

CREATE 2

Control Room Engineering Advanced Toolkit Environment

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Overview

- CREATE is a suite of tools for designing and testing room layouts
- Supports an iterative design process with multiple participants...
- ...and provides version management for tracking design iterations
- Uses interactive 3D technology to enable designers to rapidly prototype and test designs against guidelines and recommendations

Objectives

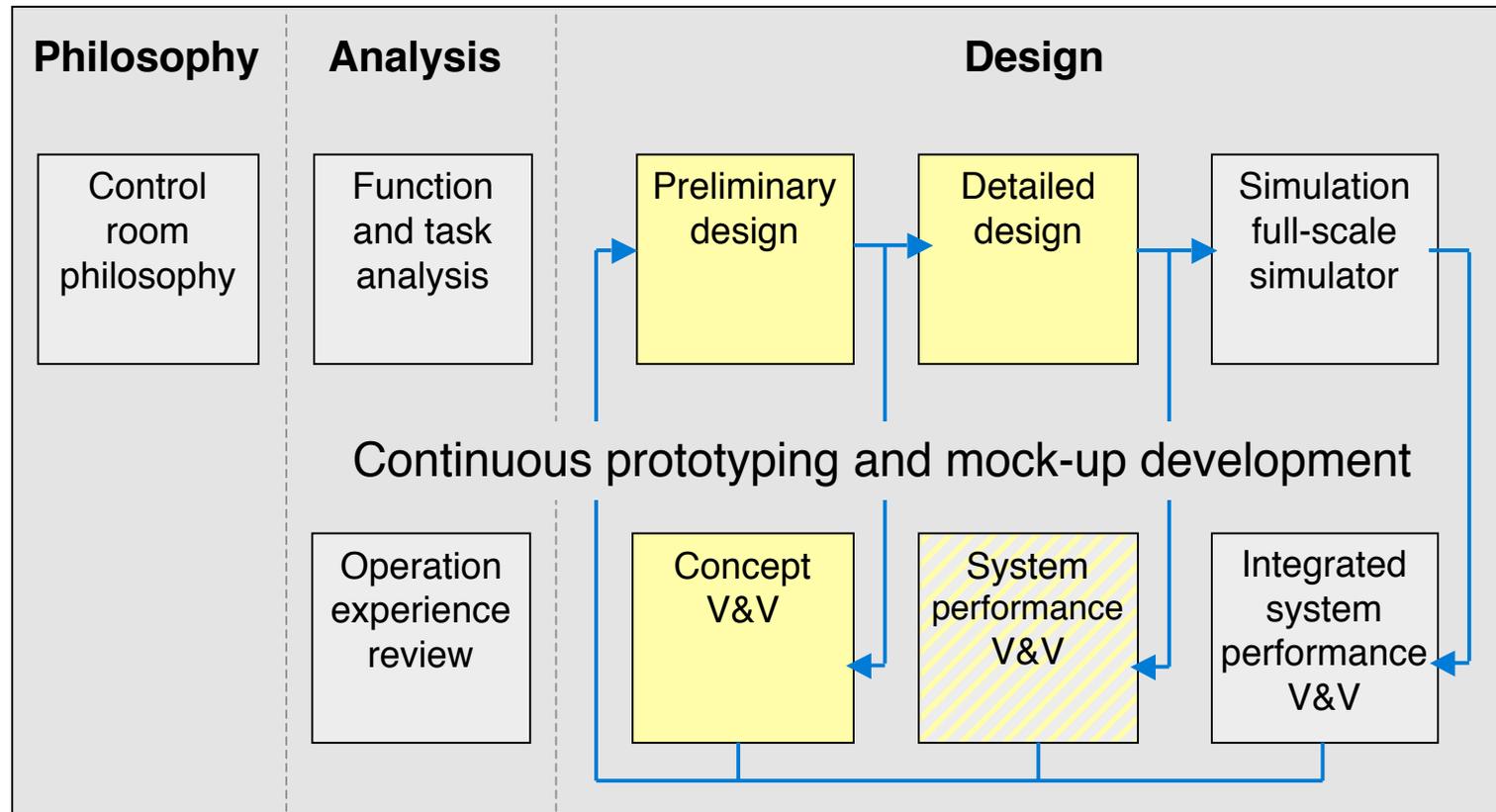
- Provide the right tool for the job
 - Designed specifically to support control room design and testing tasks
 - Focus is on user-centred design aspects
 - Documentation of the design process is important
- Improve communication between members of the design team and between the design team and other parties
 - Encourages design acceptance by enabling all relevant parties to contribute

