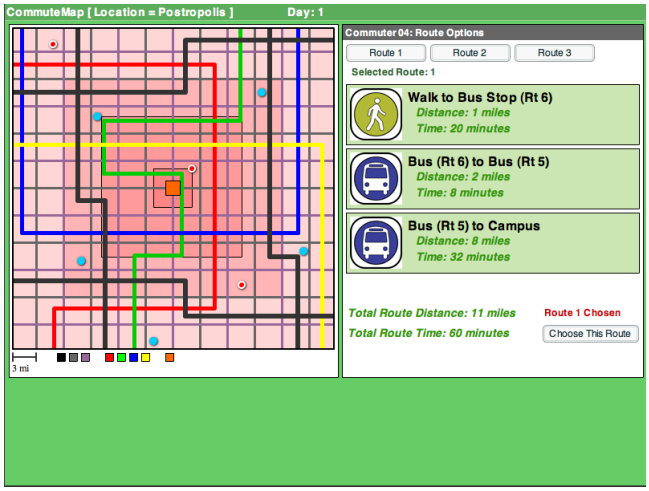
Development Overview: CommuteMap

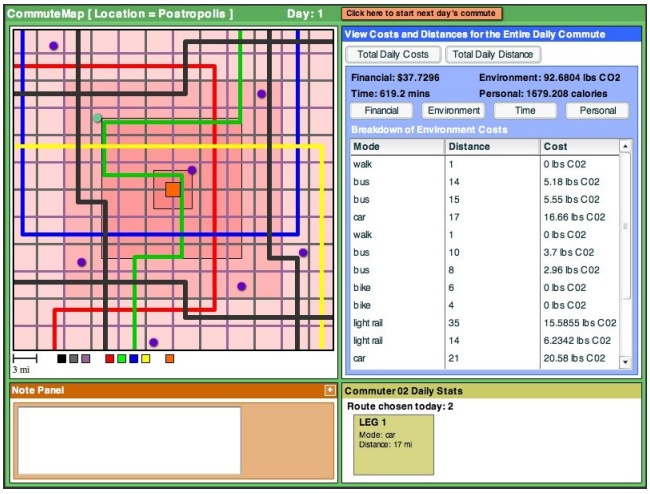
CommuteMap, which is the 2D multimedia *external perspective* phase of the Postropolis Transportation Scenario, is currently under development. CommuteMap allows a learner to make commuting decisions for multiple individuals on a daily basis, and then receive feedback on various types of costs associated with those commuting decisions – as well as distances traveled by various modes of transportation. After a predetermined number of days' worth of decisions have been made, the learner can view the costs and distances in aggregate across all days with the option of comparison with data from any individual day. Essentially, there are three phases to the CommuteMap scenario: 1) selecting commuter routes, 2) viewing daily costs/ distances, and 3) viewing total costs/distances. I am the sole developer of the CommuteMap application, which is scripted in ActionScript 2.0.

Selecting Commuter Routes



A map of Postropolis is displayed on the left side of the scene, containing surface roads, freeways, bus routes, light rail lines, commuter zones and a centrally-located university campus. The map is dynamically populated with a preset number of commuters which are represented with small blue dot icons. A learner can click each commuter dot and view three available routes for transporting that commuter to campus. Each route is displayed in a window on the right side of the scene, outlining the number of legs (one or more for each mode of transportation involved), including information about the time and distance of each leg. Total times and distances for each route are displayed at the bottom of the window.

Daily Costs and Distances



Once all commute selections have been made, the learner can simulate the daily commute, and CommuteMap calculates daily commute costs and distances to be displayed to the learner in the second phase. The same Postropolis map is displayed in the left of the scene, and a cost panel is displayed on the right. Under the map, a note-taking panel is loaded, and under the cost panel is another panel where individual commuter route data can be viewed.

In the cost panel, the learner can view data across all commuters, broken down by four cost types: *financial* (dollars spent), *environmental* (lbs of CO_2 emitted), *temporal* (minutes elapsed), and *personal* (calories burned). Each of these four cost types is presented in a data grid, with columns for the commuter, the mode of transportation, the distance traveled, and the individual cost. In the note-taking panel, a learner can type and save new notes about cost and distance data, as well as load any previously typed notes that have been stored in a database.

Once the learner is satisfied with his or her perusal of the current daily cost and distance data, he or she can click the orange button at the top of the screen to begin the next day's commute. At this point, the first phase is reloaded and the next day of selections can begin, using the same commuters with the same options for commuting routes. If, however, a preset maximum of commuting days has been reached, CommuteMap will instead launch its final phase, where the learner can view all commute data across all days.

Total Costs and Distances

This phase of CommuteMap is similar to the daily cost view phase, except that the map is no longer displayed. In its place is a four-part line graph. Each line represents one of the four cost types. Each line has a node for each commute day. Upon clicking a day node, the daily costs for that cost type are loaded into a data grid on the upper right side of the scene. On the lower right side is a panel where a similar line graph can be displayed for each individual commuter. On the lower left side of the scene, the note-taking panel is still available. The learner can simultaneously view individual and aggregate data for all days of the commute, and any thoughts and observations can be recorded in the note-taking panel. Once the learner has finished reviewing the data in this phase, the CommuteMap scenario is complete.