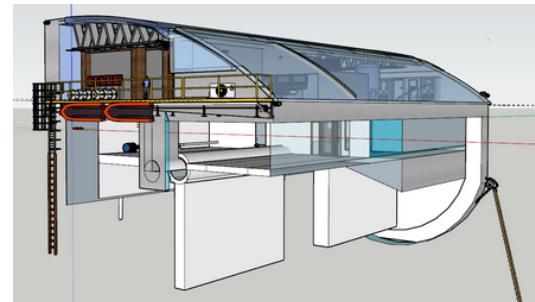
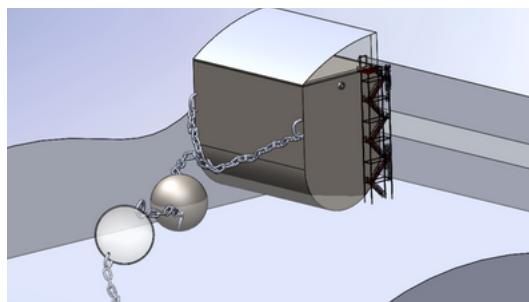
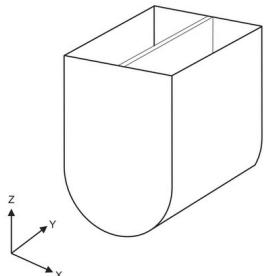
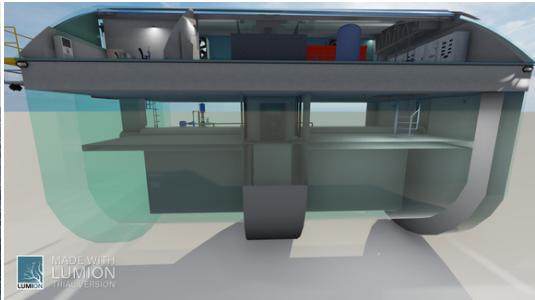
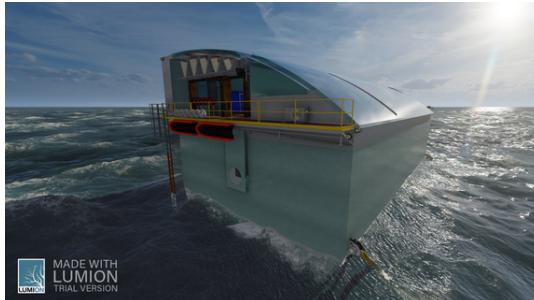


CONCEPTUAL DESIGN - WAVE ENERGY DEVICE



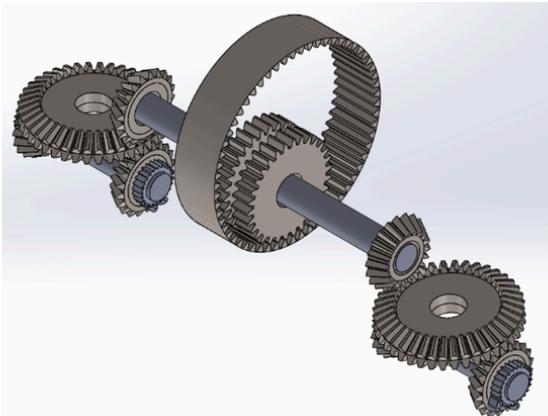
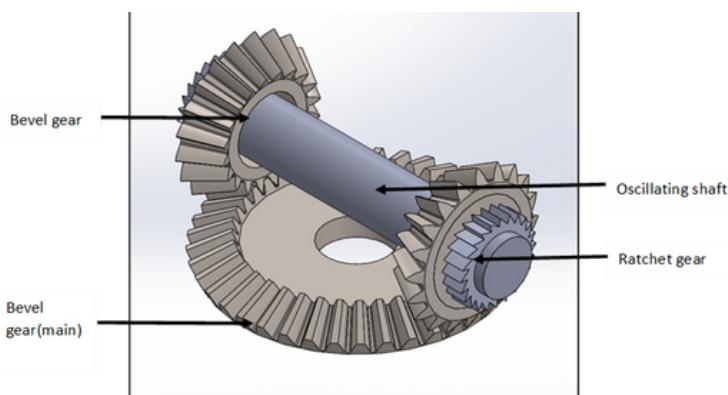
Designing a Hull-Reservoir Wave Energy Device (HRWED) to extract tidal energy at rough sea conditions.

