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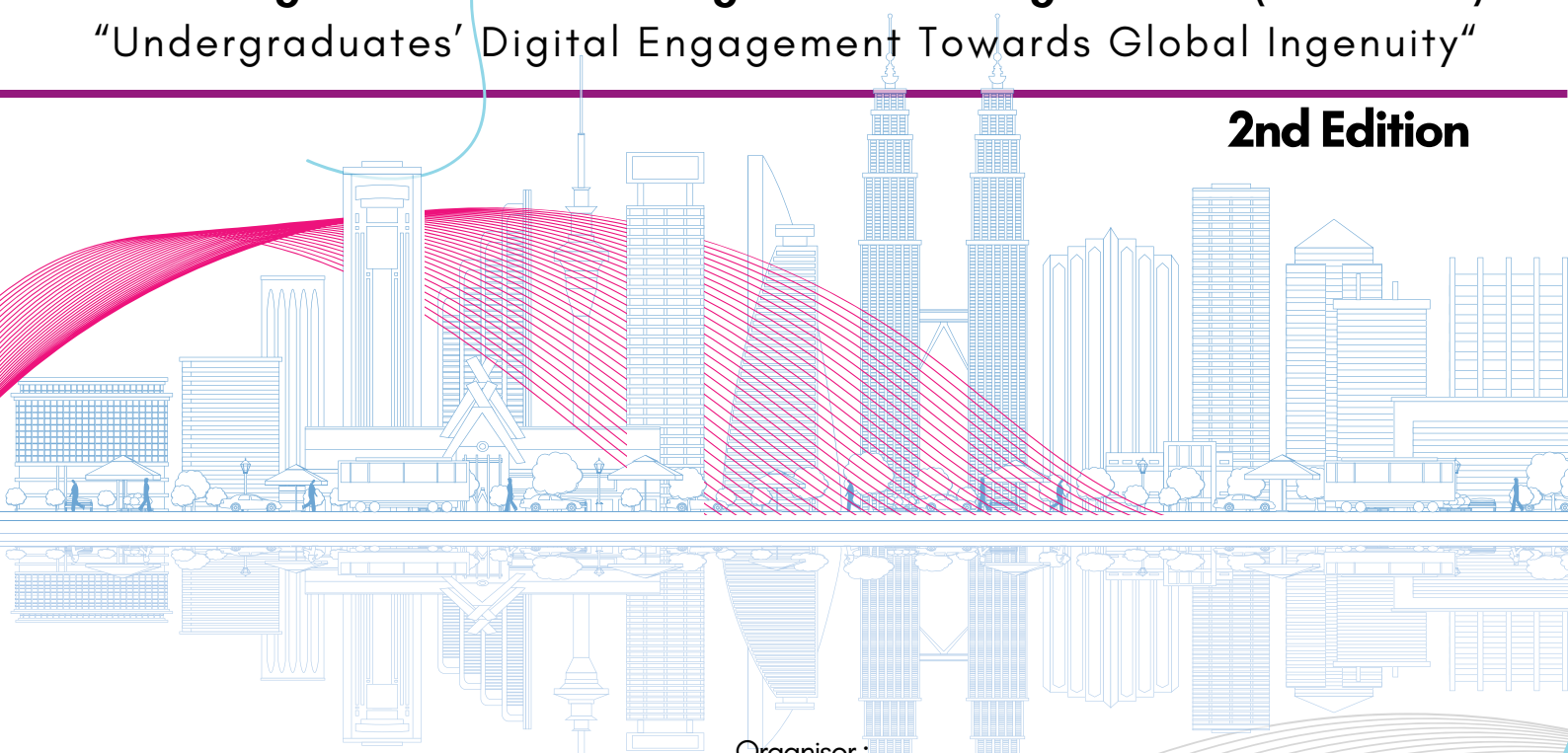
IUGeT

Proceeding for International Undergraduates Get Together 2024 (IUGeT 2024)

"Undergraduates' Digital Engagement Towards Global Ingenuity"

2nd Edition



Organiser :

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Perpustakaan Negara Malaysia Cataloguing in Publication Data

No e- ISBN: 978-967-2776-42-0

Cover Design: Muhammad Anas Othman
Typesetting : Arial

e-ISBN: 978-967-2776-42-0

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GREEN URBAN LINK BRIDGE

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Abstract
The Green Urban Link Bridge is a proposed or conceptual project aimed at integrating green infrastructure into urban environments. Typically, such projects focus on creating connections between different parts of a city while incorporating eco-friendly elements, such as green roofs, vertical gardens, or sustainable materials. It can improve urban aesthetic because it creates visual appealing spaces that can enhance the overall look and feel of a city. Other than that, it can enhance connectivity because it can provide a pedestrian or cyclist-friendly link between different urban areas, potentially reducing car traffic and improving overall mobility. The quality of individual buildings and group combinations directly affects people's evaluation of the urban environment. The expansion of building scale and modern transportation development has changed the design concept of traditional architecture. Moreover, this design shows the vision and reverie for the future city and architecture. Many benefits of this bridge like it can become a landmark or a symbol of the city's commitment to innovation and sustainability. Overall, a well-designed urban link bridge with green features can significantly improve the quality of urban life, contributing to a healthier, more connected, and environmentally friendly city.

