OOP-Spring-2016 Documentation

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Brian McMahan

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Contents

Course Description

Video games, phone applications, and many other kinds of programs use the Object Oriented Programming (OOP) design paradigm. Objects are discrete components defined by specific syntax in programming languages. They reflect real world distinctions between types of objects. Object Oriented Programming is more than just syntax, however. It is also a design philosophy that promotes computational thinking, efficient programming, and the reuse of code.

Building upon the Introduction to Python course, we will use Pygame and Python to simultaneously learn about objects and building video games. The class will tour through the major OOP concepts such as encapsulation (packaging of code), polymorphism (code reuse), inheritence (syntactically efficient code structure), and composition (functionally efficient code structure). While learning about these major concepts, students will learn about game engines, the need for objects in games, and how to turn their creative ideas into tangible products. By the end of the course, the students will have a working game and be able to make progress on furthering it on their own.

How to Browse This Document

This document is intended to be a companion to the Object Oriented Programming course taught at HEROES Academy. For more information about HEROES Academy, please visit it here.

This document is still in the works. The Spring session does not begin until the second weekend in April.

Contents:

2.1 Possible Course Resources

2.1.1 iPython Notebooks

- Leonardo Giordani's iPython Notebook series

2.1.2 Blogs and Websites

- Some links about Python OOP
- A simple example of Python OOP development, Part 1