Imagine allowing every caregiver to work in his or her care environment before it is built.

Imagine being able to design a room today that will also easily handle the processes of tomorrow.

Imagine viewing a care process through the eyes of everyone involved, from the patient to the physician.

Imagine letting children make friends while also learning from nurses in a non-threatening, virtually accessible environment.

Imagine the future of hospital design.

How VDS will change the way we design hospitals...

Contacting the team:

Feel free to contact us! Your questions are the future of VDS.

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There is a disconnect between the design team and the end-users (caregivers and other staff) in the design phase of hospital construction projects. Physical mock-ups of room designs can be very costly, inflexible, and resource intensive.

VDS creates a virtual mock-up of the hospital layout designs to allow measurement, comparisons, and validation of designs. This allows a limitless number of users to evaluate room designs through a virtual environment that is cost-effective, flexible, and can model infinitely different care scenarios.

In the future, the uses of VDS can extend upon decision support for hospital design into way-finding training, patient distraction, patient education, and even advertising through virtual hospital tours.

**Proposal**

VDS seeks to create an organic virtual mock-up of proposed layouts to allow in-depth analysis of the spatial and process characteristics by many users.

For feasibility purposes, the team developed an arbitrary situation to compare two evidence-based design alternatives for an exam room:

- HKS model – Hughes Spalding
- Revised HKS model (different layout, same size room)

Each model was given its own dedicated layout of four rooms. The purpose and scenario of each room is as follows:

- Grey Room – familiarize user with empty room.
- Green Room – wash hands and greet child and family.
- Yellow Room – measure blood pressure and examine the ear cavities.
- Red Room – write a prescription and educate child and family.

Interacting in the scenarios of each room for each model will allow users to evaluate which design is optimal. In the future, subjective and objective measures will be developed to capture the effectiveness and efficiency of different designs.

**Design Principles**

The team incorporated the following principles into the VDS:

- Make hospital design accessible to all stakeholders.
- Provide environmental information to users in a cost-effective manner.
- Allow flexibility in the design process.
- Explore future capabilities of a socially driven virtual environment.

**Future Research**

VDS has opportunities for future research in the following areas:

- Exploring the effectiveness of way-finding training via the Virtual Environment
- Exploring the capabilities of process measurements (throughput, utilization, queue length, etc.) using the VDS
- Rotating the room by allowing scenarios to be viewed through different perspectives (i.e. Child, Physician, Parent, etc.)
- How people would interact in a socially-driven virtual environment
- Educational benefits of allowing patients to interact in the virtual environment
- Selecting the most effective virtual design engine
- Advertising opportunities using VDS to give virtual tours of hospitals

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**THE FUTURE IS VDS.**

Pediatric Health Center of the Future
Georgia Institute of Technology
Health Systems Institute Website: http://www.hsi.gatech.edu/pedcenter/index.php/Course_Homepage