BikeQuest Requirements

Danielle Karr
dkarr@cs.brown.edu
February 2, 2005

Description of Project

More and more cars and trucks hit the roads every day. Cities and states focus all of their attention on improving major highways, while a growing minority of bikers goes unnoticed and discouraged. The most significant problem with this is that paths for bikers to get where they need to go already exist—but it's too hard to find them. Current mapping technology doesn't allow for the restrictions biking places on those paths. BikeQuest would change that.

Starting with routes in the state of Rhode Island, BikeQuest will provide a resource for searching for bike-appropriate routes from place to place. Through a combination of MapQuest-like route-finding, initial ranking, and user-ranking, the program will solve the problem of getting a biker from point A to point B safely and comfortably. The program would be ideally web-based.

Features

- Bike Route Planning
    - Point A to Point B
    - Loops of a Certain Distance
- Numeric Ranking System
    - Initial
    - Feedback
- Text Feedback on Specific Parts of Routes
- Running Event Log of Searches on Specific Regions
- Message Board or Chat
- Saving Capabilities

Users

The potential users of this program would include people who ride bikes in Rhode Island. More specifically, this includes cycling clubs and teams, like the Brown Cycling Team, as well as Brown employees that participate in Bike2Brown and strictly recreational riders. Department members Mark Dietrich and Spike Hughes have also expressed interest in the project.

Sources of Data

The majority of the data will come from Map Quest's extensive map collection. However, since Map Quest maps are usually just image files without access to specific elements of the maps, supplementary information will be necessary for feedback purposes. GIS data will be used for this.

Outside Resources

In addition to Mark Dietrich and Spike Hughes, Zach Shubert has expressed interest in the project. He is currently working with Amy Greenwald on an improved Map Quest system using autonomous agents, and he would apparently be willing to discuss the use of feedback and algorithms for route planning.

Also, Howard Stone is a catalog librarian at Brown and the author of three books on good bike routes in New England. If the project were to proceed, he would be an excellent source of information on determining good bike routes.

Feasibility

This project is fairly feasible. The data-gathering component seems a bit complex, and generates a number of external dependencies. However, if those hurdles can be surpassed, then the scope of the project seems reasonable. One drawback in terms of course recommendations is that it would ideally be web-based.