Objective

This course will present an approach to the aesthetic development and technical implementation necessary to achieving unique, compelling, and intuitive design in mobile games. The course will also look ahead to the task of creating games that can compete in the next-generation marketplace and are relevant to the current evolution and definition of gameplay.

Course Information

Course: Mobile Game Development, CSCI 526, 4 units
Place and Time: EGG Lab, Monday 10:00 am – 12:50 pm
Class web page: http://gamepipe.usc.edu/mobilegames/
Instructor: Scott Easley
Office location: EGG Lab
Email: seasley@usc.edu
Phone: (310) 351-7509
Office hours: Tuesday 2:00 a.m. – 4:00 p.m.
Thursday 10:00 a.m. – 2:00 p.m.

Teaching Assistant: Fotos Frangoudes
Email: frangoud@usc.edu
Office hours:
Office location:

Course producer:
Email:

Course Objective

The objective of this course is to develop games on mobile devices like Apple iPhone, using various technologies like Unity3D, Cocos2D, etc. Emphasis is placed on building entertainment and serious games as well as novel applications of mobile embedded technology.

After successfully completing this course, students should be able to:
- Know the features of mobile games, the workflow of mobile game development and how mobile gaming technologies work;
- Create mobile game apps on mobile devices such as Apple iPhone, using proper technologies;
- Communicate and work effectively with teammates including artists, designers and programmers.
Course Description

Students in this course will work in small teams to build games on mobile devices. The initial half of the course will focus on learning mobile game development tools and how those can be utilized with game development. During the course, students will collaborate with each other through the use of programming, art, design, and production skills.

Recommended Preparation: Basic mobile game apps development technologies (Unity3D, Cocos2D), teamwork tools (Google shared docs, Skype, SVN), languages (C#, Objective C, Boo, Javascript)

Textbook: Course Notes and technical documentation.

Evaluation of student performance

<table>
<thead>
<tr>
<th></th>
<th>Weekly Deliverables</th>
<th>50</th>
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</thead>
<tbody>
<tr>
<td>Mid-term</td>
<td>Deliverables</td>
<td>15</td>
</tr>
<tr>
<td>Final</td>
<td>Project</td>
<td>25</td>
</tr>
<tr>
<td>Final</td>
<td>Presentation</td>
<td>10</td>
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<tr>
<td><strong>Total:</strong></td>
<td></td>
<td><strong>100</strong></td>
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Mid-term and Final Project/Presentation evaluation will be based on how a project will realize the goals the team has set out for itself and the project. Ultimately, this course exists to empower students to bring their vision onto the screen. The more you put into the project, the closer it will be to what was envisioned. For the Weekly Deliverables, the results of the Google spreadsheet mentioned above will be a key input. The professors will evaluate both the amount of tasks fully completed on time and also the complexity of the tasks.

Class grading rubric:

a) Online color-coded schedule sheet: green=1, yellow = 0.5, red = 0. The total is divided by the number of weeks. Strictly: 90%+ = A, 80+=B, 70+=C, 60+=D, and lesser numbers are an F.

b) Then the grade is affected by the following non-quantifiable criteria, in order of importance:

-- Green-colored task difficulty and completion quality
-- Final product quality per milestone descriptions
-- Code quality
-- Perceived effort
Course Outline

Week 1 - Lecture: Class Introduction/Overview -
- What class provides
- Maya software
  - Rules for using lab
  - Assignments of pitching project and forming teams
    - Follow-up E-mail from TA
- Review Team Projects
- Mobile game development
  - Software provided in lab vs. personal computer
  - Team captain roles/responsibilities
- Online resources
  - OAD (Online Asset Database)
  - Excel sheet schedule

Week 2 - Projects Pitched –
- Student projects pitched
- Teams formed – Captains chosen, given write access
  - Captains write roster of team on class schedule
- First walk-around with Professor and TA
  - OAD (Online Asset Database)
  - Excel sheet checklist
- Assignment: First game bible (Game Doc)
- Lab access verified

Week 3 - Lecture: Online Resources for Teams –
- Game Design Docs verified, feedback
- Similar existing mobile games assigned for team study
- Team resources
  - Trello
  - Slack
  - Github
    - Follow-up instruction Email from TA

Week 4 - Lecture: Role of Simple Gameplay –
- Game Design Docs verified, feedback
- Design Document Overview
  - Premise/Genre
  - Critical Functions of play
  - Levels
  - Asset List
Week 5 – Lecture: Game Engines and Intuitive Gameplay -
- Development tools and resources
- Quick walk through Unity3D, Cocos2D
- Selection of development tools
- Game Application creation

Week 6 – Lecture: Game Loops
- Rewards of game played back into Game
  - Stores/Scores versus in-game use
  - Choices with limited player controls

Week 7 – Mid-term
- Mid-term demo of developed games - all students in all teams must be present for the in-class demonstration

Week 8 – Project Reviews
- Game demos preparation for Mid-term presentation
- Videos must be uploaded and accessed via schedule
  - Beginning of class
  - Verified
- Simple 3-minute presentations
- Question/Answer period
- Class does gametesting for each other’s projects
  - Input recorded by teams

Week 9 – Lecture: Risk/Reward in Level Design
- Risk/Rewards in level design
- Not forcing/punishing player
  - Duty versus Bullying
  - Making player death reasonable, responsible
  - Brass rings
- Bartle taxonomy of gameplay types
  - Killers
  - Achievers
  - Explorers
  - Socializers

Week 10 – Lecture: Level Design Tools
- Interactivity/Iteration
- Integration
- Custom vs. Existing toolsets
  - Tiled
  - Excel
  - Sony ATF Leveleditor
**Week 11 - Lab time**
- Studio Sessions (In studio sessions, student game development teams will develop and implement their game designs.)

**Week 12 – Lab time**
- Review of class games, playtesting setup and feedback
- Reasonable hours of gameplay to be expected from game
- Studio Sessions (In studio sessions, student game development teams will develop and implement their game designs.)

**Week 13 – Lab time**
- Studio Sessions (In studio sessions, student game development teams will develop and implement their game designs.)
- Final Game Evaluation
- Bug Fixes

**Week 14 - Final**
- Final In-Class Game demo
- Source code & art assets placed into GamePipe SVN

**Statement for 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 me (or to TA) as early in the semester as possible. DSP is located in STU 301 and is open 8:30 a.m.–5:00 p.m., Monday through Friday. The phone number for DSP is (213) 740-0776.

**Statement on 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/](http://www.usc.edu/dept/publications/SCAMPUS/gov/). Students will be referred to the Office of Student Judicial Affairs and Community Standards 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/](http://www.usc.edu/student-affairs/SJACS/).