

Urban Intervention

Azizah Salim Syed Salim

The comprehensive design project for Year 5 Bachelor of Architecture programme (2010-2011) was carried out in Kuantan, the state capital of Pahang. Kuantan is in a Special Economic Zone (SEZ) which was launched in 2009 and lies within the East Coast Economic Region (ECER) stretching from Kertih to Pekan and serving as a catalyst to fast track the economic development along the peninsular east coast.

As a team, students were required to study the historical background of Kuantan, its local heritage and lifestyle, and subsequently would make critical analyses. Later, they would identify potential developments in a selected action plan area for the city as per proposed under the

Local Plan for the District of Kuantan. The team is required to analyse the development plans in view of their complex urban design issues; incorporation of current and future needs of socio-cultural, economic, environmental; as well as heritage considerations before identifying potential individual projects within the study area.

Each student will then prepare his or her own project brief and schematic design of a selected building typology within the study area. The two projects selected herewith have demonstrated the necessary design process besides exploration of sustainable design approaches, relevant design techniques and state-of-the-art technologies.

Jury Review

John Ashraf Lucas

Marine + Estuarine Ecology Research Centre, Tanjung Lumpur by Loo Jie Hsin

Loo Jie Hsin's proposal, subtitled a.morphous. Tuarine, is a bold unique structure to celebrate the natural relationship between the built form to house the proposed Marine + Estuarine Ecology Research Centre and the natural world along the land and water interface at the Kuantan River estuary near Tanjung Lumpur. She views the centre as an extension of the natural processes themselves. As a 'breathing organism' which responds and evolves in its changing living environment hence blurring the divide between building and its natural setting. She has achieved a successful solution although being challenged at several different scales and levels.

On a more mundane level the centre is concerned with the development of such institutional (and possibly commercial) activities such as fish breeding and spawning, as well as ecological management of the fringes of the estuary, and monitoring of these activities. Other conventional activities are also included in the project brief for providing facilities that encourage public interactions thus are expected to expose the general public to this unique project. Among them include a fisherman's wharf which encompasses a fish market and a fish restaurant.

The overall approach of the current fashionable 'Biomimicry' has produced a highly exciting scheme illustrating a unique imagery where the supporting structure emulates the elements of the natural root systems of the mangrove. Loo has demonstrated dedication and a sincere desire to produce her special personal approach to design. Perhaps one would acknowledge that although the buildability factor of the scheme is not its strongest point, the quality and scope of the presented work are admirable with such 'Star Wars' imagery. Indeed, she had set herself a mammoth task to make such a complex design unbelievably constructable and additional technical studies and construction details would certainly help in this aspect.

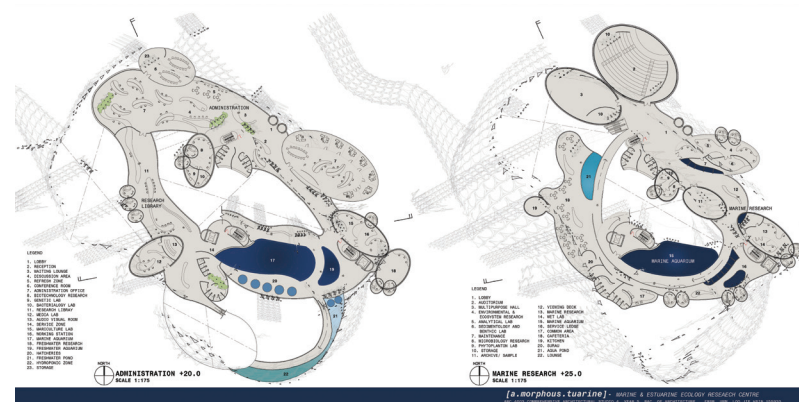
Kuantan Expedition Tower by Tan Khang Hung

The origins of the rather unusual proposal for the Kuantan Expedition Tower by Tan Khang Hung can be viewed in the light of the comments he makes about the nature of Kuantan. To him 'Kuantan seems to have everything, but nothing is special'. Thus, the underlying theme of his scheme is to make 'that special place' more than the sum of the various parts which he has combined - a tower, a tourist hub and entertainment and fun for all. He has produced a new typology which is neither quite a tower nor quite a conventional building and nor quite a fun-fair. In a single element where horizontal and vertical planes are treated as one continuous sweeping form, he has created a unique icon for this easy-paced East Coast State Capital. He has produced, in his comprehensive presentation, an outrageous yet well worked out design which combines the tower with a long narrow building on six levels. He has added in a Sculpture Park, a Public Square, and linked them with an innovative inclined lift system. The lift cars gave a funfair experience when they climb up from the horizontal block to become vertical cabs.

