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A head-up display for wayward travelers

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PROTOTYPE

It takes a certain amount of nerd courage to don the massive headset recently assembled by a group of UMass seniors. But their augmented reality, "personal head-up display" (www.ecs.umass.edu/ece/sdp/sdp09/wolf/) will make you the go-to guy for directions around campus - even the big city.

The personal HUD is ugly: It looks like a skateboarding helmet with a solar oven tacked to the front and a circuit board screwed on top.

The wearer sees a full-color, high-resolution, 3D readout superimposed on a 2D plane of view - a display that changes as you turn and move your head.

Inside the HUD, you see the names of the buildings you are looking at, seemingly projected against those structures. The building names and their coordinates were entered by the UMass personal HUD investigators. The HUD can also derive information from text files, Google Earth data, and other sources, said UMass electrical engineering major Ivan Bercovich.

It's like a wearable version of Wikitude (www.mobilizy.com/), the augmented reality guidebook for the T-Mobile G1. Wikitude superimposes Wikipedia data about landmarks over the live picture in the G1's camera view. Wikitude relies on the phone's compass, accelerometer, and GPS transponder to determine what you're looking at.

The UMass students used similar technologies. They also added OpenGL graphics software and a microprojector from 3M. Microprojectors have revolutionized AR headsets, Bercovich said recently.

Invoking a bit of Ray Kurzweil-futurist talk (for which I am a sucker, by the way), Bercovich noted further miniaturization is necessary.

"We are right on the singularity of not being able to do it (miniaturize personal HUDs) and being able to do it," he said.

IPHONE APPS

Singing bowls signal bliss is at hand

For me, the iPod Touch is the ultimate relaxation machine. Since I can't afford to finish a stressful day with anything that will induce a hangover, I depend on my Pandora soundscapes and Tesla Software binaural beats for an escape from the slings and arrows of suburban living.

Last week, I added another app to my mellow-out mix.

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