Objectives

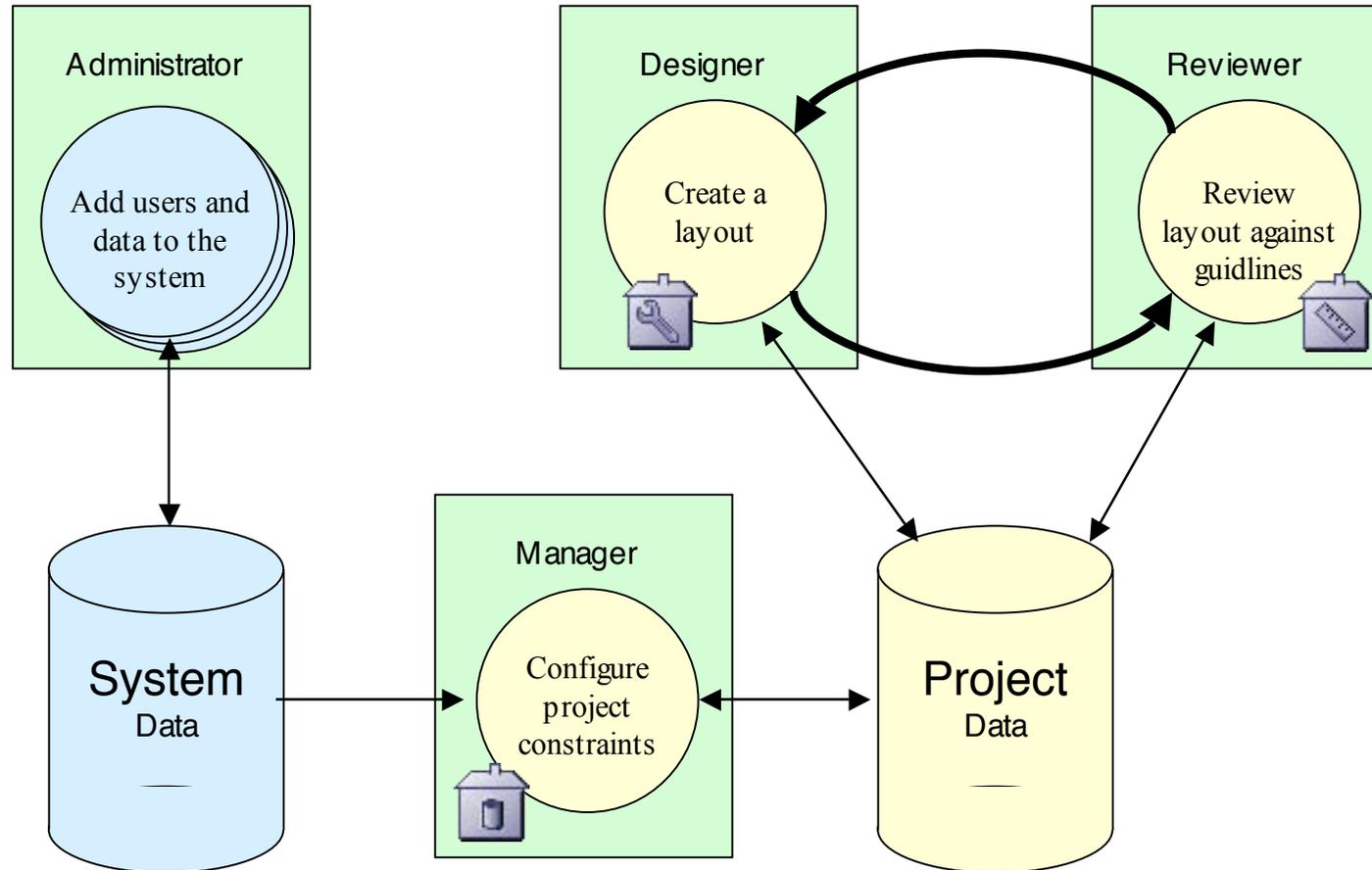
- Enable non CAD/3D experts to design layouts using interactive 3D technology
 - It's not just for technical designers but also for operators, supervisors, human factors specialists, ...
- Reduce need for physical mock-ups
 - Virtual mock-ups are sufficiently accurate and can be built and tested quickly
- Catch potential errors early in the design process by testing early
 - Saves time and money and reduces risk of a sub-optimal design solution

