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BUILDCON2023

COMPILATION OF PROJECT INNOVATION IDEAS
SEMESTER MARCH – AUGUST 2023

EMBRACING SMART CONSTRUCTION TRANSFORMATION

BUILDERS' CONVENTION DAY 2023

Department of Built Environment Studies and Technology
College of Built Environment
Universiti Teknologi MARA Perak Branch

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Organised by
Department of Built Environment Studies and Technology
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AUTOMATED DOUBLE GLAZING CONVEX LENS SKYLIGHT

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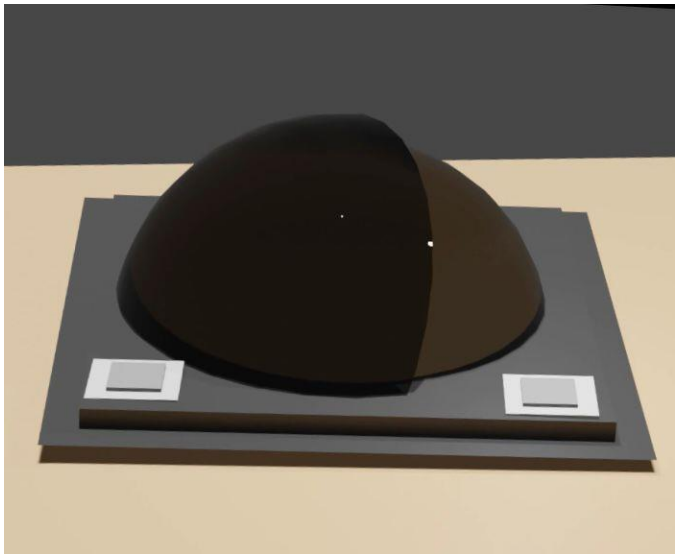

Automated Double Glazing Convex Lens Skylight

Innovation Idea:

Skylights can pose various issues such as excessive glare, heat gain, discomfort, leaks which may lead to property damage, and increased repair expenses. Hence, proper installation, careful consideration of size and type, regular maintenance, and selection of suitable skylight design are all essential factors for users to avoid any issues and maximise the benefits of having a skylight particularly for terrace house with pitch roof. Therefore, this research is aimed at developing an innovation of skylight to overcome the issues related to the existing skylights. To achieve the aim, four objectives have been established which are to develop an enhanced skylight design ideas, i.e., Automated Double Glazing Convex Lens Skylight, assemble the proposed design, demonstrate its performance, and demonstrate its marketability potential particularly for residential buildings. The methods used in this study are the collection of primary and secondary data in order to achieve the objectives. The innovation idea was derived from several reviews of the existing skylights to overcome the identified issues. The result of this research revealed that the ideal skylight option for developers or users can be achieved by incorporating convex lenses for the glaze. This design effectively minimises glare while decreases leakage risks on pitch roofs. The enhanced skylight also tackles heat gain concerns by using a double layer of glaze consisting of bronze acrylic plastic and clear polycarbonate plastic. This innovative design improves insulation, reduces energy consumption, and enhances thermal comfort.

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Saya yang menjalankan amanah,

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