The overall image is rather futuristic with the Skywalk and an Expedition Zone being incorporated in the tower proper together with a number of green technologies such as a wind farm, rainwater harvesting and solar collection. Many of the individual components he has combined in his scheme are already proposed in the Kuantan Local Plan, albeit in different locations and in slightly different forms. However, this proposal brings them together on a site which currently houses a collection of soon to be relocated JKR-styled State and Federal Government offices. This gives the Kuantan Exhibition Tower an excellent prominent central location. It is adjacent to the State Mosque, the Kuantan and Shariah Courthouses and the Pahang Art Museum, and convenient for transportation and hotels. Contrary to his intent, they become his dilemma because they may cause his iconic building to compete with notable existing iconic places and perhaps the biggest threat is the fact that it is located near the Pahang River where the Local Plan had originally proposed to have the tower.

Marine and Estuarine Ecology Research Centre – A.Morphous.Tuarine

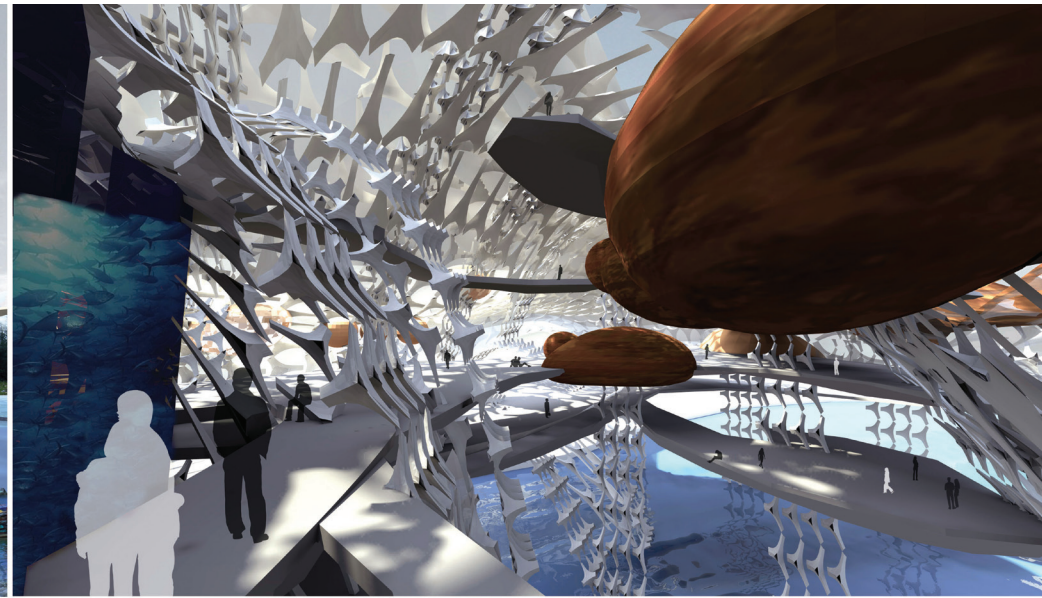
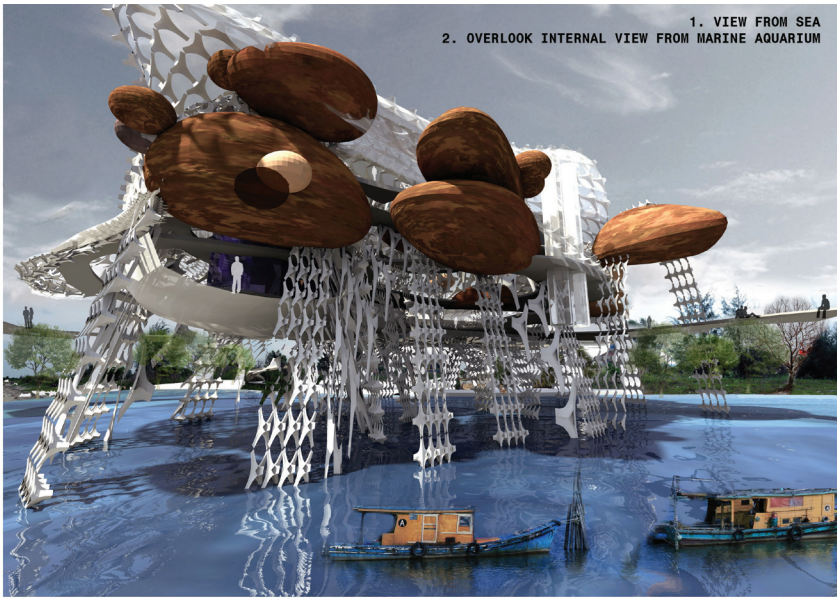
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Loo Jie Hsin

