Objective

This course is intended to give experienced web developers practical industry theory, skills, and experience. Students will build websites for actual clients. They will work in teams with assigned roles, developing the site throughout one semester and following the traditional development stages and cycles.

Concepts

Students will be taught important development theory including: methodologies and frameworks; project planning and resource management; project roles and collaboration; information architecture; applied database design and implementation; user interface design and testing; version control; quality assurance; testing and debugging; documentation; and migration and updating projects.
**Prerequisites**
Upper division ITP Web courses or equivalent experience.

**Instructor**
Yuanbo Wang

**Contact**
yuanbo@usc.edu
OHE542

**Office Hours**
Wednesday 4pm – 5pm
*Please make an appointment ahead of time.*

**TA**
Jack Clancy (jclancy@usc.edu)

**Grader**
Jack Clancy (jclancy@usc.edu)

**Lecture and Lab**
Wednesday 5 – 7:50 pm

**Website**
http://uscitp.com/spring-2016/itp460/

**Optional Textbooks**
*Essential Scrum: A Practical Guide to the Most Popular Agile Process*
By Kenneth S. Rubin

**Optional Materials**

Grading
The following percentage breakdown will be used in determining the grade for the course.

<table>
<thead>
<tr>
<th>Component</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Individual Assignments</td>
<td>10%</td>
</tr>
<tr>
<td>Group Assignments</td>
<td>25%</td>
</tr>
<tr>
<td>Labs and Attendance</td>
<td>15%</td>
</tr>
<tr>
<td>Milestones</td>
<td>20%</td>
</tr>
<tr>
<td>Individual Contributions</td>
<td>30%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>100%</strong></td>
</tr>
</tbody>
</table>

Grading Scale
The following shows the grading scale to be used to determine the letter grade.

<table>
<thead>
<tr>
<th>Grade</th>
<th>Score Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>100-93</td>
</tr>
<tr>
<td>A-</td>
<td>92-90</td>
</tr>
<tr>
<td>B+</td>
<td>89-87</td>
</tr>
<tr>
<td>B</td>
<td>86-83</td>
</tr>
<tr>
<td>B-</td>
<td>82-80</td>
</tr>
<tr>
<td>C+</td>
<td>79-77</td>
</tr>
<tr>
<td>C</td>
<td>76-73</td>
</tr>
<tr>
<td>C-</td>
<td>72-70</td>
</tr>
<tr>
<td>D+</td>
<td>69-67</td>
</tr>
<tr>
<td>D</td>
<td>66-63</td>
</tr>
<tr>
<td>F</td>
<td>62 or below</td>
</tr>
</tbody>
</table>

Policies
Due dates and requirements for all Labs and Assignments will be posted on the course site. Students will “post” their work to their USC web space as defined on the course site.

The course will have both individual and group assignments. Labs and assignments will often be due at different times of the week. It is each student’s responsibility to keep track of due dates and post work on time as specified on the course site, even if they miss class. Work turned in late will lose 10% credit per day and late work is not accepted after two weeks past the due date. To receive credit for late work you MUST email the grader that you posted a lab or assignment after the due date or you will not receive credit.

Attendance is very important in this course. An attendance sheet will be circulated each lecture. You must sign in for lecture to receive lecture attendance credit. Just as in an actual development firm, missing sessions and meetings will have negative consequences.

IT Help
Hours of Service: 8AM-9PM; Phone: 213-740-0517; Email: engrhelp@usc.edu
Incomplete and Missing Grades
Excerpts for this section have been taken from the University Grading Handbook, located at http://www.usc.edu/dept/ARR/grades/gradinghandbook/index.html. Please see the link for more details on this and any other grading concerns.

A grade of Missing Grade (MG) “should only be assigned in unique or unusual situations... for those cases in which a student does not complete work for the course before the semester ends. All missing grades must be resolved by the instructor through the Correction of Grade Process. One calendar year is allowed to resolve a MG. If an MG is not resolved [within] one year the grade is changed to [Unofficial Withdrawal] UW and will be calculated into the grade point average a zero grade points. 

A grade of Incomplete (IN) “is assigned when work is no completed because of documented illness or other ‘emergency’ occurring after the twelfth week of the semester (or 12th week equivalency for any course scheduled for less than 15 weeks).”

