

**Team Number:** May15-31  
**Project Name:** CoderLab  
**Client / Advisor:** Joe Zambreno

## Week 2 Report (9/9/14 - 9/15/14)

Name (Role)	Team Meeting (9/15)	Advisor Meeting (9/11)	Week Hours	Total Hours
Jake Bertram (Comm)	P	P	3.5	7.5
Dan Smith (Key Concepts)	P	P	4	8
Kyle Tietz (Lead)	P	P	2	6
Jacob Wallraff (Webmaster)	P	P	1.5	5
Erich Kuerschner (Webmaster)	P	P	2	4.5
Bryan Passini (Comm)	P	P	4	7.5

Key: P - Present AE - Absent, Excused AU - Absent, Unexcused

### Advisor Meeting Notes (9/11)

- Primary use case
  - Class demonstration
  - Two classes of user: instructor/owner and student/guest
  - Authenticate with ISU Shibboleth
  - Primary languages are those used in classes:
    - C/C++, Java, MATLAB
    - VHDL/Verilog?
  - Makefile support?
  - Results pane/console
  - Stretch ideas:
    - Chat
    - Persistent/multi-file projects

- “forking” the session or some emulation of source control
- UI Mockup for next week

## Meeting Minutes (9/15)

- High-level module overview:
  - Authentication/authorization (interact with SSO, manage roles)
  - Collaborative Code component (firepad, sharejs?)
    - File History / Forking
    - Language support: C, C++, Java, Matlab
  - Browser shell (stream a command line to the browser)
  - Browser UI
    - “rooms” support, project (file) tree, toggling permissions
  - Docker Containers Module (w/ C, C++, Java, Matlab images)
- TODO: Individual documents describing peoples’ specialties, interests, preferred technologies, comfort zones, etc. Due by 9/18’s Meeting
- Mockups were considered, basically emulate existing solutions since they seem to have it down. Brian printed out some balsamiq mockups.
- Brought up ShareJS as an alternative to firepad

## Group Accomplishments

- UI Mockups - considered UI features
- Listed high level modules (see 9/15 Meeting Minutes above)
- Considered ShareJS as an alternative to firepad

## Individual Accomplishments

### Jacob Bertram

- Docker - Do some more exploration
  - Created a docker image that compiles an arbitrary C file
  - Created a Docker image that **makes** an arbitrary Makefile
    - Still need to figure out a better way of passing around code projects between a host and a container
- UI

- Consider how to layout basic views
- Bring potential, rough, mockups to Monday's meeting
- Kyle brought up ShareJS, looked at that
  - Requires Nodejs backend, is also written in coffeescript, which might be scary for some

## Dan Smith

- CodeMirror vs Ace
  - CodeMirror
    - Has support for making text selections read-only or “atomic” which may be useful for demonstration purposes
    - Familiar to Jake (sort of)
  - Ace
    - Written for/by the makers of Cloud9
    - Supports far more languages out of the box
    - Syntax checking for JS/CoffeeScript/CSS/XQuery
    - Definitely works with ShareJS
- Firepad user roles
  - No native support for any kind of user roles or authentication

## Kyle Tietz

- Looked at ShareJS library
  - Implements Operational Transforms (OT), which is a method of collaboration
  - Open source, MIT License
  - Has examples integrating with Ace code editor

## Jacob Wallraff

- Nothing noteworthy accomplished
- Goal for this/next week: 1) get a senior design website up and running with Erich, 2) Learn more about Docker

## Erich Kuerschner

- Downloaded Firepad solution to computer. Will begin looking through/reengineering what code I can.
- Started researching docker and compilers
- Goal for next week: 1) research heavy; start experimenting with possible tools/technologies that we may use. 2) Start work and hopefully finish group web site with Jacob (Wednesday)

## Bryan Passini

- Mockups
  - Drew up some rough sketches for the user interface
- Looked in how collabedit.com implements code collaboration
  - Uses python and tornado for code collaboration.
  - Tornado is a python web framework and async networking library. Good for long-lived web connections.
  - Tornado seems do able for code collaboration but would require significantly more work than firepad.
- Downloaded firepad and briefly played around with it
- Looked into file managers for javascript: jquery-filemanager, jQuery File Tree

## Pending Issues

- Can we use firebase/firepad? Alternatives?
  - Kyle found ShareJS ( <http://sharejs.org> ), looks good, see individual notes on it.

## Plans for Upcoming Week

- Further research as assigned in adviser meeting
  - Share & Discuss
- Create shared documents describing our ability, experiences, preferred technologies, etc. for Tuesday's 8:30am meeting
- Meet physically on Monday, 9/15 @ 8:00pm
  - Primary focus: wireframing / UI brainstorming