



COLLEGE OF **ENGINEERING**
UNIVERSITY OF **WISCONSIN**-MADISON



Visualizing the Future: Imagining a Better Reality in Home Care



THE UNIVERSITY
of
WISCONSIN
MADISON

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Objectives for today

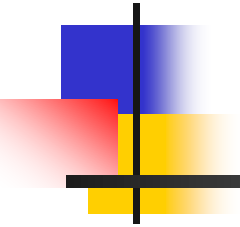
1. Describe strategies to use virtual reality for inspiring designers to create effective homecare technologies
2. Critically appraise how virtual immersive environments complement existing approaches to simulation and patient education
3. Speculate on how VR might change your practice



First- we begin with a clinical case: Clarence

Please go to <http://bit.ly/kIPIfq> to view a short video

What did you learn from
Clarence?





What we learned from Clarence

1. Homes are messy, crowded, personal spaces
2. Designers are better at understanding tasks than the places where tasks occur
3. Effective self-management requires that people remember a lot, often!

New design strategies must meet consumers where they live!



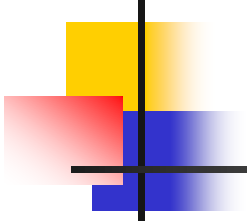
Homes are complex, intimate, messy spaces





How do we bring a sense of place into the design process?

- Create a place where nurses, engineers, computer scientists and people can envision every environment on earth
- Then – use that environment to *immerse* designers into the real world of health in every day living
- Finally – challenge nurses!



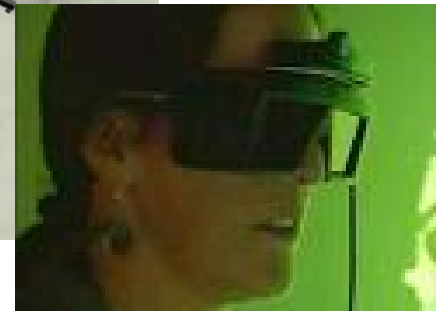
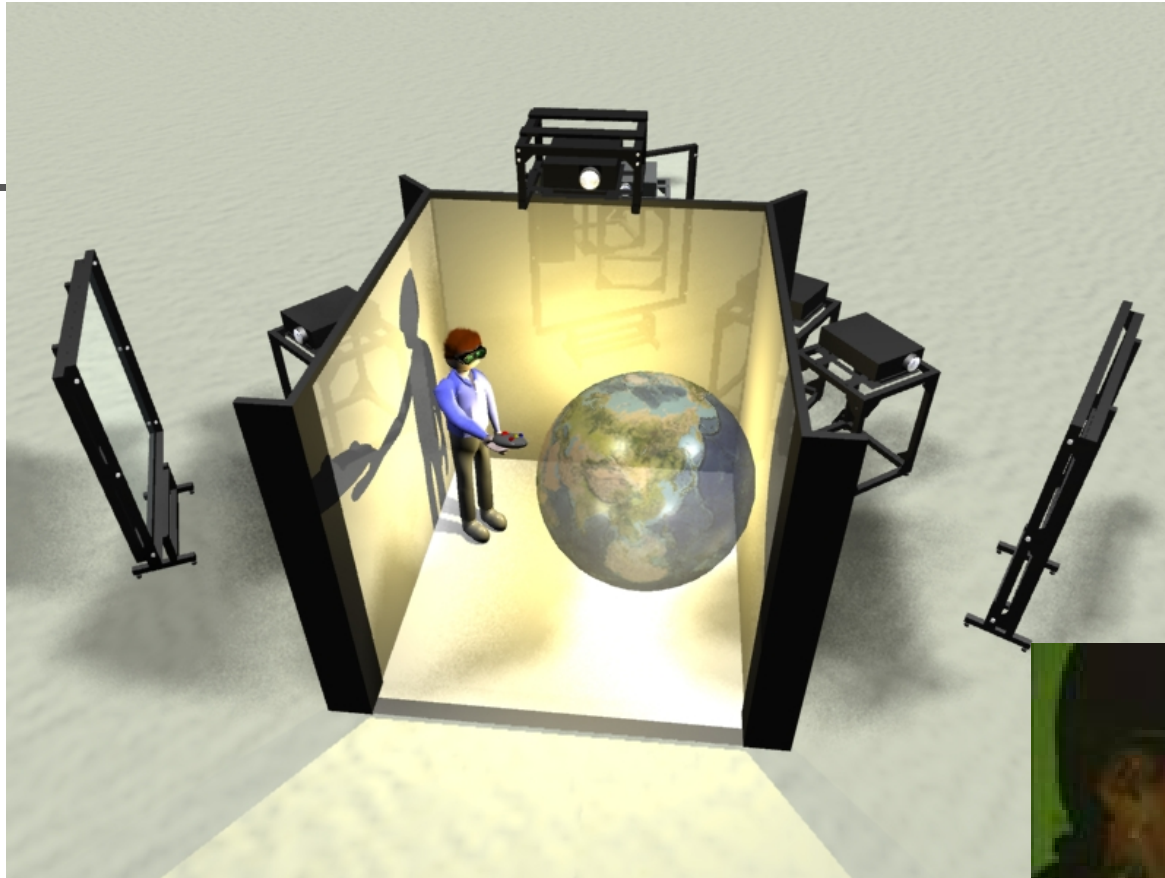
Imagine



