Redefining Collaboration in Architecture, Engineering and Construction.

VRcollab enables all building stakeholders to actively engage in its coordination regardless of Project Phase, Model Format and BIM Technical Skill.
CONSTRUCTION: CURRENT TRENDS

Increasing trend of Compulsory BIM Submission, mandated by Government and Private Developers alike.

Project execution methodologies developed and adopted such as Virtual Design and Construction (VDC), which specifies that technologies such as VRcollab be implemented throughout its design and construction.

Worldwide Trend of Google Searches over past 5 years for the term "Virtual Design and Construction" (VDC)
CONSTRUCTION: SCOPE OF PROBLEM

Inaccessibility of Data
Low interoperability of propriety BIM Authoring software and tools

High Rework Rates
A majority of the need for reworks are attributed to poor communications

Low Technical Skill Levels
Lower BIM skilled stakeholders are not able to collaborate effectively

Poor Communication, Reworks, Bad Data Management costs Construction Industry $177.5B Annually

**VRCOLLAB**: THE SOLUTION

**MERGE**
BIM DATA

Solving interoperability between different proprietary BIM formats with no data loss

**MEET**
STAKEHOLDERS

Coordinate effectively with other stakeholders seamlessly in person or through the internet

**MANAGE**
BUILT PROJECTS

Query, validate and reiterate BIM design and information regardless of technical level

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**Inaccessibility of Data**

**High Rework Rates**

**Low Technical Skill Levels**
VRcollab Workflow:

**MERGE**
BIM DATA

Automated Full Data exportation from BIM into VRcollab, ability to merge formats for use in coordination.

**MEET**
STAKEHOLDERS

Coordinate with Stakeholders in the same meeting room or over the internet (VR not required by participants).

**MANAGE**
BUILT PROJECTS

Generate Coordination Annotations & Comments for BIM Model Reiteration and logging of design issues.

Reiterate design in BIM based on Coordination Report.
“VRcollab truly redefines collaboration in construction. It allows us to collaborate more effectively and efficiently while immersing ourselves into the virtual space; which was unachievable in current conventional practice.”

“With VRcollab, we can certainly increase the efficiency of our drawing reviews and also have a greater accuracy while being more confident with our complete design.”

“As a builder and main contractor, we are able to use VRcollab to connect the site to Headquarters, where we are able to get faster and a more informed decision from our project directors.”
Using VRcollab, AECOM was able to coordinate the design of the Singapore-Malaysia Highspeed Rail (HSR) Project with no data loss when merging the proprietary BIM formats of Rhino and Revit. While easily navigating and validating the BIM information with the Land Transport Authority (LTA) as its client.
One North ALICE Smart Building

Boustead as its Developer and Main Contractor, used VRcollab Internet Multiuser Feature to coordinate with Project Directors in Headquarters. Which were then able to make a more informed decision without having to travel down to site.
VRCOLLAB LITE: FEATURES

LIST OF FEATURES

• Revit Integration (2014-19)
• ArchiCAD Integration (21-22)
• Rhino 3D 6 Integration
• Navisworks Manage 18 Integration
• Sketchup Integration (16-18)
• Direct .OBJ Import

• Precise Measurements
• BIM Object Information Query
• Text Comments
• Freehand Annotations
• 360 Panorama Capture*
• Viewport Screenshot

• Merge Multiple BIM Formats
• Multiple BIM Render Modes
• MEP Coloured Highlights
• Gridlines (Revit & ArchiCAD*)
• Coordination Report
• Web Browser Review*

• Keyboard & Mouse Centric Full Feature sets
• VR Hardware Compatible (HTC VIVE, Oculus, WindowsMR)
• Multiuser Internet Meetings
• Section Box, Minimaps & more…..