The marine research centre along Sungai Kuantan estuary near Tanjung Lumpur in Pahang is based on the understanding of the complex environmental issues with the interconnected field of overlapping boundaries expressing nature and artificial elements as well as the static and fluid conditions. The entire project is like a 'breathing organism' that evolves and acts as a response to the ever changing environment. Connections of specific building and urban context represents the degree of complexity that is in unison with mother nature. The supporting structure mimics the root system of existing mangrove swamp and the buildings and services are raised using the cantenary arch approach. The wonder of natural system is the source of reference in experimenting new conceptual model for this particular architectural design by Loo Jie Hsin.

Due to the threat of depletion in fisheries resources, this project seeks a way to achieve symbiotic behaviour and metabolic balance between human and nature in a form that enables it to display its own beauty and aesthetic value. The research centre is a temporary breeding ground acting as a catalyst to generate aquatic reproduction and spawning. Apart from that, the centre is also responsible to monitor, control and set up surveillance programme for ecological management. The fisherman wharf will include a new fish market, fish grille restaurant which serves as a node to direct and indirect linkages to the site context in terms of local activities and social cultural aspects.



OCEANIC-CREATIONS COMPOSITE TECHNOLOGY (OCCT) FLEXIBLE STRUCTURAL FRAMEWORK
SUSPENDED MEMBRANE ROOF DOUBLE POLYESTER-FABRIC LAYER
PNEUMATIC ETFE, TWO LAYERS, ADJUSTABLE

LEGEND

1. WETLAND GALLERY
2. LOBBY
3. MARINE AQUARIUM
4. SERVICE ZONE
5. CONFERENCE ROOM
6. ADMINISTRATION OFFICE
7. BIOTECHNOLOGY RESEARCH
8. HYDROPONIC ZONE
9. MULTIPURPOSE HALL
10. CAFETERIA
11. AQUA POND
12. RIVERINE TUNNEL
13. WETLAND FORMATION AREA

SERVICE TECHNOLOGY-WATER FILTRATION SYSTEM

AQUAPONIC

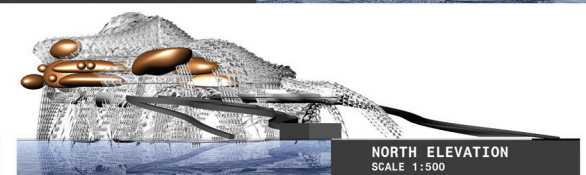
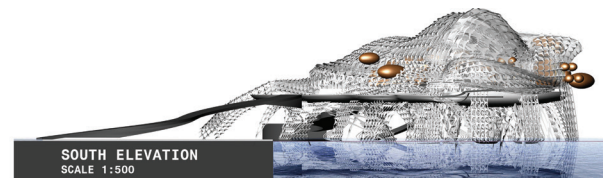
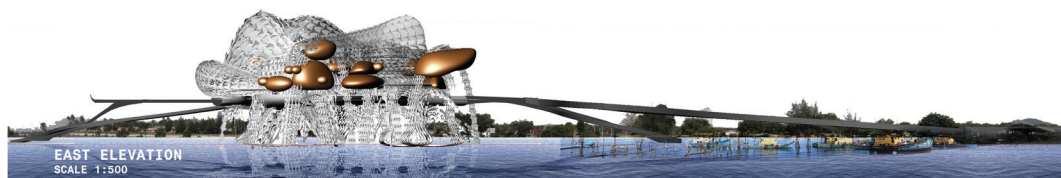
THIS TECHNOLOGY IS USED FOR FRESHWATER AQUARIUM WATER FILTRATION SYSTEM. WATER FROM FISH REARING TANKS WILL BE USED TO CULTIVATE PLANTS IN WATER BASIN. THE PLANTS WILL REMOVE EFFLUENTS ACCUMULATE ESPECIALLY EXCESS NITRATE. AFTER THAT CLEANSERD WATER RECIRCULATED BACK. THIS COMBINED SYSTEM HELPS TO CREATE A SYMBIOTIC ENVIRONMENT. FISH IS REARED IN CLEAN WATER AND FARM VEGETABLES ON THE SITE. FISH DISPOSALS ARE USED AS FERTILIZERS FOR VEGETABLES.