- 2D illustrations - CorelDRAW
- 3D modelling - SolidWorks, Sketchup
- Rendering & animation - Lumion



<https://www.youtube.com/watch?v=9lbCy2j59Us>

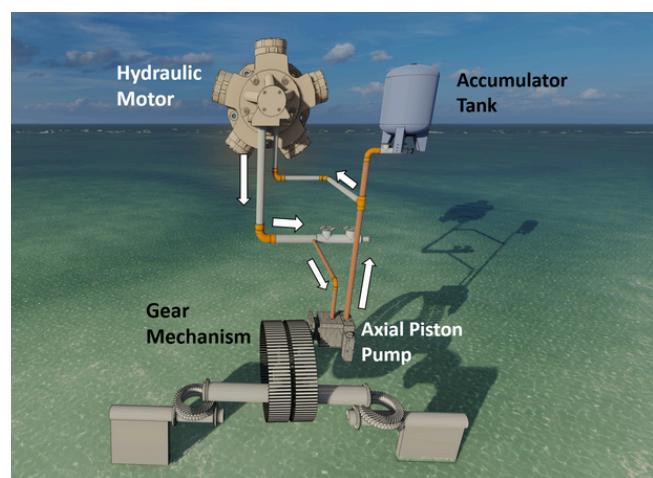
INNOVATION OF A NOVEL MECHANISM FOR HRWED



Designing a mechanism to convert oscillatory motion of the Hull-Reservoir Wave Energy Device to rotary motion (HRWED), making it efficient and convenient to generate electricity

- Innovation of a novel gear mechanism to convert oscillatory motion of two separate flaps to one rotary motion.
- Designing the conversion system using hydraulics, increasing the efficiency.
- 3D modelling - SolidWorks, Sketchup
- Rendering - Lumion
- Animation - SolidWorks

https://www.youtube.com/watch?v=C_guiR1Tava



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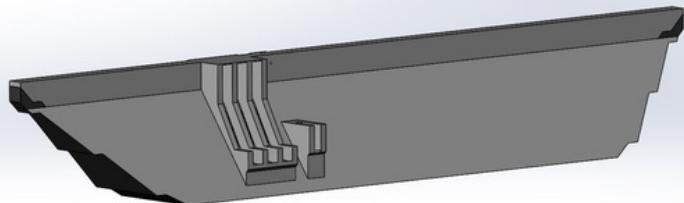
[linkedin.com/in/tharindu-weerarathne](https://www.linkedin.com/in/tharindu-weerarathne)

+358 417 242 919

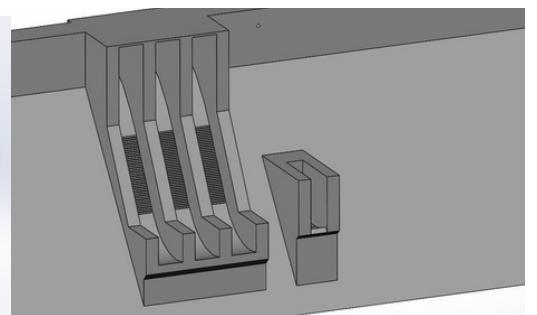
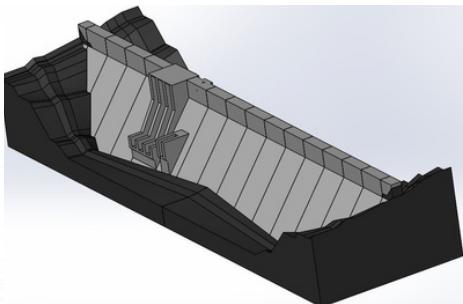
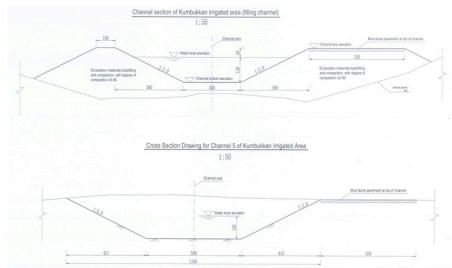
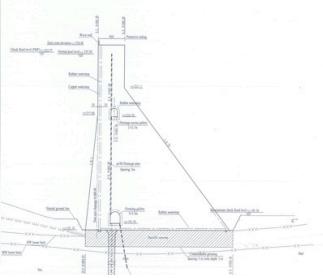
DAM DESIGN (FOR EDUCATIONAL PURPOSES)

Modelling of a prototype of Kumbukkan Oya dam site in Sri Lanka. The purpose of the modelling was to conduct a workshop on SolidWork modelling for Civil Engineers involved in the project.

