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# Poster Book

**IIIDBEE X 2023**  
20 JANUARY 2023  
*International Invention, Innovation & Design Exposition  
for Built Environment and Engineering 2023*

**College of Built Environment  
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Professionals**

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# Interactive Cartographic Visualization for Mapping Residential Property Overhang in Klang Valley, Malaysia 2021.

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## Issue

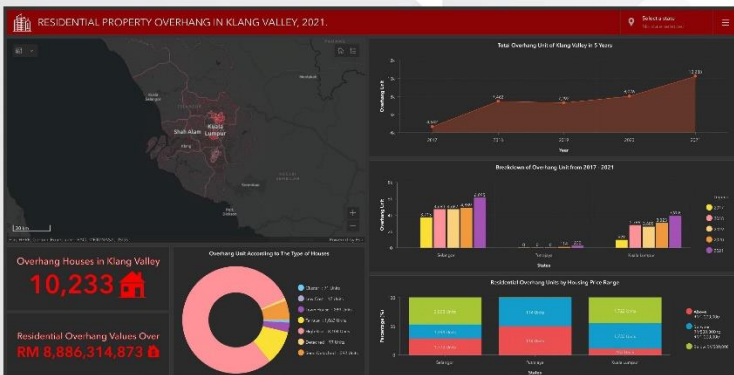
Bernama and EdgeProp news have reported that the flaw in the real estate market is due to a lack of information. Masliza (2020) has suggested establishing real estate big data real-time visualisation. Hence, all housing-related information is reliable, up-to-date, and coordinated with the growing country. This issue can be solved by modelling in ways that communicate information effectively. This is where the cartography discipline will take place as the solution to enhance the delivery of information.

## GIS Dashboard System

Dashboard is a common visual information display used by individuals to swiftly monitor real-time situations that necessitate a fast response in order to fulfil a certain job [Sarikaya et al, 2018].

A GIS dashboard system enables users to convey information by presenting location-based analytics using intuitive and interactive data visualizations on a single screen

The interactions on dashboards, such as selecting, filtering, searching, organising, and dropping down, would further empower users to view and explore data efficiently [Zuo et al, 2020].



Dashboard 1 – Dot-Density Map

## Dashboard Interface Panels

The interface of these dashboards consists of seven panels:

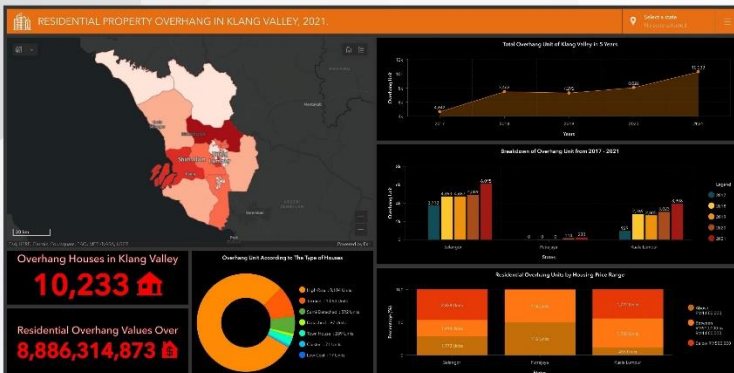
1. The Title Panel
2. The Spatial Panel
3. Indicator 1
4. Indicator 2
5. The Pie Chart
6. The Line Chart
7. The Bar Chart
8. The Stacked Bar Chart

## Dashboard Functionality

Basic functions enable users to explore and interact with the data, including some essential actions like panning, zooming, map extent, data visualisation such as charts, and so on.

Composite functions are composed of several basic functions and mainly help with user interaction and experience, which is the key feature of our dashboard. The main composite functions in the dashboard are Selecting and Location Synchronization.

- Easy to Understand - allow retrieval of on-demand data
- Interactive - auto zoom and flash the corresponding area
- At-a-glance representation – Linked indicators with visualization panels.
- Pop up information – overhang district name, overhang unit and overhang percentage.
- Categories selector - indicators and the pie chart flash at once
- Configurable - zoomed in or zoomed out the map, map view reset, dashboard view reset by clicking on one function.



Dashboard 2 – Choropleth Map

## Cartographic Visualization

Three types of maps are to be evaluated to see the potential impact of those maps on users.

### DOT-DENSITY MAP

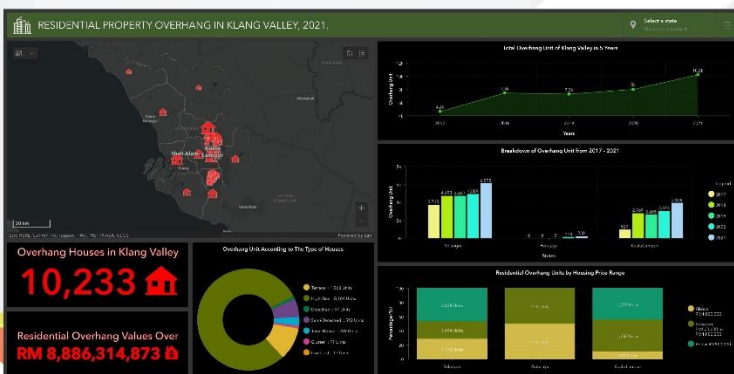
Employs the visual variable composite numerousness, which combines arrangement and size to convey a sense of sparseness or dense grouping.

### CHOROPLETH MAP

Visualise the quantitative data that is aggregated to areas which in this study is the number of overhang units.

### GRADUATED SYMBOL MAP

Consists of symbols in which the graphic variable of size is used to depict data magnitude.



Dashboard 3 – Graduated Symbol Map

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Recognition

National Geomatics/Geoinformatics Student Innovation Competition 2022  
Gold Award And Third Place - System Innovation/Gadget Category