

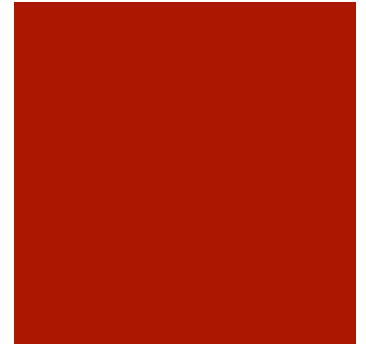


Walkthrough 8

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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)

HTML - head



```
<head>
```

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

```
  <script src="http://www.google.com/jsapi?
  key=ABQIAAAA8igYd929VTmOEMLNjNyP1xQIE4MyTYdaqjM5EsvAZQBbaRMIYRS9jJaf64VoDAABoTCI-
  _zJ-d13vg" 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>
```

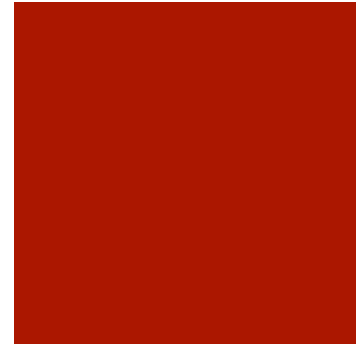
```
  <script src="shuttle.js" type="text/javascript"></script>
```

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

```
  <title>CS50 Shuttle</title>
```

```
</head>
```

HTML - body



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>
```

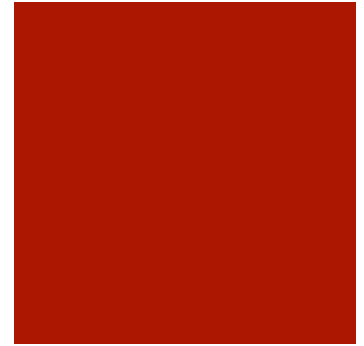
```
<div id="right">
```

```
  <div id="logo">
```

```
    ...
```

CSS - example

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

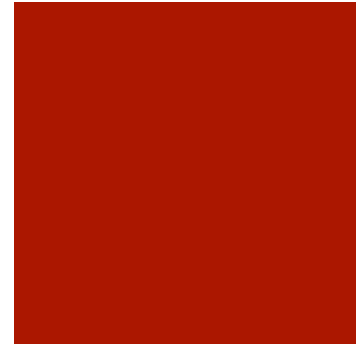


Javascript



- <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
 - <http://code.google.com/apis/maps/documentation/javascript/basics.html>
- Google Earth API
 - <http://code.google.com/apis/earth/documentation/index.html>

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

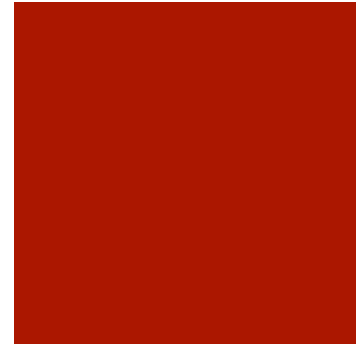


Choose Feature(s)



- 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
 - <http://code.google.com/apis/maps/documentation/javascript/basics.html>
- Google Earth API
 - <http://code.google.com/apis/earth/documentation/index.html>
- <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!