Keywords: *city, eco-friendly, modern, urban.*

1. INTRODUCTION

The Green Urban Link Bridge represents a ground breaking approach to urban infrastructure, seamlessly integrating environmentally sustainable with modern urban design. Based on what we do, this innovative bridge not only connects two places but also serves as a living testament to our commitment to a greener future. It is designed to enhance connectivity between different areas of a city, this innovative bridge goes beyond traditional design by incorporating green elements and eco-friendly technologies. The Green Urban Link Bridge aims to create a harmonious balance between urban development and environmental stewardship, enhancing the quality of urban life while addressing the challenges of climate change and resource management.

The Green Urban Link Bridge is inspired by The High Line which is a unique elevated park in New York City, built on a historic freight rail line. Stretching 1.45 miles through Manhattan's West Side, it features beautifully landscaped gardens, art installations, and panoramic views of the city. Designed to blend urban design with nature, the park provides a serene escape from the city's hustle while showcasing innovative landscaping and architectural features. This innovation offers numerous benefits, including transforming unattractive link bridge into a vibrant green space that enhances urban aesthetics and promotes community well-being. It provides a peaceful retreat with stunning city views, fosters local economic growth by attracting tourists and businesses, and serves as a model for sustainable urban redevelopment. By integrating nature into the cityscape, it improves both environmental quality and public health.

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The Green Urban Link Bridge uses Stormwater Management Systems. The Stormwater Management Systems are essential infrastructure designed to handle rainwater and melting snow that falls on urban and rural landscapes. These systems are crucial for mitigating the impacts of stormwater runoff, which can lead to flooding, erosion, and water pollution if not properly managed. Many jurisdictions have regulations and standards governing Stormwater Management to ensure the systems are designed and maintained properly. These regulations often include requirements for controlling runoff, treating water, and integrating sustainable practices. In summary, Stormwater Management Systems are vital for designing both rural and urban areas because they assist in regulating water flow, lowering pollution, and safeguarding natural resources. In addition to preventing environmental harm, the efficient systems increase a community's ability to withstand extreme weather.

2. MATERIALS AND METHODS

A qualitative method was selected for the study to gather comprehensive data for designing the proposed invention and materials, aligning with the main goals of this research. According to Timeout, The High Line offers urban playground elements, including wildflowers, greenery, and outdoor art installations, along with stunning views of New York's skyline. Inspired by this concept, the researchers aim to incorporate similar improvements into the proposed link bridge to Mid Valley. The selected locations for the link bridge are between Eco City Mall and the nearby office, extending to Mid Valley.

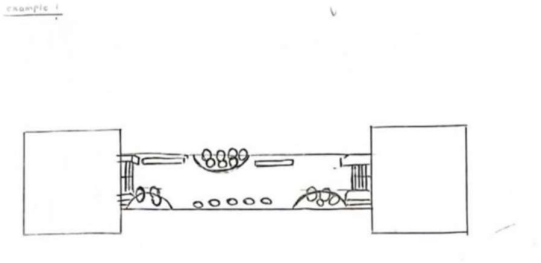

Figure 1. Sample drawing 1

Figure 1 illustrates the sample drawing of The Green Urban Link Bridge. The sample drawing includes the following facilities:

- Chair: Provides visitors a place to sit, rest, and relax while enjoying the city scenery.
- Stair: Connects two buildings.
- Trees: Contribute to the natural environment by producing oxygen.

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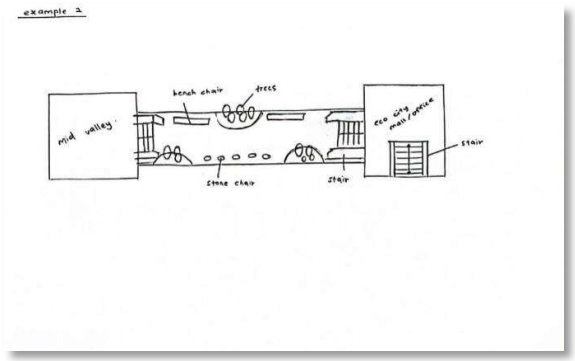

Figure 2. Sample drawing 2

Figure 2 illustrates the second sample drawing of The Green Urban Link Bridge. The sample drawing includes the following facilities:

- Bench and Stone Chaira: Provide visitors with seating to rest and relax while enjoying the city scenery.
- Stair: Connects two buildings.
- Trees: Contribute to the natural environment by producing oxygen.
- Stair at Eco City Mall: Facilitates entry and exit for people not from Eco City Mall or other buildings.

