Walkthrough 8
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Agenda

- Distribution Code
- HTML + CSS
- Javascript
- API’s: Google Earth and Google Maps
- Pickup
- Dropoff
- Choice of feature
Distribution Code

- index.html – homepage
- buildings.js – buildings in the game
- houses.js – Harvard houses + locations
- math3d.js – movement math
- passengers.js – all the people in the game
- service.css – appearance of the homepage
- service.js – functions
- shuttle.js – shuttle movement (complicated)
<head>

<link href="service.css" rel="stylesheet" type="text/css"/>

<script src="http://www.google.com/jsapi?key=ABQIAAAA8i9Yd929VTmOEMLNjNyP1xQIE4MyTYdajqjM5EvAZQBaRMtYRS9jJaf64VoDAABoTCl-zAjH-v" type="text/javascript"></script>

<script src="math3d.js" type="text/javascript"></script>

<script src="buildings.js" type="text/javascript"></script>

<script src="houses.js" type="text/javascript"></script>

<script src="passengers.js" type="text/javascript"></script>

<script src="shuttle.js" type="text/javascript"></script>

<script src="service.js" type="text/javascript"></script>

<title>CS50 Shuttle</title>

</head>
Calls functions:

<body onkeydown="return keystroke(event, true);" onkeyup="return keystroke(event, false);" onload="load();" onunload="unload();">

Organizes page:

<div id="left">
    <div id="earth"></div>
</div>

</div>

<div id="right">
    <div id="logo">
        ...
    </div>
</div>
CSS - example

div#announcements
{
    font-size: smaller;
    margin: 5px;
    text-align: center;
}
Javascript

- [http://www.w3schools.com/js/default.asp](http://www.w3schools.com/js/default.asp)
  - Spend time here!

- Arrays
  - var fruits = [];

- Objects
  - var passenger = {
    username: "achang88",
    name: "Alex Chang",
    house: "Kirkland House"
  };

- Arrays of objects
  - var PASSENGERS = [
    {
      username: "achang88",
      name: "Alex Chang",
      house: "Kirkland House"
    }, ...
  ];

- Functions that come with arrays (more at the link above!)
  - fruits.push("Kiwi");
  - fruits.pop();
  - fruits.splice(0,1);
  - fruits.length();
APIs

- Google Maps API

- Google Earth API
service.js

- you will write code in this file
- walkthrough it to get more comfy with javascript
TODO - pickup

- if shuttle within 15 meters and at least 1 seat empty
  - remove passenger from 2D map and 3D earth
  - put them in a seat

- else if not within 15 meters
  - announce that no one is trying to be picked up

- else if no seats
  - announce that there are no seats

- clear announcements when shuttle moves
TODO - dropoff

- if shuttle within 30 meters
  - drop off by emptying seat

- else
  - announce that no one should be dropped off

- clear announcements when you move
Choose Feature(s)

- points system
- timer (window.setInterval, window.setTimeout)
- group passengers by house
- fly
- arrow
- teleport
- speed up/slow down
- ensure passengers get placed far from their house
- ride around other campuses
- announce current location
- auto-pilot
- fuel, gas station
- make your own feature
Some help

- `var d = shuttle.distance(lat, lng);`
  - gets distance of shuttle from lat, lng

- `var features = earth.getFeatures();`
  - features include placemarks

- `features.removeChild(p);`
  - removes a placemark `p`

- Change HTML text
  - `document.getElementById("seats").innerHTML = "hello, world";`
  - `document.getElementById("announcements").innerHTML = "hello, world";`
Remember all resources!

- Distribution code!
- Google Maps API
- Google Earth API
- http://www.w3schools.com/js/default.asp
- This pset (like the fp) is about using tools you have acquired to do cool things!
- HAVE FUN!