THE DEVELOPMENT OF A USER INTERFACE FOR RECREATIONAL ACTIVITY DECISION-MAKING

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The expansion of the tourism industry provides us with ample opportunity to study user interface designs as a component of tools for spatial decision support. Spatial decision support tools are used to offer users technological support in plan evaluation and selection. One aspect of outdoor recreation which requires users to consider a range of attributes is trail use and choice. Trail users face a myriad of choices when determining which set of trails to traverse during any single trip. Over the past several years a variety of commercial tools have been developed to aid in trip planning, with little scientific consideration of the interface design and control layout. Many of these tools allow users to create trips, but the tools often do not allow users to progressively refine the spatial criteria considered making flexibility an problem.

Current systems aimed at supporting the decision making process depend on preset tours which are categorized by a general theme, such as bicycling or hiking, but do not build a scenario based on specific spatial or temporal trail attributes. This research aimed at developing an intuitive visual interface which allowed users to interact with criteria in a meaningful manner for evaluation and selection of recreational trips using a set of spatio-temporally dependent criteria which could support the decision making process.

The initial area for our decision support tool was Rothrock State Forest, Pennsylvania as an ideal case for establishing a decision support tool. This forest covers an area of 87,210 ha of varying environments that exhibit a wide array of spatial factors that may be important for decision making. Rothrock is a popular destination many outdoor groups including hunters, hiking, bicyclists, wildlife enthusiasts, and fishermen. Rothrock is also a favorite destination of student recreation groups because of its proximity to the Pennsylvania State University.

We approached the problem of recreational trip planning from a geovisualization standpoint. Trail users consider geographic information, such as elevation change, while planning potential trips. Here we have evaluated the ways in which fundamental spatial criteria can be visualized in an interface for aiding in trip planning by student recreational users at the Pennsylvania State University. After isolating the spatial criteria that are most often considered by planners we developed a intuitive graphic user interface. Our comprehensible visual interface design provides users with functions including dynamic query and criteria filtering. The clear definition of spatial criteria in a consistent user interface should translate into a tool that provides users with flexible, timely, and useful results without burdening users with a steep learning curve.