WETLAND BIOFILTER

EXISTING MANGROVE AREA AT SITE WILL BE RESERVED AND CONSTRUCT FOR WETLAND FORMATION TO BECOME NATURAL BIOFILTER. THIS PLACE CAN BE USED TO PROCESS WASTE WATER. IT REDUCE EXCHANGES BY CONVERTING AMMONIA TO NITRATE FROM THE DECOMPOSITION OF ORGANIC MATTER AND AQUATIC ANIMALS. IT ALSO CAN BE DEVELOPED TO CLEAN THE PUMPED SEA WATER THROUGH THE SYSTEM. TO REPLICATE CONTROLLED WETLAND CONDITIONS THAT ARE USEFUL FOR WATER TREATMENT.

SECTIONAL PERSPECTIVE
SCALE 1:125

[a.morphous.tuarine] - MARINE & ESTUARINE ECOLOGY RESEAECH CENTRE
ARC 4003 COMPREHENSIVE ARCHITECTURAL STUDIO 4, YEAR 5, BAC. OF ARCHITECTURE . FRSB, UPM, LOO JTE HSN 155920



DYNAMIC RELATIONSHIP BETWEEN PEOPLE AND NATURAL LIVING.



Expedition Tower

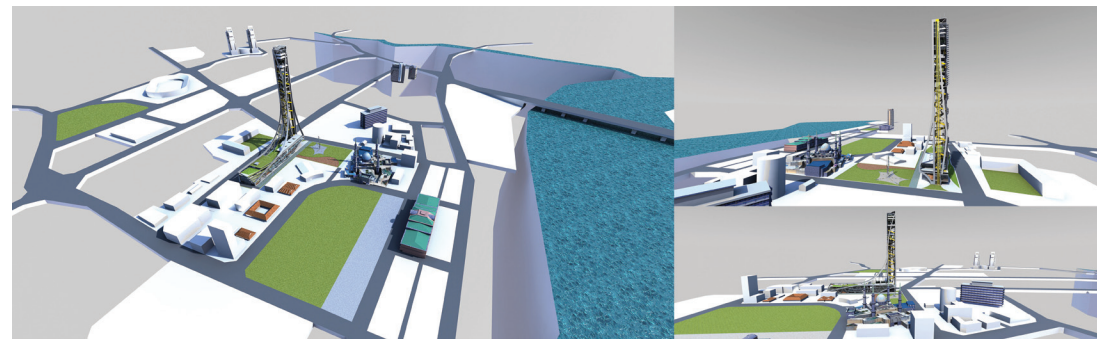
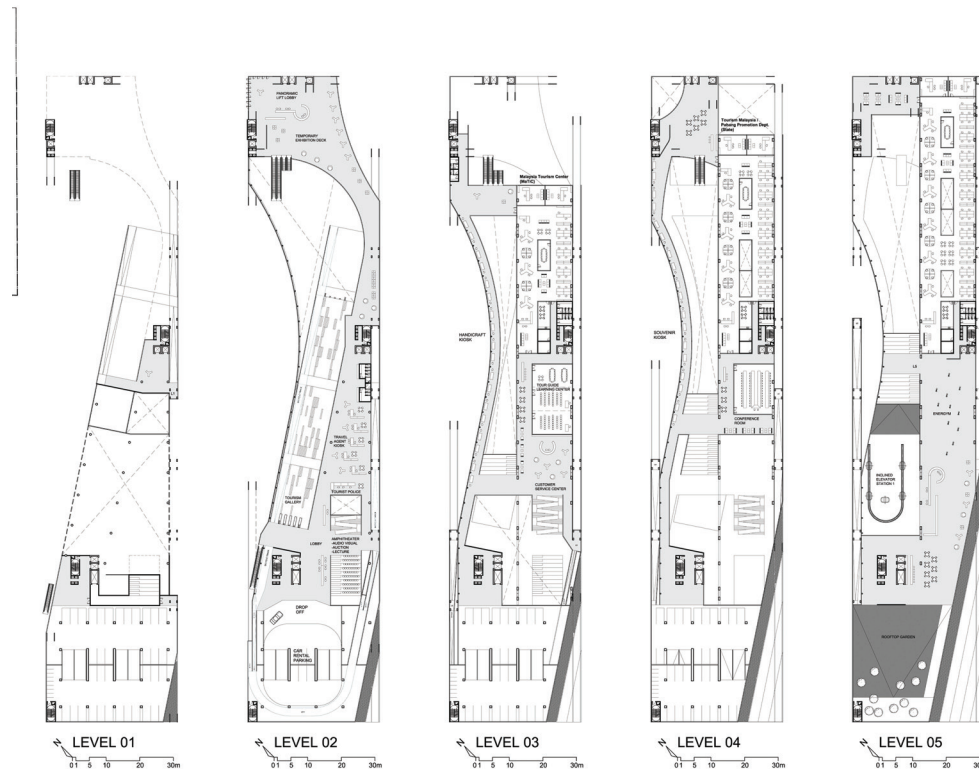
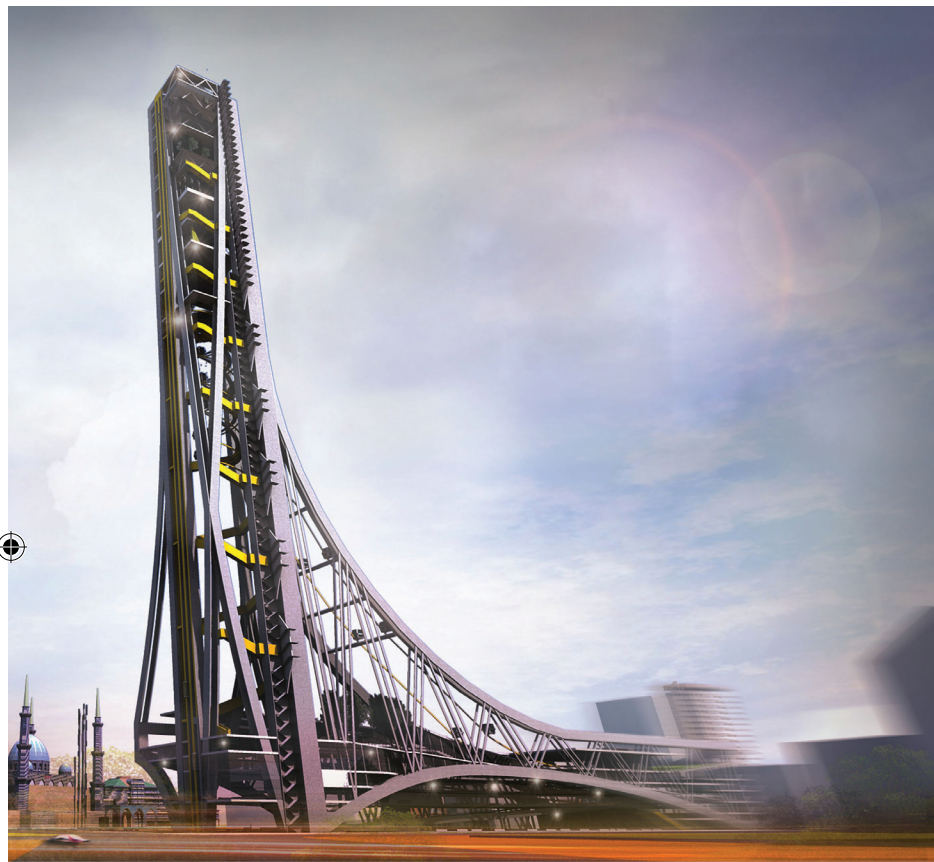
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Under the East Coast Economy Region (ECER) scheme, Kuantan has been selected to become the capital city of the eastern part of the peninsular. Since Malaysia is all out to boost her economy in the tourism industry, Kuantan has the opportunity to develop the urban tourism sustainably taking into account the waterfront and her rich heritage. The scope of the proposed Kuantan Tower is to promote tourism-related activities organised by the Ministry as well as state-run activities through tourist information counters, websites,

printed materials and electronic board. The tourist hub will manage programmes including cultural and tourism-related events through shows, exhibitions, briefings and demonstrations to attract local and international tourists. The concept of combining Kuantan Tower together with the tourism hub is to provide a one stop centre for tourists to gather or collect information and at the same time experience the aerial views of Kuantan city from the top of the tower.

■ Tan Khan Kung



The Expedition Tower designed by Tan Khan Kung which is located within the civic zone, comprises of a gallery, expedition tower and sculpture park. This will boost up the adjacent plots and improve the connectivity around the tower as a node and landmark for the city. The tower is designed as such to create an urban playground for tourists and local residents where features such as slanting 'ferris wheel', escalator, sky walk, observation deck will provide a unique and memorable experience while staying and exploring in Kuantan.