Academic Integrity
USC seeks to maintain an optimal learning environment. General principles of academic honesty include the concept of respect for the intellectual property of others, the expectation that individual work will be submitted unless otherwise allowed by an instructor, and the obligations both to protect one’s own academic work from misuse by others as well as to avoid using another’s work as one’s own. All students are expected to understand and abide by these principles. Scampus, the Student Guidebook, contains the Student Conduct Code in Section 11.00, while the recommended sanctions are located in Appendix A: http://www.usc.edu/dept/publications/SCAMPUS/gov/. Students will be referred to the Office of Student Judicial Affairs and Community Standards (SJACS) for further review, should there be any suspicion of academic dishonesty. The Review process can be found at: http://www.usc.edu/student-affairs/SJACS/.

If the instructor, a grader, or a lab assistant suspects you of academic dishonesty, it has to be reported to SJACS. Do not share lab assignments with another student. Do not submit another student’s work as your own. Do not look at other students’ papers during exams. Do not leave the room during an exam. Do not cheat! As Trojans, we are faithful, scholarly, skillful, courageous, and ambitious.

Students with Disabilities
Any student requesting academic accommodations based on a disability is required to register with Disability Services and Programs (DSP) each semester. A letter of verification for approved accommodations can be obtained from DSP. Please be sure the letter is delivered to your course instructor (or TA) as early in the semester as possible. If you need accommodations for an exam, the form needs to be given to the instructor at least two weeks before the exam.

DSP is located in STU 301 and is open from 8:30am to 5:00pm, Monday through Friday. Contact info: 213-740-0776 (Phone), 213-740-6948 (TDD only), 213-740-8216 (FAX), ability@usc.edu, http://sait.usc.edu/academicsupport/centerprograms/dsp/home_index.html.

Emergency Preparedness/Course Continuity in a Crisis
In case of emergency, when travel to campus is difficult, if not impossible, USC executive leadership will announce a digital way for instructors to teach students in their residence halls or homes using a combination of the Blackboard LMS (Learning Management System), teleconferencing, and other technologies. Instructors should be prepared to assign students a “Plan B” assignment that can be completed ‘at a distance.’ For additional information about maintaining your classes in an emergency, please access: http://cst.usc.edu/services/emergencyprep.html
# Web Application Project
## ITP460 (4 units)

### Course Outline

<table>
<thead>
<tr>
<th>Week</th>
<th>Date</th>
<th>Hour 1: Course introduction</th>
<th>Hour 2: Joint lectures</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Jan 13</td>
<td>Project life cycle, roles, student backgrounds, client proposals</td>
<td>Intro to entrepreneurial thinking</td>
</tr>
</tbody>
</table>

**Student background questionnaire – IA (Due Saturday 01/16)**

<table>
<thead>
<tr>
<th>Week</th>
<th>Date</th>
<th>Hour 1: Agile Development for Large Initiatives, Sprint Development Cycle</th>
<th>Hour 2: Joint Presentations</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>Jan 20</td>
<td>Jira Demo, Google Drive, Slack</td>
<td>Tools setup – GA (Due Tuesday 01/26)</td>
</tr>
</tbody>
</table>

**Vote for Projects – IA (Due Sunday 01/24)**

<table>
<thead>
<tr>
<th>Week</th>
<th>Date</th>
<th>HTML &amp; CSS style guides, CSS architecture</th>
<th>Client Meeting</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>Jan 27</td>
<td></td>
<td>Poker Planning</td>
</tr>
</tbody>
</table>

**SP1 Start**

**SP1: Planning Doc & Product Feature Backlog - GA (Due Sunday 01/31)**

**SP1: Setup Environment – GA (Due Tuesday 02/02)**

**Git Commit – IA (Due Tuesday 02/02)**

<table>
<thead>
<tr>
<th>Week</th>
<th>Date</th>
<th>UI/UX, Designing, creative concepts, comps, wireframing</th>
<th>Product Design Theory</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>Feb 3</td>
<td><strong>SP1 Review</strong></td>
<td></td>
</tr>
</tbody>
</table>

