

## Wearable navigation display alternatives studied

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corridor maze of canvas and PVC pipe, 15 feet on a side.

An acoustic tracking grid mounted overhead reports a test subject's position



*The augmented reality viewer is a tiny screen fitted to a pair of clear glasses.*

to a computer control station and relays it back to the subject's eyeglass-mounted display.

Like the paramedic in the scenario, the subject dons the eyeglass-mounted display and wears a vest to which is affixed a mini computer, tracking components and a battery pack.

The heads-up display projects a map of

*The mini-computer worn on the BARS vest provides heads-up display data and position information via the overhead tracking system.*



the maze and the subject's location. Controllers can adjust the map to fit a person's navigation style—some prefer a "north-up" orientation, others navigate best with a "forward-up" display.

Goldiez's experiments are designed to test how augmentation affects a person's

ability to quickly and thoroughly explore an unfamiliar environment.

Subjects work against the clock and must complete detailed assignments along the route. This supplies an element of detail and urgency to the exercise that adds challenge to navigating through the maze's simple design.

Goldiez predicts the results of this and other similar studies will lead to equipment that can be used both for training and in real-time emergency situations where augmented reality enhances human ability.

*Graduate student assistant Radhey Shah (left) helps theater student Brittany Grass with the BARS vest. Visible behind them is a corner of the maze, enclosed by a canvas curtain to inhibit orientation. The yellow pole holds the tracking device that relays the BARS unit's position to the controller PC outside the maze. Researchers had to raise the sensor to resolve some interference issues.*



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