service. We will run an NSTimer that will create NSInvocationOperations at regular intervals to submit any user created content in the background during viewing and to retrieve any new content for the user's current geographic area.

We intend to incorporate a simple user identity component using Twitter. This will allow us to attach a user to a sketch without having to manage the identity infrastructure. By having identity information attached to each contribution, we will also have the ability to allow users to filter based upon the user.

There will be a tagging component, although it will be limited in this initial prototype. The user will be able to create a set of tags that will be applied to sketches created after tag assignment.

Finally, a map view will be provided which will indicate to the user sketches near to them, to allow for "sketch tours" or other artistic discoveries.

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References