003

Isovist_App Workshop

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ABSTRACT

Our workshop will introduce the 'Isovist_App'; a free multi-platform software tool, designed to help architects, designers and researchers to better understand spatial structures and how people might respond to them.

The Isovist_App uses the geometric spatial unit called the 'isovist', defined as the finite volume of space that is visible at any given point at which a perceiver might exist. It provides an alternative stochastic basis for the study of locally experiential and globally syntactic spatial configurations. It does not require the production and computationally expensive analysis of an overall 'spatial graph'.

As a result, the Isovist_App can match the standard space syntax metrics as produced by DepthMap X, including integration; but can do so at very high resolutions in a fraction of the time normally required to produce traditional visibility graph analysis (VGA).

KEYWORDS

Isovists, integration, spatial graphs, visual agents

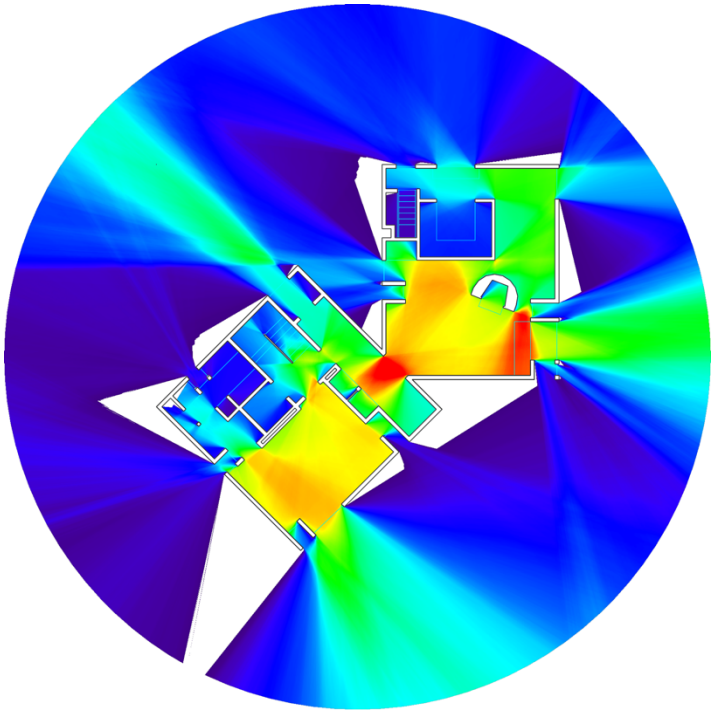

Figure 1: Visibility fields in Kahn's Fisher House

1 INTRODUCTORY KNOWLEDGE (AM SESSION)

We will begin with a general introduction to the Isovist software. The underpinning stochastic isovist principles that negate the requirement for a spatial graph will be reviewed and explained. Attendees will then be shown how to install and operate the software to a overall competent level. The session will include discussion and demonstration of:

- the basic principles and metrics associated with the unit of the isovist; including different spatial types, isovist parameters and limits;
- how to import and edit properly scaled plans for analysis; including different material classifications;
- how to derive metric values from isovist point and path analysis; and how to produce minkoswki models;
- how to conduct isovist field 'scan' analysis, including high speed, high definition integration analysis;
- how to set spatial links between regions or floors in a plan for global analysis in complex buildings;
- how to export results in image and data file form (for GIS and statistical analysis).

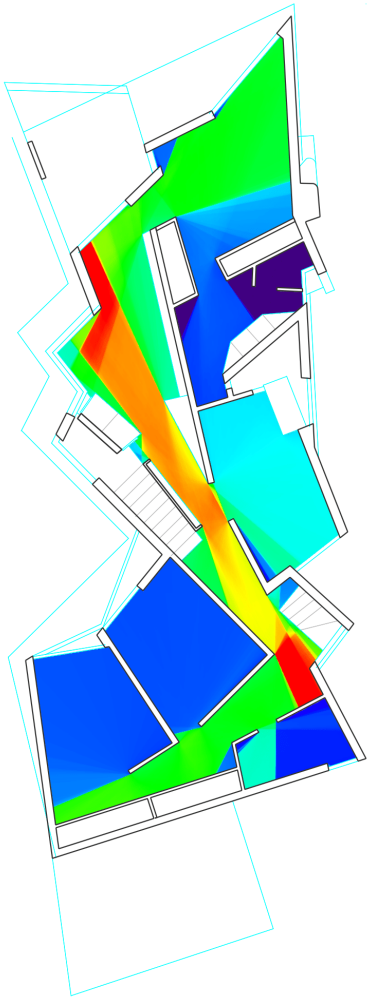

Figure 2: Integration (HH) in Mirales' Casa Garau Augusti

2 ADVANCED DISCUSSION (PM SESSION)

In the afternoon session, we will move on to more involved and sophisticated discussion of the isovist software. The latter can be partly led by attendee interest and need, but it is likely that the following issues will be covered:

- discussion of the relevance of isovist scan metrics and their relationships to established syntactic measures;
- agent based analysis and its use in plan forms;
- methods for comparative exploration of multiple measures relative to one another within the software;
- 1:1 plan advice and consultation (where appropriate).