- 3D modelling - SolidWorks

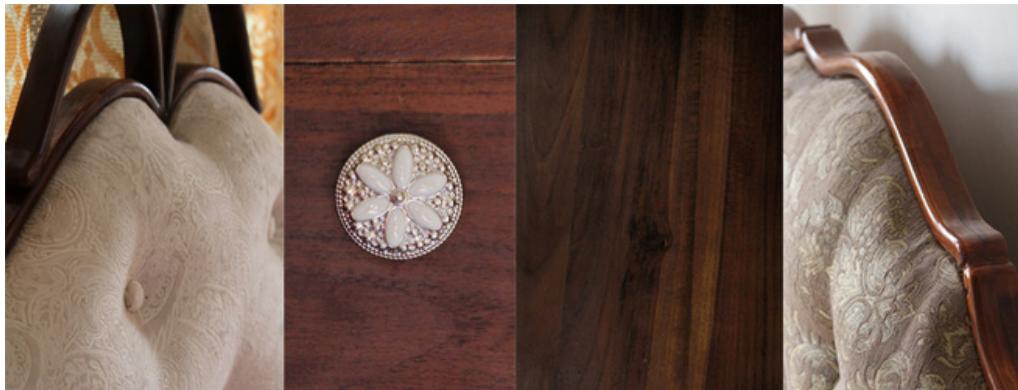


Standard Section of Water Retaining Dam Section 1:200



<https://www.youtube.com/watch?v=Z18y2leRJTl>

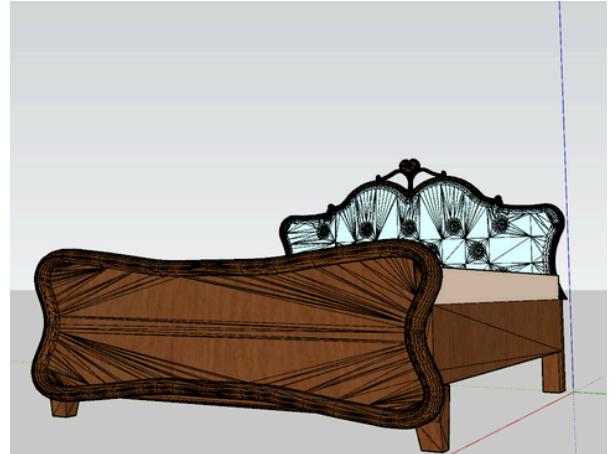
PERSONAL STARTUP PROJECT - TEAK GALLERY



Designing furniture and modelling for marketing and outsourcing woodwork.

- Main considerations - Ergonomics, usability and comfort
- 3D modelling - SolidWorks, Sketchup
- Rendering - Lumion

<https://www.facebook.com/TeakGallery>



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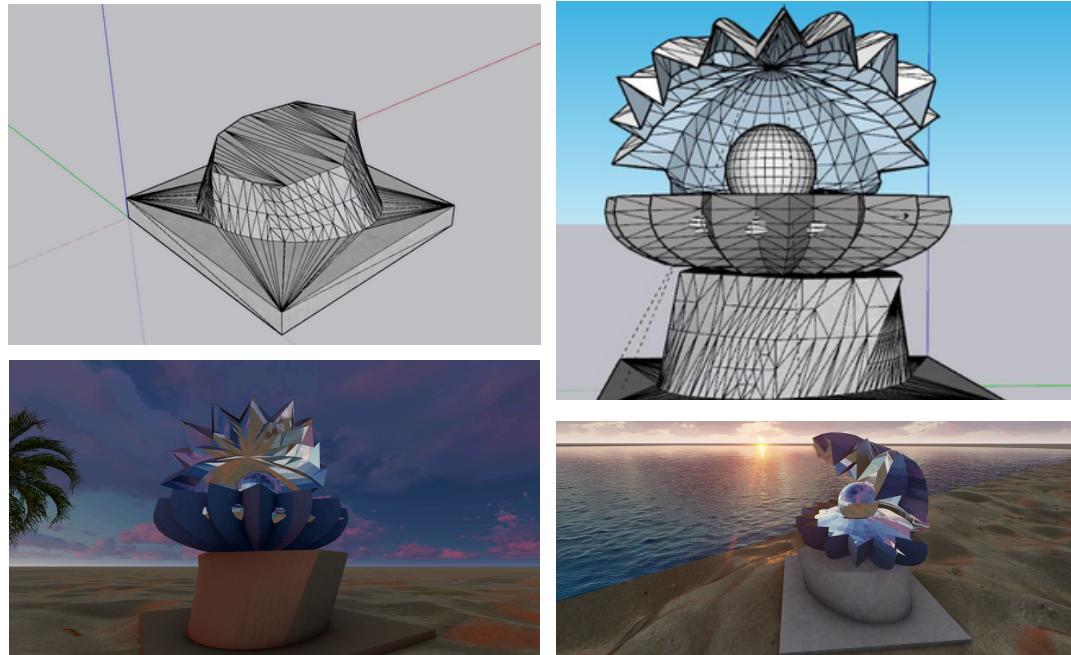
linkedin.com/in/tharindu-weerarathne

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SCULPTURE DESIGN - PEARL MARINA

Designing a prototype of a sculpture as a part of the competition - Dream - Pearl Marina, Port City, Colombo.