Virtual Reality

Computer-simulated environments that use visual images to create a sense of **presence** through a head-mounted display or **immersion** in a special room, called a CAVE

What is a CAVE?



CAVE computerized automatic virtual environment can be used to create any room or space. People will see and feel like they are in the room without any objects like a bed or nightstand needing to be physically present.

Living Environments Lab: Envisioning the Future of Healthcare





PRIVATE

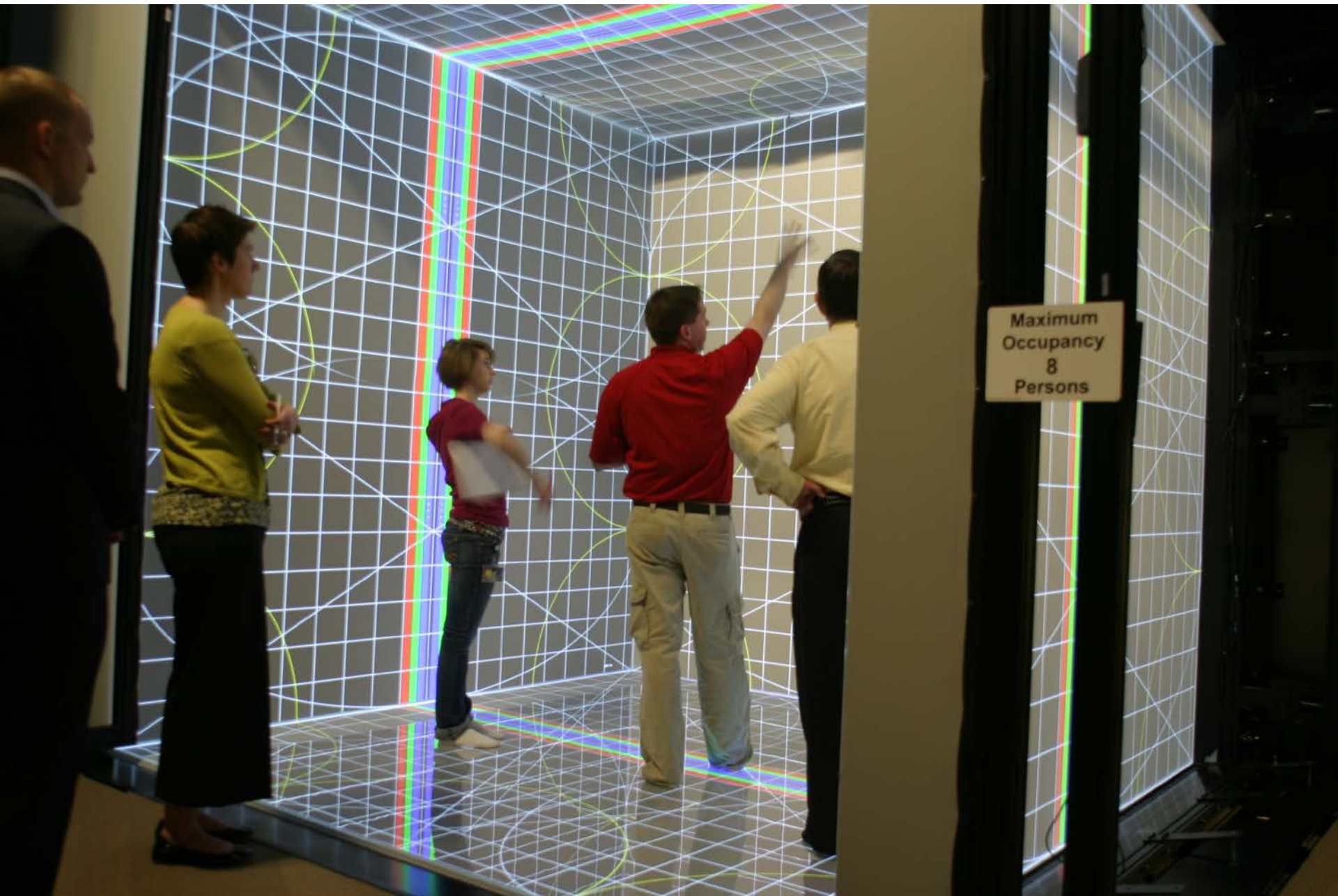
COLLABORATION

PUBLIC



Twin institutes under one roof on the UW-Madison campus





Maximum
Occupancy
8
Persons

Our first scenario is a kitchen

for video go to <http://bit.ly.he8r.htm>



SCENARIO 2: HEALTH IN THE BATHROOM!



What's happening in the LEL today?



- Introducing the public – over 2000 visitors already! (*we sneak in a little nursing knowledge to all visitors!*)
- Meeting new partners
 - Architects
 - Design/build firms
 - Artists
 - Astronomers
- Research and investigations

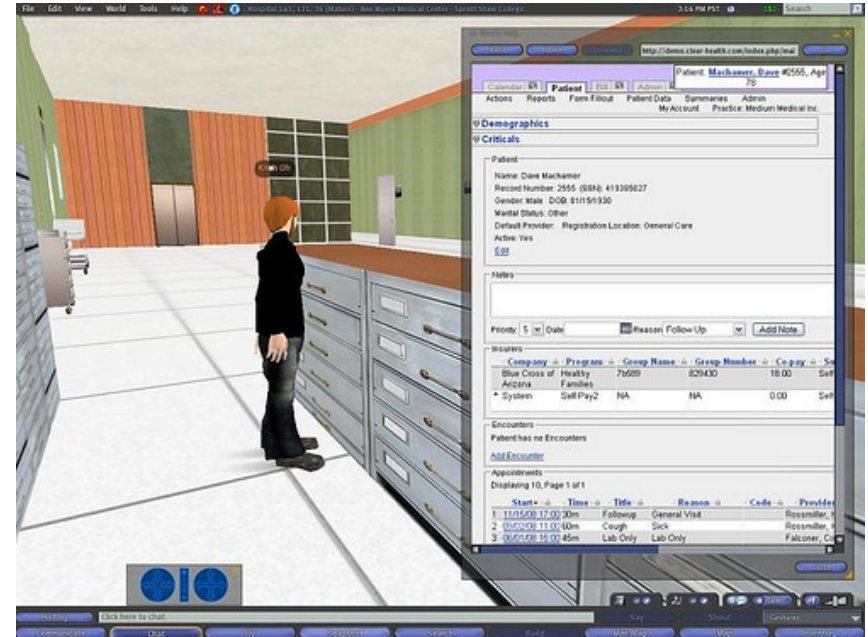
Chart House

(Catherine Arnott Smith- Library Science)

PHRs & augmented reality

Using the CAVE to better inform consumers about healthy foods

As food is 'selected' a pop-up window gives nutritional information



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<http://www.flickr.com/photos/john-norris/with/2283646355/>