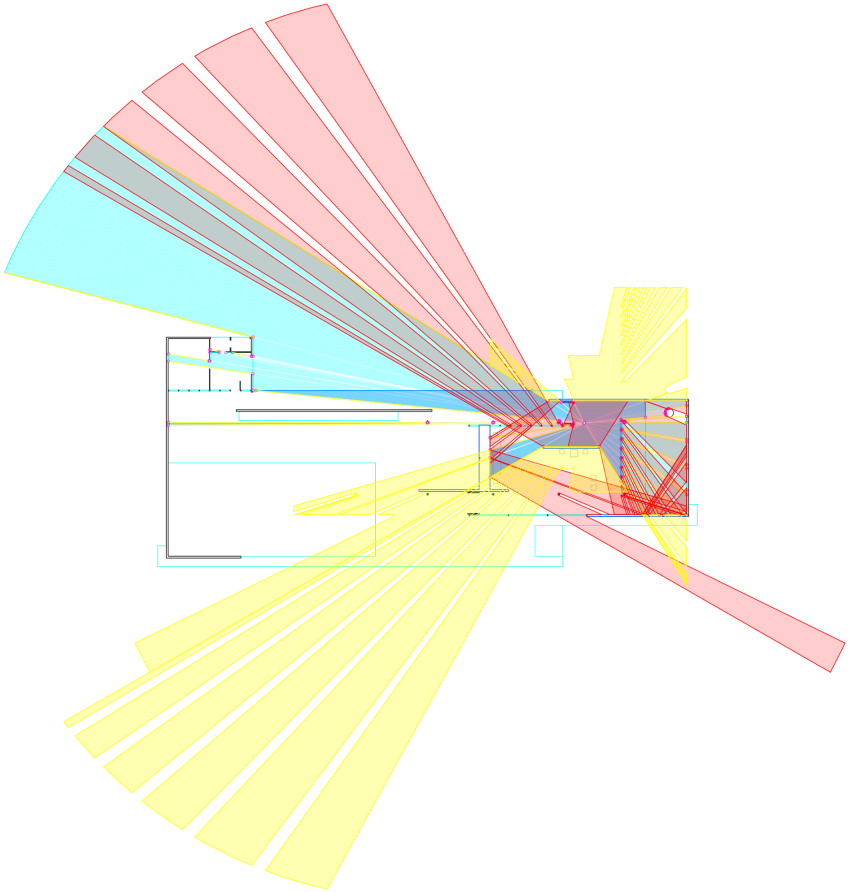

Figure 3: Isovists from a single point in Mies Van Der Rohe's Barcelona Pavilion

2.1 In advance of the Workshop

We recommend all users register on isovists.org to download and test the latest release of the isovist software in advance of the workshop. We are happy to troubleshoot as necessary in advance to aid this.

Demonstration plan types will be provided for attendee import and analysis during the workshop, ranging in scale from a small interior space to an urban fragment. Individuals are also encouraged to bring their own subject plans.

For plan preparation we recommend use of illustrator (svg format) or autocad (dwg/dxf format).

A basic user guide for the isovist_App is provided on isovists.org.

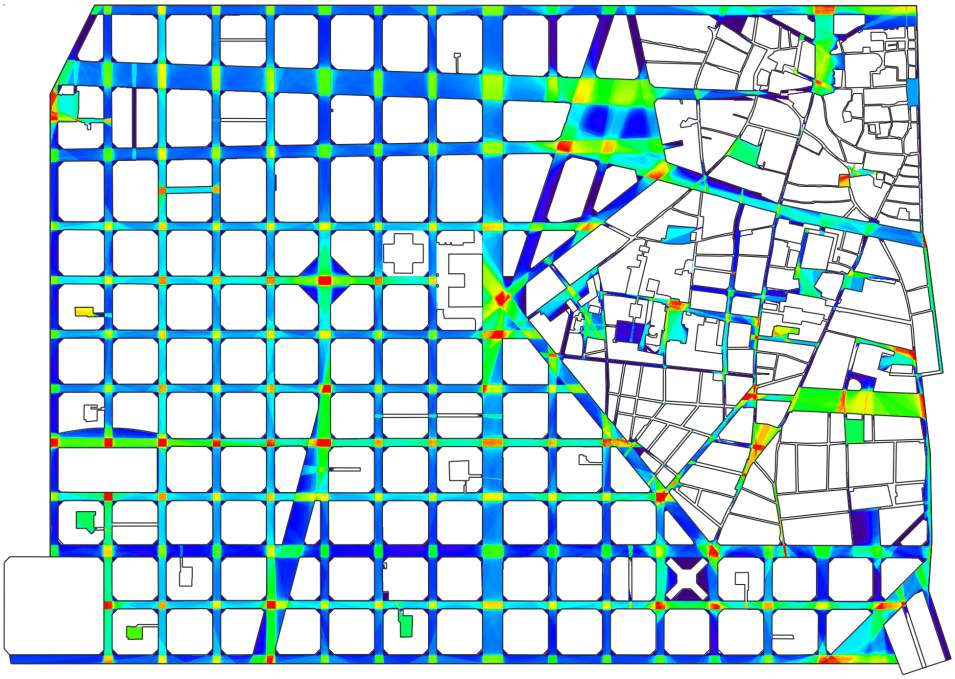

Figure 4: Control field in Barcelona fragment urban plan

3 WORKSHOP REQUIREMENTS

In order to operate the software, attendees will require access to a PC or Mac laptop with a modern GPU, such as an Apple MacBook pro retina from 2018 onwards, or a recent Dell Inspiron machine.

PC users may need to update their graphics card drivers in advance; a basic guide is provided on isovists.org.

READING LIST

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Space Syntax Glossary: http://otp.spacesyntax.net/glossary/