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INDES²⁰₂₂

Ushering in the Age of Endemic

THE 11TH INTERNATIONAL INNOVATION, INVENTION & DESIGN COMPETITION INDES 2022

EXTENDED ABSTRACTS BOOK



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VISUAL SIMULATION OF ACCESS TO BUILDINGS AND PUBLIC FACILITIES FOR PEOPLE WITH DISABILITIES (PWD)

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ABSTRACT

This innovation project was created to facilitate teaching and learning for students of Building Surveying programme in UiTM especially for the Building Control and Building Design courses. This project was made to make it easier for students to understand more about the requirements of facilities for people with disabilities (PWD) in the building rather than by just imagining it. There are legal provisions of facilities for people with disabilities (PWD) requirements as stated in Persons With Disabilities Act 2008, Uniform Building By-Laws 1984 (By-law 34A), Building Ordinance 1994 (and By-Laws) of Sarawak (By-law 110A) and MS 1184:2014 (Universal Design and Accessibility in the Built Environment – Code of Practice). A building which is equipped with access and public facilities for PWDs can be achieved if they are included in the design from an early stage. This will also benefit other members of the community, including the elderly.

Keywords: building control and regulations; building design; people with disabilities

1. INTRODUCTION

The World Health Organization identifies participation in social and community activities as a fundamental right (World Health Organization, 2002). Individuals with limited mobility are shown to have reduced opportunity for participation in social and community activities (Riggins et al., 2011; Williams & Willmott, 2012). Accessibility issues have hindered opportunities for people with disabilities to take part in many social activities (Pagán, 2015).

Focusing on accessibility, the students need to understand all requirements in designing a building. It is important to design a building with accessibility so that disabled people feel secure and safe. Malaysian Standard (MS 1184:2014) need to be referred in designing the accessibility in a building (Department of Standards Malaysia, 2014). However, the requirement of designing accessibility is quite hard to be memorised and understood. In designing accessibility, students need to feel the reality of why disabled people required this kind of accessible. Thus, to help students to understand and clearly know the requirements of accessibility needed to draw a plan, this innovation project is developed to help them.

2. METHODOLOGY

The innovation ideas were initially developed from the issues faced by the students from Building Surveying programme. After the product was produced and shown to the students, a

survey of questionnaire was used to collect quantitative data to identify the level of knowledge of access to buildings and public facilities for people with disabilities (PWD) using visual simulation. The targeted respondents were among Diploma and Degree students from Building Surveying program which enrolled in building control and building design related courses. Figure 1 shows the innovation research flow to explain the stages of product development.

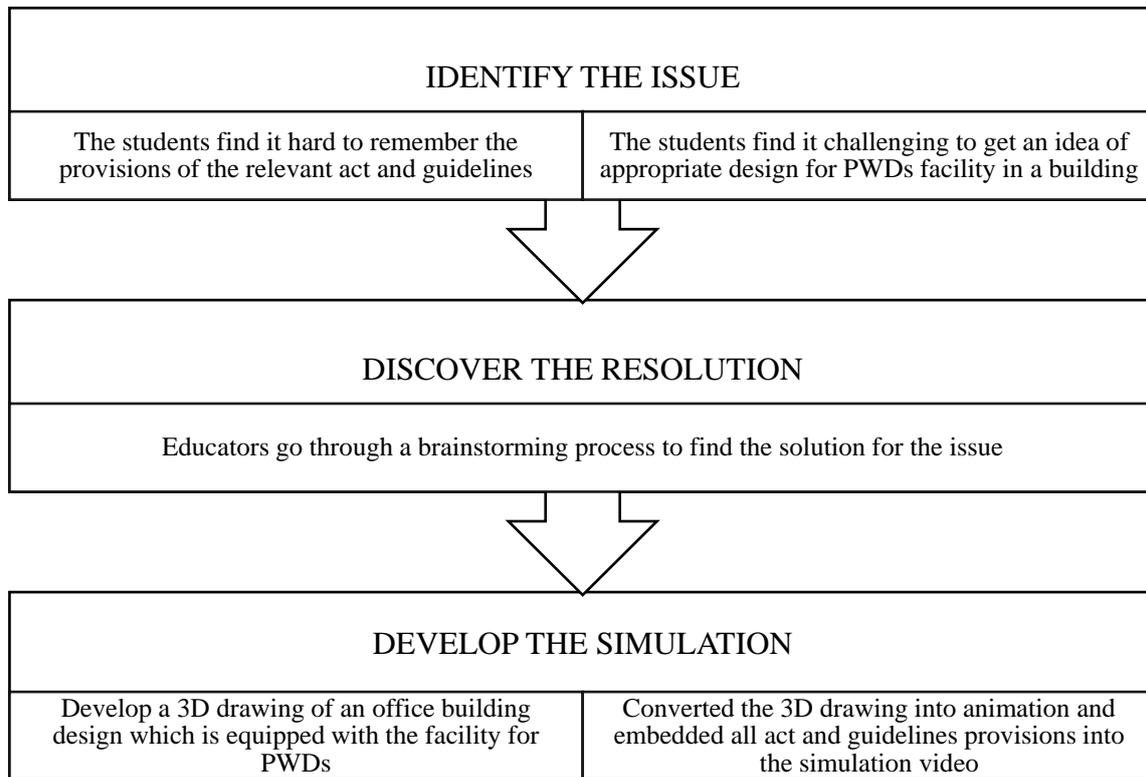


Figure 1 Innovation Research Flow

3. CONCLUSION

From the survey carried out after simulation video given to the respondents, it can be concluded that most of the respondents clearly understand and can easily memorise the requirements of facilities for people with disabilities (PWD) as stated in Persons With Disabilities Act 2008, Uniform Building By-Laws 1984 (By-law 34A), Building Ordinance 1994 (and By-Laws) of Sarawak (By-law 110A) and MS 1184:2014 (Universal Design and Accessibility in the Built Environment – Code of Practice) by introducing this visual simulation project innovation.

REFERENCES

Department of Standards Malaysia. (2014). Universal design and accessibility in the built environment - Code of practice (Second revision) MS 1184:2014. In *SIRIM Berhad Malaysia*.

Pagán, R. (2015). The contribution of holiday trips to life satisfaction: The case of people with disabilities. *Current Issues in Tourism*, 18(6), 524–538.

<https://doi.org/10.1080/13683500.2013.860086>

Riggins, M. S., Kankipati, P., Oyster, M. L., Cooper, R. A. & Boninger, M. L. (2011). The relationship between quality of life and change in mobility 1 year postinjury in individuals with spinal cord injury. *Archives of Physical Medicine and Rehabilitation*, 92(7), 1027– 1033.

<https://doi.org/10.1016/j.apmr.2011.02.010>

Williams, G. & Willmott, C. (2012). Higher levels of mobility are associated with greater societal participation and better quality-of-life. *Brain Injury*, 26(9), 1065–1071.

<https://doi.org/10.3109/02699052.2012.667586>

World Health Organization. (2002). *The World Health Report : Reducing Risks, Promoting Healthy Life*.

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Kelulusan daripada pihak tuan dalam perkara ini amat dihargai.

Sekian, terima kasih.

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Saya yang menjalankan amanah,

SITI BASRIYAH SHAIK BAHARUDIN
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