The Design Process

Outline of a typical human-centred control room design process with tasks CREATE supports highlighted in yellow:



User Relationships



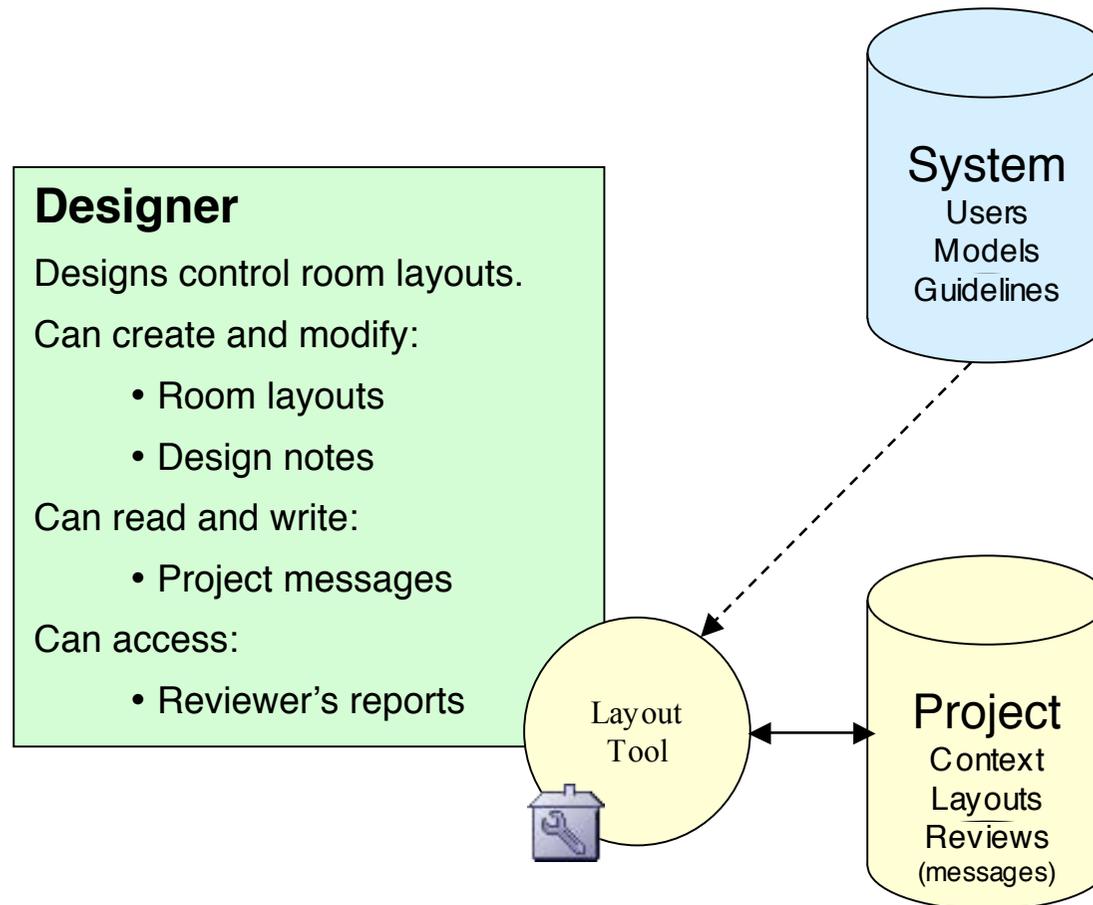
Toolkit Overview

- Administrative Tools
- Project Tools
 - Project Management Tool
 - is used to manage the project environment for individual projects
 - Layout Tool
 - is used to create, modify, and informally test control room layouts
 - Verification Tool
 - is used to formally test control room layouts against design review guidelines and generate reports