**SP1**

**SP1: Sprint Report – GA (Due Thursday 02/04)**

**SP2: Planning Doc & Update Feature Backlog - GA (Due Thursday 02/04)**

**SP2: Wireframes Design – GA (Due Tuesday 02/09)**

**SP2: UI Guide – GA (Due Tuesday 02/09)**
| Week 5 | Feb 10 | Javascript, Frontend Frameworks and libraries  
Test server environment setup  
SP2 Review  
(D) SP3 Sprint Planning  
SP2: Sprint Report – GA (Due Thursday 02/11)  
SP3: Planning Doc & Update Feature Backlog - GA  
(Due Thursday 02/11)  
SP3: Final Site Mockups – GA (Due Tuesday 02/16) |
| Week 6 | Feb 17 | Joint Session: Digital Marketing Methodology & Implementation  
SP3 Review  
(D) SP4 Sprint Planning  
SP3: Sprint Report – GA (Due Thursday 02/18)  
SP4: Planning Doc & Update Feature Backlog - GA  
(Due Thursday 02/18)  
SP4: HTML and code style guidelines – GA (Due Tuesday 02/23)  
SP4: Final Site Design and HTML – GA (Due Tuesday 02/23)  
(Milestone 1)  
SP4: Site Demo: Mockup – GA (Due Wednesday 02/24 in class) |
| Week 7 | Feb 24 | Joint Session: Technology Strategy & Operations  
SP4 Review  
(C) SP5 Development Sprint Planning  
SP4: Sprint Report – GA (Due Thursday 02/25)  
SP5: Planning Doc & Update Feature Backlog - GA  
(Due Thursday 02/25)  
SP5: Database Build – GA (Due Tuesday 03/01)  
SP5: Site Demo –GA (Due Wednesday 03/02 in class) |
| Week 8 | Mar 2 | How to work with and build APIs  
SP5 Review  
(C) SP6 Sprint Planning  
SP5: Sprint Report – GA (Due Thursday 03/03)  
SP6: Planning Doc & Update Feature Backlog - GA  
(Due Thursday 03/03)  
SP6: Site Demo – GA (Due Wednesday 03/08 in class) |
| Week 9 | Mar 9 | PHP Review or Ruby on Rails or NodeJS  
OOP, MVC development model  
SP6 Review  
(C) SP7 Sprint Planning  
SP6: Sprint Report – GA (Due Thursday 03/10)  
SP7: Planning Doc & Update Feature Backlog - GA  
(Due Thursday 03/10) |
SP7: 1st Functionality Build – Milestone 2 (Due Tuesday 03/22)
SP7: Site Demo – GA (Due Wednesday 03/23 in class)

Mar 16
Spring Break

Week 10
Mar 23
Data structures/ Database Designs
SP7
Review
SP7: Report – GA (Due Thursday 03/24)
SP8: Planning Doc & Update Feature Backlog - GA
(Due Thursday 03/24)
SP8: QA/Test environment setup – GA (Due Tuesday 03/29)
SP8: Site Demo – GA (Due Wednesday 03/30 in class)

SP (D) SP8
Sprint Planning

Week 11
Mar 30
JS Review, ReactJS/AngularJS and other library
SP8
Review
SP8: Sprint Report – GA (Due Thursday 03/31)
SP9: Planning Doc & Update Feature Backlog - GA
(Due Thursday 03/31)
SP9: Jira Bug Tracking Report1 – GA (Due Tuesday 04/05)
SP9: Site Demo: Bugs – GA (Due Wednesday 04/06 in class)

SP (C) SP9
Sprint Planning

Week 12
Apr 6
Quality Assurance
Testing overview and terminology
SP9
Review
SP9: Sprint Report – GA (Due Thursday 04/07)
SP10: Planning Doc & Update Feature Backlog - GA
(Due Thursday 04/07)
SP10: Site Demo – GA (Due Wednesday 04/13 in class)

SP (C) SP10
Sprint Planning

Week 13
Apr 13
Joint Session: Fundraising / Accelerators
SP10
Review
SP10: Sprint Report – GA (Due Thursday 04/14)
SP11: Planning Doc & Update Feature Backlog - GA
(Due Thursday 04/14)
SP11: Site Demo – GA (Due Wednesday 04/20 in class)

SP (C) SP11
Sprint Planning

Week 14
Apr 20
Web performance optimization / best practices
SP11
Review
SP11: Sprint Report – GA (Due Thursday 04/21)
SP12: Planning Doc & Update Feature Backlog - GA
(Due Thursday 04/21)
Week 15  Apr 27  

Site presentations to Judges  
Peer evaluation - I (Due Sunday 05/01)  
Site manual including migration plan & files - G (Due Sunday 05/01)