- Factors considered
 - Wind factor
 - Maintenance
 - Theme
 - Aesthetics
 - Production methods
- 3D modelling - SolidWorks, Sketchup
- Rendering - Lumion



PRODUCT DEVELOPMENT PROJECT - VALMET - AALTO UNIVERSITY

Developing and designing a device and a process for roller changing process for paper machines.

- Actual prototype for 4 T roll and a theoretical one for 10 T roll.
- Reduced the man-hours to 12 from 60.
- Budget - Less than 10 000 euros

Individual contribution

- Administrative Lead
 - Responsible for overall administration of technical and meeting related documents through Sharepoint & Teams.
- Mechanical Engineer
 - Design, simulation and testing of bearings and wire rope ends.
 - SolidWorks, NX, physical testing
 - Technical documentation.

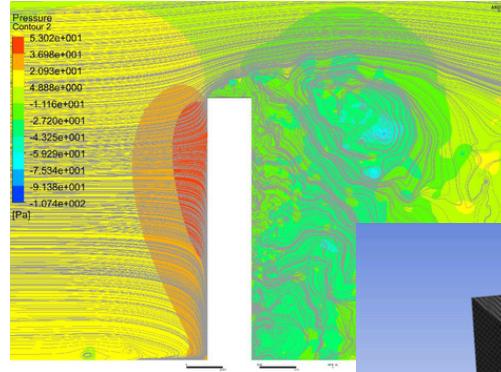


<https://www.teknikkatalous.fi/uutiset/tt/f040cdc6-ea8b-44e1-bad1-6fb2dc6620d8>

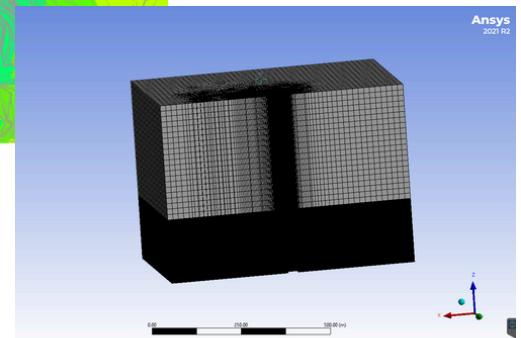
RIGID AND AEROELASTIC ANALYSIS OF WIND INDUCED FLOW BEHAVIOR AROUND UNSCALED TALL BUILDINGS USING NUMERICAL TECHNIQUES

The study focuses on the analysis of the effect of wind loads on the pressure distribution around the Commonwealth Advisory Aeronautical Council (CAARC) building. Results are obtained under three numerical models namely, RANS, Large Eddy Simulation and LES analysis of the fluid domain

- coupled with two-way FSI to the building and compared with results obtained from a wind tunnel experiment found in the literature
 - Ansys, SolidWorks

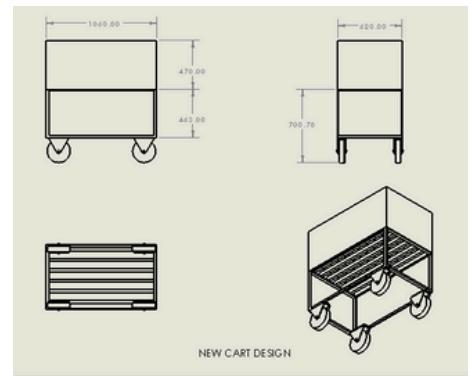
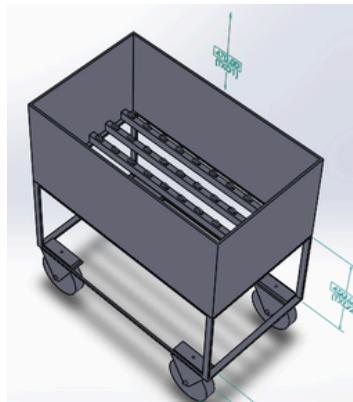


Pre-print of the paper



CART MODIFICATION @ NORITAKE LANKA (PVT) LTD

Improving the quality of ceramic products by avoiding contamination occurred by carts which are entering and exiting decoration premises. A novel conveyer mechanism was introduced with a layout change and changes for the carts to be compatible with the conveyer.



- *Identification of issues with the current method of carrying products.*
 - *Design factors*
 - *Cost*
 - *Capacity Functionality*
 - *Compatibility with the maintenance activities*
 - *Managing available resources*