3. RESULTS AND DISCUSSION

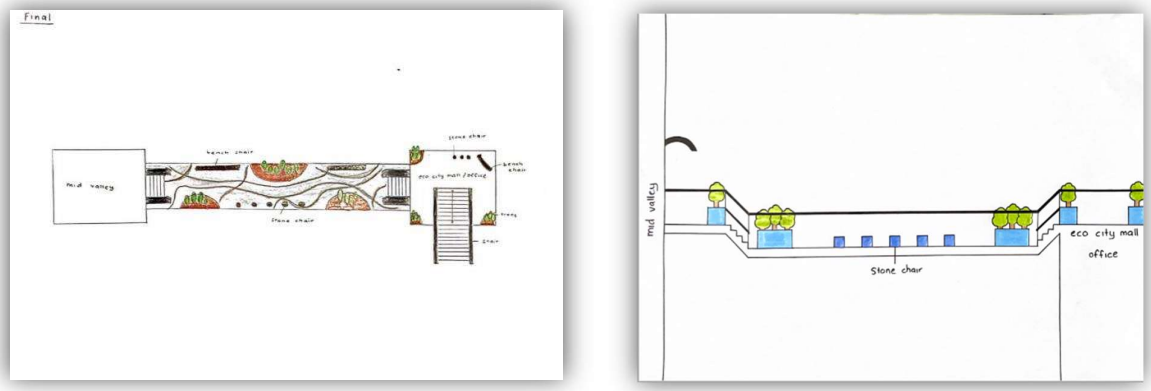

Figure 3. Final drawings

Figure 3 illustrates the final drawings of The Green Urban Link Bridge, showcasing several improvements:

CHAIR

1. Two types of chairs:
    - Bench chair
    - Stone chair
2. Improvements include the addition of a lamp on each chair.

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PATHWAYS

1. Spaces are designed for rainwater to flow directly into the drainage system.
2. Includes lamps for illumination.
3. Enhanced aesthetic features.

STAIR (AT LINK BRIDGE)

1. Designed to be accessible for disabled individuals.
2. Equipped with lamps.
3. Can also be used as seating.

STAIR (ECO CITY MALL)

1. Two types:
    - Ordinary stair
    - Escalator
2. Features plants or trees along the handrails and walls.

HALLWAY OF ECO CITY MALL

1. Chairs provided for visitors.
2. Plants and trees positioned along the walls and edges.
3. Wall fountain for aesthetic value.

4. CONCLUSIONS

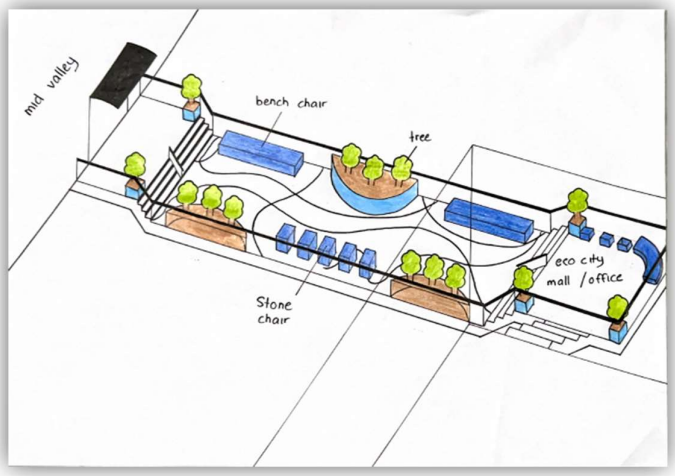

Figure 4. *Final drawing 2*

Green infrastructures like the High Line incorporate elements such as native plantings, rain gardens, and sustainable drainage systems to enhance environmental sustainability and urban biodiversity. They also engage local residents, businesses, and stakeholders in the planning and design process to ensure that the renovated spaces reflect the community needs and preferences, fostering a sense of ownership and pride. In addition, planning should include a variety of recreational, cultural, and educational activities that can be hosted on the renovated overpasses. Examples of these activities are art installations, performances, fitness classes, and community events. Developing a maintenance plan is important to ensure the renovated overpasses remain well-kept and safe for public use. It is also important to consider long-term management strategies, including funding sources and partnerships with local organisations.

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Overpasses must be structurally sound and capable of supporting additional weight from park features such as vegetation, pathways, and seating areas. Engineering assessments are necessary to ensure safety and longevity of the structures. It is also important to consider the surrounding urban environment and how the renovated overpasses can integrate harmoniously with existing infrastructure, nearby buildings, and transportation networks.

Renovating overpasses into elevated parks inspired by the High Line could offer Kuala Lumpur valuable green spaces, promote urban revitalisation, and enhance the quality of life for residents. However, success and sustainability of the built structures depend on careful planning, community involvement, and adherence to technical and regulatory requirements.

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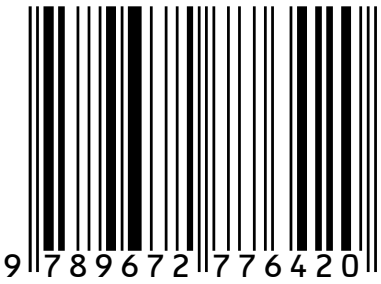

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