Challenges of healthy behavior

Lots to remember

Constant vigilance

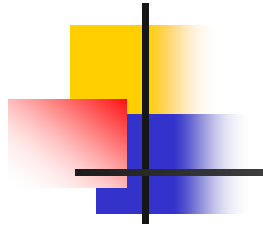
Remind, replace, deprive!



Imagination

The ability to envision
what one has never
seen,
experienced
or heard about

This is why imagination is important!



- Creating solutions on the fly that have never been thought of
- Envisioning technologies that have yet to be made
- Treating the human response not with prescription but with production!



Just maybe...

if we develop the *skill of imagination* within our patients

we will equip them not only to

manage anticipated situations

but also

handle those situations never envisioned!



SO...here's the plan

Use the LEL CAVE environment not only to *immerse designers* into the real world of health in every day living but also to use that environment to stimulate patient imagination

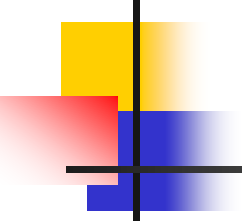


Nursing interventions and VR

- Develop health-ful environments
- Observe how humans behave in places where they live every day
- Devise new nursing strategies in a safe but realistic environment

On the Horizon: AWARE Houses and SMART Homes





**RATHER THAN THINKING OF
THE HOUSE AS A
PLACE FOR HEALTH,
IT'S TIME TO THINK ABOUT
THE HOME AS A
TOOL FOR HEALTH**

discovery.wisc.edu/lel
healthsystems.engr.wisc.edu
www.projecthealthdesign.org