*Currently in Beta Testing and Development
**VRCOLLAB LITE : LICENSING**

**1 CONCURRENT USER**

**REQUIRES:**
- 1 VRCOLLAB LITE LICENSE
- 1 COMPUTER
- 1 VR HARDWARE (COMPLETELY OPTIONAL)

**$2200 USD/seat/year**

or **$3000 SGD**

**LIST OF FEATURES**

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C.A.V.E for BIM Coordination

VRcollab Studio is a software that allows for quick automated BIM to Stereoscopic Conversion. Enabling CAVE hardware setups to be turned into BIM Coordination facilities, supporting up to 6 screens and 15 stakeholders.

Contact us at info@vrcollab.com for more information
RECOMMENDATIONS: SPATIAL SETUPS

**Meeting Room**
- Location: Meeting Room
- Complementary Facilities: Projector and Screen
- Stakeholder Capacity: 2 - 10 pax
- Benefit: Converts a basic meeting room into a VR coordination facility

**Open Area / Showroom**
- Location: Open Area / Showroom
- Complementary Facilities: Approx 25 sqm. space, CAVE System
- Stakeholder Capacity: 10 - 20 pax
- Benefit: Repurposing area into an Organisational showroom
COMPUTER REQUIREMENTS

Virtual Reality usage is GPU intensive, where the larger the geometric data of the BIM model, the more the GPU would have to dynamically render.

BIM Modelling usage on the other hand is CPU intensive, and much like its GPU counterpart, requires higher specifications to run larger BIM models.

As such an ideal machine for both BIM and VR usage would meet the following specifications:

A. **CPU**: i-7 or i-9
B. **GPU**: Nvidia GTX 1080 or 2080

Desktop setups are suited for fixed settings (eg. Meeting Room) where movement of the setup is infrequent.

Laptop setups are perfect for use-cases that need to be quick to set-up and used frequently at different locations (eg. Client Meetings, On-site).

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VR HARDWARE (OPTIONAL FOR VRCOLLAB USAGE)

<table>
<thead>
<tr>
<th>VR Hardware sets</th>
<th>HTC VIVE CE</th>
<th>Windows Mixed Reality</th>
<th>HTC VIVE Pro</th>
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</thead>
<tbody>
<tr>
<td>Head Mounted Display (HMD)</td>
<td><img src="image1" alt="Vive CE" /></td>
<td><img src="image2" alt="Windows MR" /></td>
<td><img src="image3" alt="Vive Pro" /></td>
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<tr>
<td>Resolution: 2160 x 1200 (1080 x 1200 per eye) resolution</td>
<td>Most Windows MR headsets feature 1,440 x 1,440-resolution displays,</td>
<td>Resolution: 2880 x 1600 (1400 x 1600 per eye, and 615 pp)</td>
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<tr>
<td>Controllers</td>
<td><img src="image4" alt="Vive CE Controllers" /></td>
<td><img src="image5" alt="Windows MR Controllers" /></td>
<td><img src="image6" alt="Vive Pro Controllers" /></td>
</tr>
<tr>
<td>1 set consists of 2 controllers (1 for each hand)</td>
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<tr>
<td>Sensors</td>
<td><img src="image7" alt="Vive CE Sensors" /></td>
<td>NO EXTERNAL SENSORS</td>
<td><img src="image8" alt="Vive Pro Sensors" /></td>
</tr>
<tr>
<td>1 Set consists of 2 Base Stations</td>
<td>Tracking Volume: 3.5 x 3.5 Meters Compatible with: VIVE CE / VIVE PRO</td>
<td>Controllers may lose tracking for a moment when HMD is not directed at them (For eg: Controllers placed behind the back)</td>
<td>Tracking Volume: 10 x 10 Metres Compatible with: VIVE PRO</td>
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<tr>
<td>Each mounted to basic screw in (Camera Tripod stand not included)</td>
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CONTACT US at info@vrcollab.com
MORE INFORMATION on https://vrcollab.com/

REGISTER AND DOWNLOAD THE FREE TRIAL from https://vrcollab.com/register/