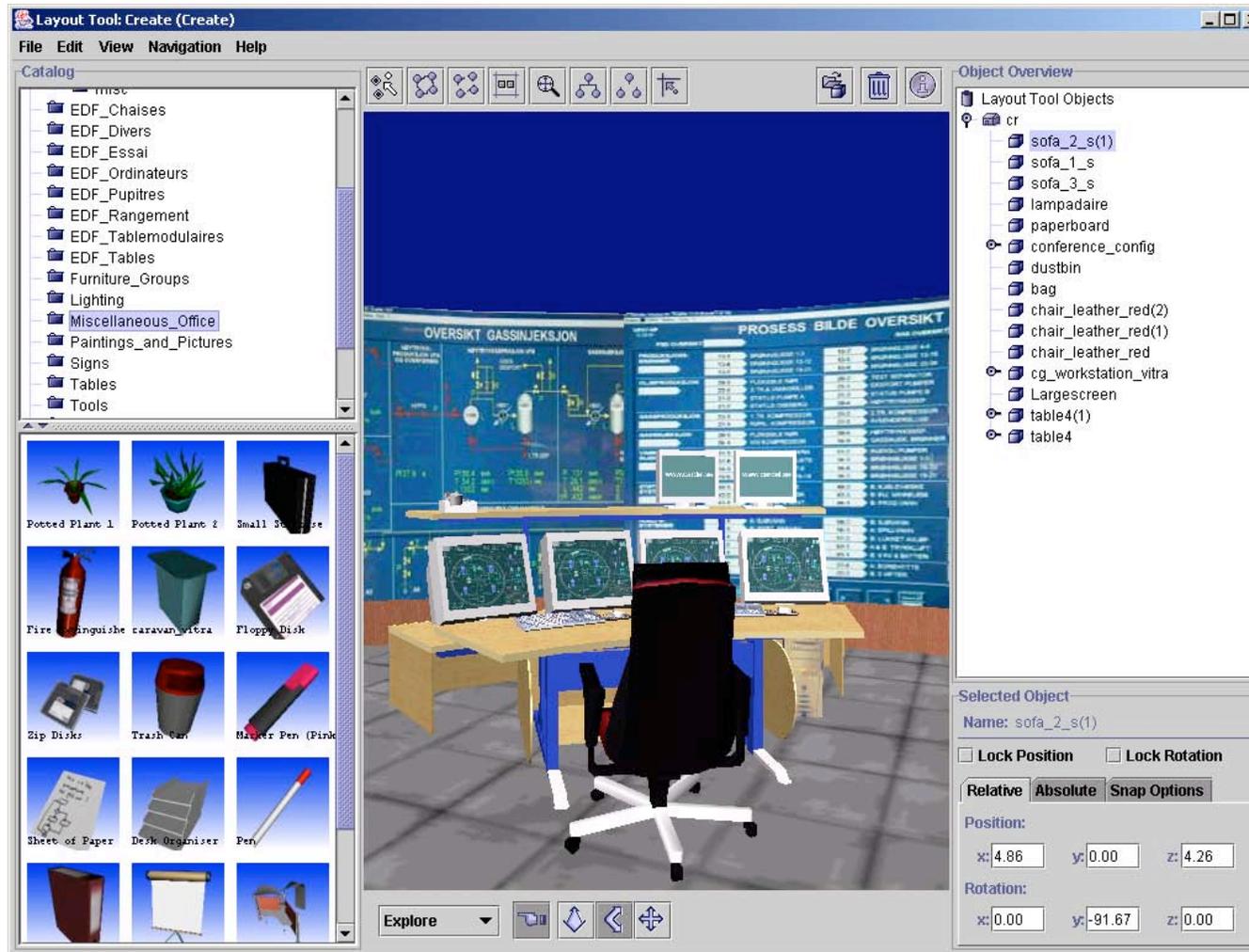
Client-Server Architecture

- Internet/intranet architecture
 - Server based on Web server technology
 - Administration and Project Tools are clients that manipulate data on the server
- Centralised storage of data
 - Facilitates backup, reduces risk of losing system and project data
- Supports multiple users with passwords
- Users share data “transparently” without geographical limitations

