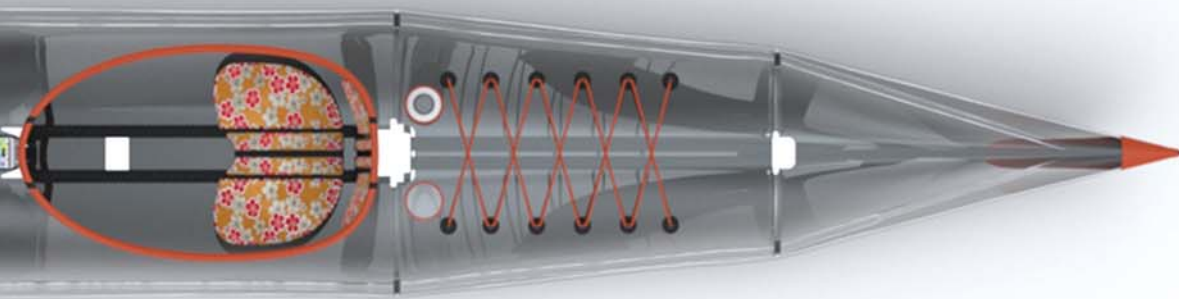


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Integrating the Kayak Transforming a Lifestyle

A design-led exploration of transforming kayaks as lifestyle enablers.

An exegesis presented in partial
fulfilment for the degree of Masters
of Design at Massey University,
Wellington, New Zealand.

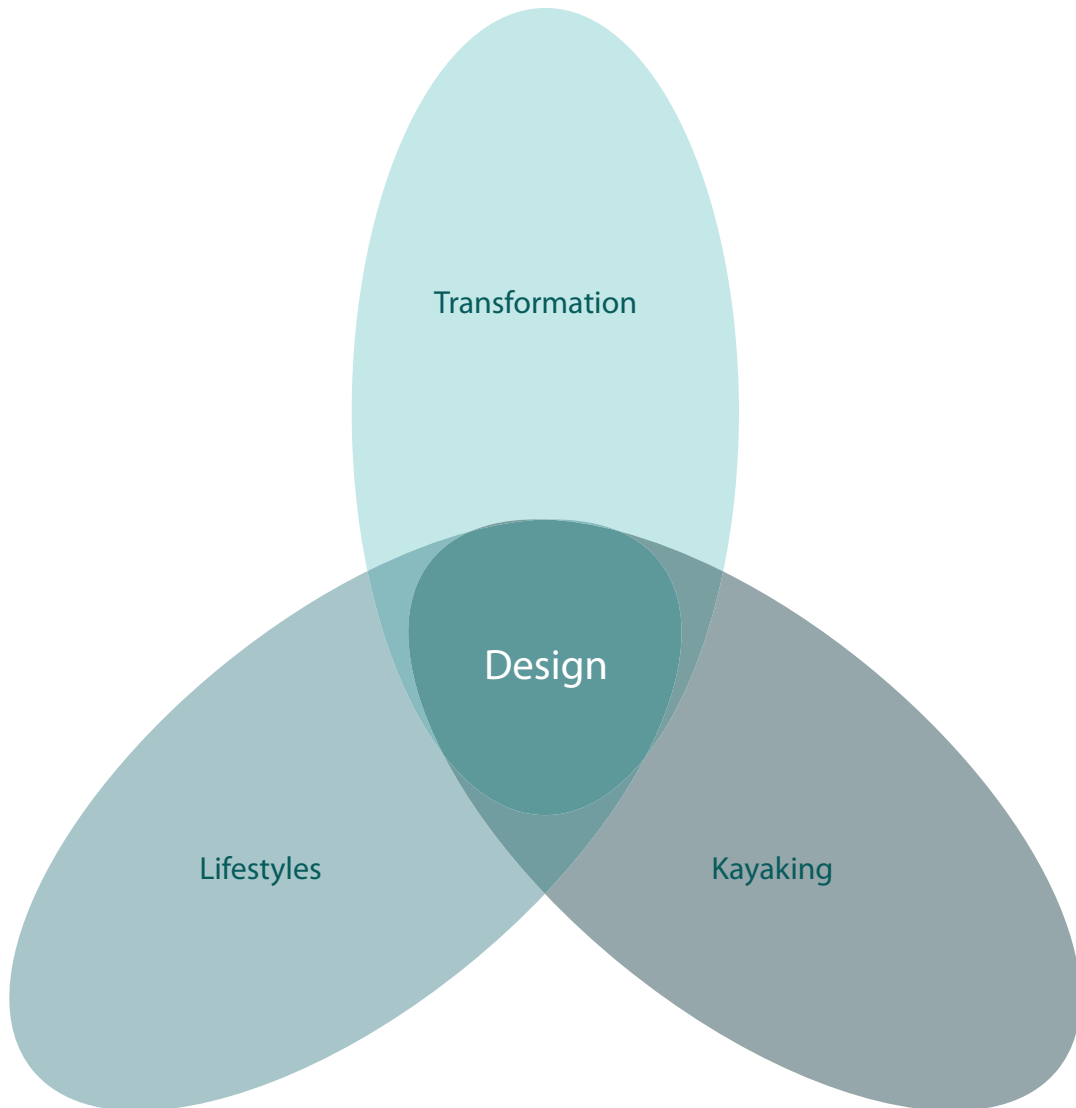
By Jason Mitchell, 2016.



M.O.R.P.H. Lab Transformation Framework

Objects

Systems



The three subject areas in this study that combine to inform the design of transforming kayaks

The kayak Experience Survey
Lifestyle Factors

Market Review
Evolution

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Abstract

This study uses design-led research to validate the hypothesis that the design of current transforming kayaks does not meet the needs of the modern user.

Research identified lifestyle factors affecting the kayaking experience and compared them to current transforming kayak models. Opportunities were revealed for new transforming kayak designs that would help to overcome modern lifestyle barriers to kayaking.

Primary lifestyle factors indicated the time available, portability, and the type of accommodation lived in were the most influential factors affecting peoples' ability to engage in kayaking. Secondary factors highlighted specific focused elements where design could be most beneficial.

The transforming kayak, better known by the generic term 'folding kayak', is a small watercraft capable of packing down to a portable state for transportation and storage. Used extensively during World War 2 by the military, transforming kayaks became popular in post-war Europe as leisure craft, significantly outnumbering their non-transforming counterparts. Despite the potential transformation has to overcome barriers to kayaking, the current design of transforming kayaks caters to only a fraction of the market it once did.

This study adopted the University of Texas 'M.O.R.P.H. Lab Transformation Framework' to identify principles and facilitators inherent in product transformation. This framework was imperative in evaluating existing kayaks and successful product systems. The use of heuristics aided in the development of new transforming kayaks. Transformation as a meta-theme in the design of products is positioned within the interrelated fields of modularity, adaptable design, and fields where objects change

state, or are reconfigured for a specified purpose.

A heuristic, iterative prototyping process led to experimenting with M.O.R.P.H. facilitators themed around folding and sliding systems and resulted in a series of transforming kayak prototypes validated through proof of concept, with further potential for future development outside of this study.

Key innovations include integrating all kayak components and developing a central point of deployment. This resulted in systems with faster deployment times and resolved issues of complexity and loss of components within transit.

Research builds on the ideas of using transformation in industrial design as a means to allow flexible and adaptable solutions, specifically within the design of transforming kayaks.

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