

Tech Brief

A Challenge Grant- Bicycle Safety Training Using Advanced
Web-based Distant Learning Tools

FHWA-NJ-2003-006-TB

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THE SCOPE OF THE PROJECT



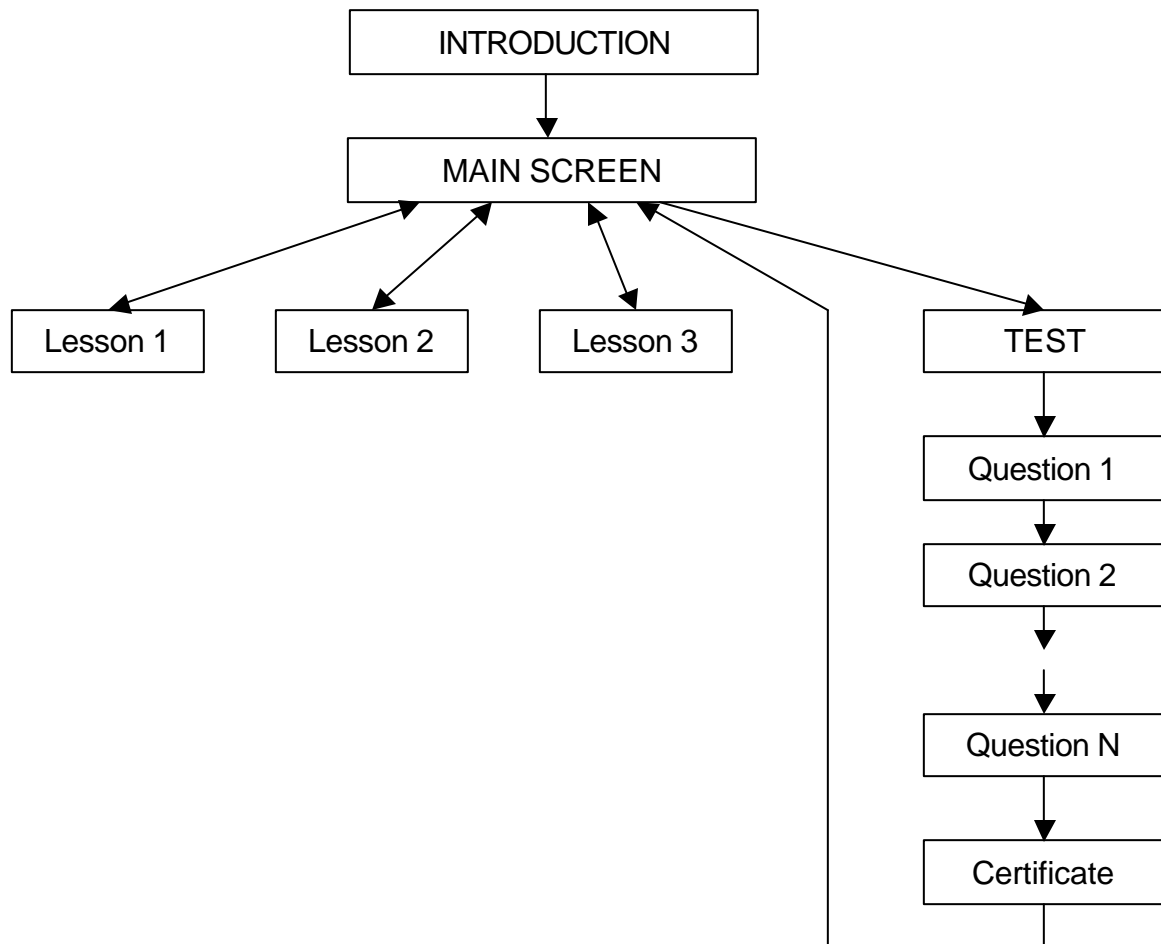
The New Jersey Department of Transportation (NJDOT) Research Bureau wanted to develop a means of promoting bicycle safety awareness for young people. With elementary school students in mind, it became necessary to produce a product that would be well received by this type of target audience. Integration of the most up-to-date distant learning tools would enable a CD-ROM based program that would not only be interactive, but would use multimedia components such as animation, video, and smart traffic templates designed to capture the attention of its audience.

Multimedia training programs deployed through CD-ROMs have become an accepted alternative to traditional training methods. This approach not only makes use of modern technology, but is a cost effective means of delivering training to a widespread audience, while being able to be revised, monitored, and delivered completely online.

THESE ARE OBJECTIVES OF THE PROJECT...

- To develop, implement, and maintain an advanced bicycle safety training course for elementary school students.
- To deliver a complete bicycle safety training system on a CD-ROM that uses advanced multimedia features such as video, animation, and smart traffic templates to test and evaluate student knowledge of the course content.

Access model to lessons and test questions is presented below;



AND, HERE'S WHAT WE DID...

The project required development of an application that is a CD-ROM based e-learning tool, attractive to children in the 7-10 year old age group, and inclusive of both learning and evaluation components. Primary learning objectives of the CD-ROM are embedded in safe bicycle riding, such as development of cycling skills, good judgment, and following the “rules of the road.”

The application would be suitable for both home and school use, able to run on its own, and able to run on minimal hardware and software requirements.

The user age group of 7-10 years old had to be considered at each step in the development of the end product. It was necessary to discover ways of making the application in a format that would be appealing, while delivering the learning objectives. Components such as an animated character in the form of a “hero,” sound effects, additional icons and characters, and the certificate of completion were all determined to be sources of interest to the audience.

The selected training mechanism of the CD-ROM created issues with design constraints. In order to be user friendly for a widespread target audience, the product would have to be as simple to use as possible, and require a minimal amount of hardware and software. The product was constructed so that it met the following technical criteria:

- Minimal use of plug-ins and drivers.
- Partial delivery online via HTTP
- Able to be utilized via school networks, installed on school servers, and run on multiple workstations through the network.

User profiles were established. The CD-ROM was developed with the target audience identified as both male and female, in the 7-10 year old age group. In addition, the CD-ROM was not specifically oriented to New Jersey residents, therefore making nationwide use applicable.

The CD-ROM program opens with an introduction. After the introduction, the main screen is displayed and the individual lessons begin. The test component may be accessed at any point during the application; however, the test entities are sequential and the trainee must complete each test question prior to moving onto the next question.



CONCLUSION:

The New Jersey Department of Transportation Research Bureau Bike Safety CD-ROM project was created to develop an innovative and effective tool for educating the public in making bicycling a safe, secure, and enjoyable experience for all roadway users. The CD-ROM has been created to implement an advanced bicycle safety training course for elementary through middle-school students. The program is tailored toward individual participants through self-paced learning. The end product is based on a multimedia system with a CD-ROM delivery mechanism that integrates the most current technology of distance learning tools, specifically evaluation and testing capabilities. The resulting

training program promotes an interactive learning experience than can be fun and stimulating for the user and encourages students to learn at their own pace in preparation for a certificate of completion.

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<p>A final report is available online at http://www.state.nj.us/transportation/research/research.html</p> <p>If you would like a copy of the full report, please FAX the NJDOT, Bureau of Research, Technology Transfer Group at (609) 530-3722 or send an e-mail to Research.Bureau@dot.state.nj.us and ask for:</p> <p>Report Title: A Challenge Grant- Bicycle Safety Training Using Advanced Web-based Distant Learning Tools</p> <p>NJDOT Research Report No: FHWA-NJ-2003-006</p>	