Layout Design



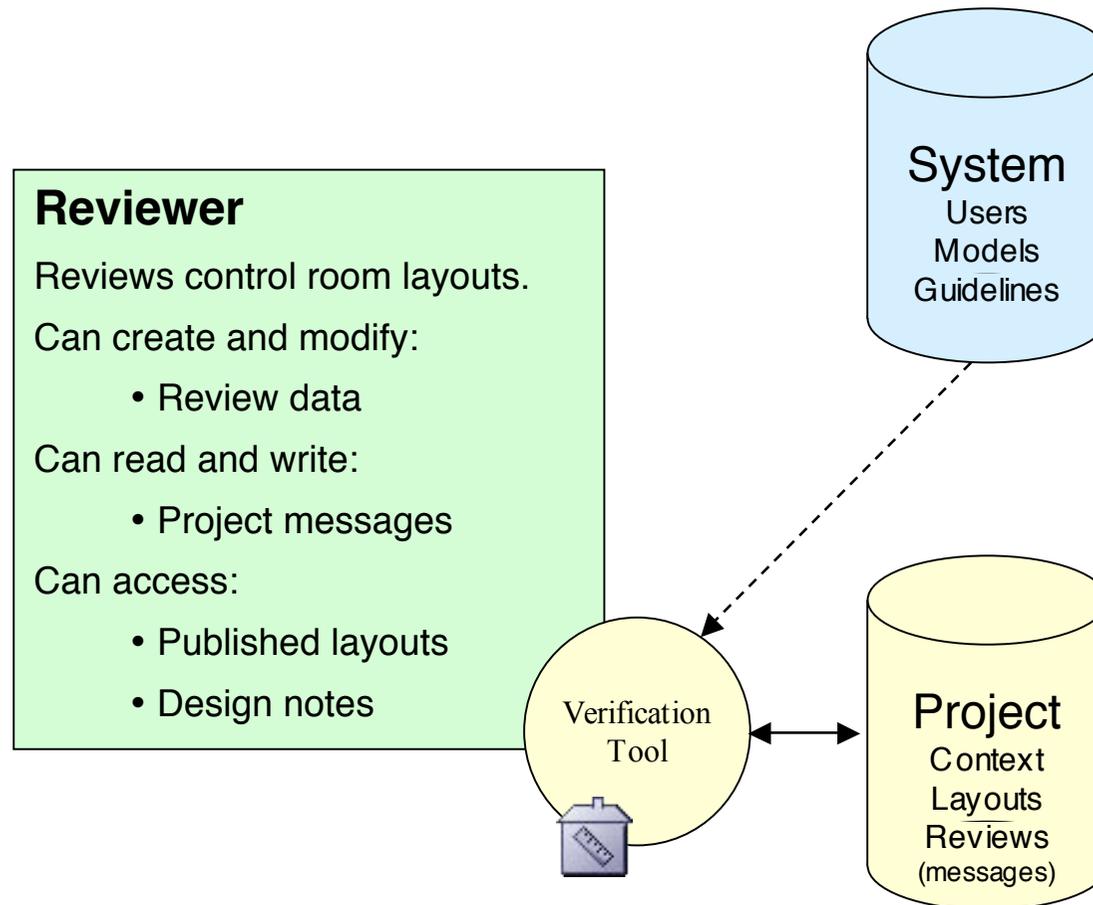
Layout Tool



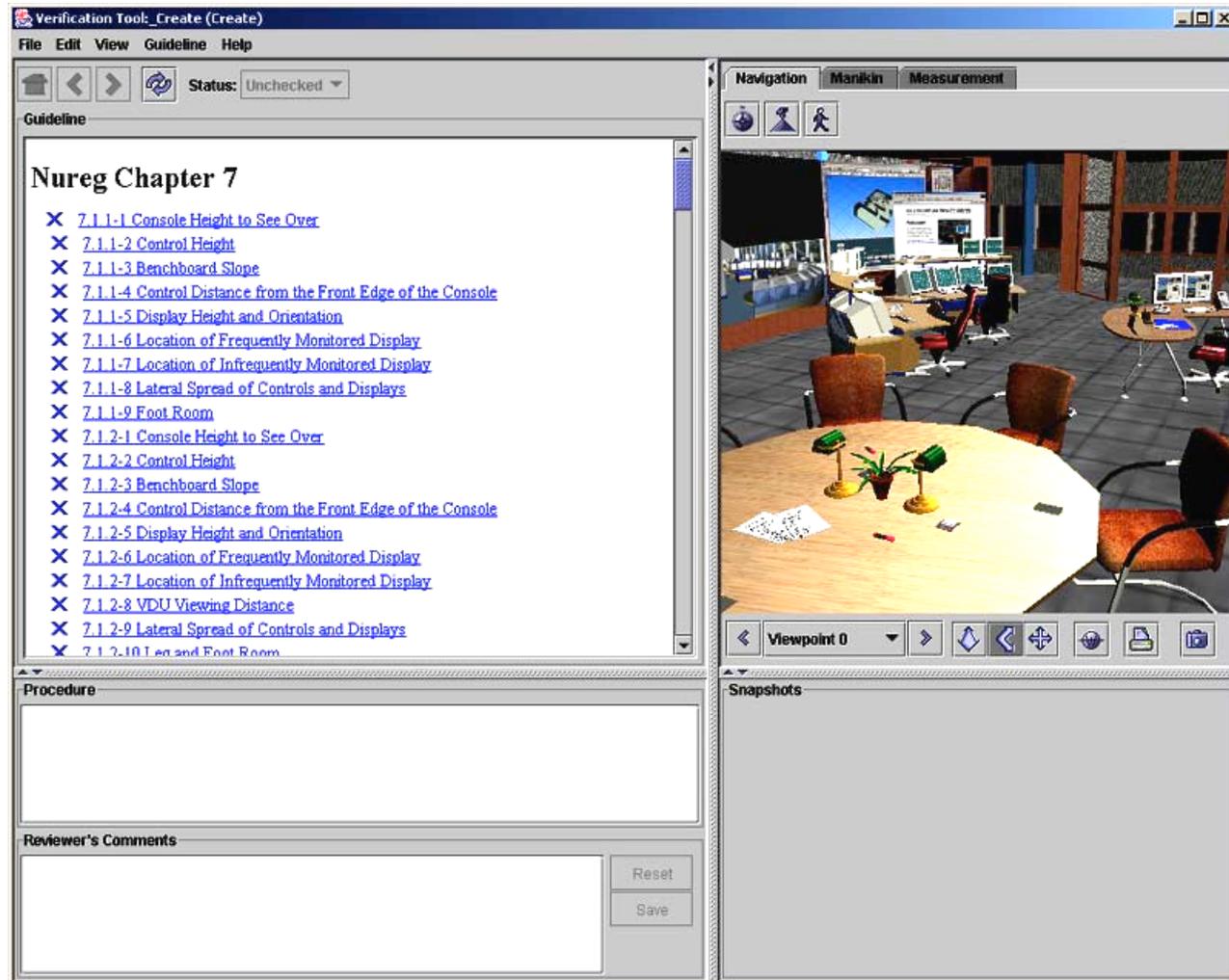
Layout Tool

- Used to design room layouts
- Project's Model Bank catalogue provides the objects that can be used
- User can easily position objects in a layout and create object relationships
 - Uses “smart” drag and drop functionality
- User can move around the layout in 3D as it is being designed and informally test it
- “Publish” finished design for testing

Formal Layout Review



Verification Tool



Verification Tool

- Used to formally test layouts against review guidelines
 - Test layouts “published” from Layout Tool
- User tests layout interactively
 - Uses specialised 3D testing tools
 - Enters comments with snapshots for each guideline
- Multiple users can test the same layout independently and project manager can compare results
 - Can generate a variety of reports

System Requirements

- Software Platform
 - Web Server Architecture
 - Linux, Mac OS X, Unix, or Windows 2000/XP
 - Based on Apache and Perl with extensions
 - Client applications
 - Windows 2000/XP, Linux, Mac OS X, Solaris, ...
 - Java 2 v1.4.2 and Java 3D 1.3.1 or later
- Minimum recommended client platform
 - 700MHz Pentium III, 256MB RAM
 - 3D graphics accelerator with 32MB RAM

Availability

- CREATE 2 has been developed in a collaboration between EDF and IFE
 - CREATE 1 field tested in real projects
- The CREATE 2 distribution
 - is easy to install and use
 - has a comprehensive feature set
 - has extensive user documentation
- Technical support and updates included the first year
 - Annual fee after the second year

More Information and Demo

<http://www.ife.no/vr>