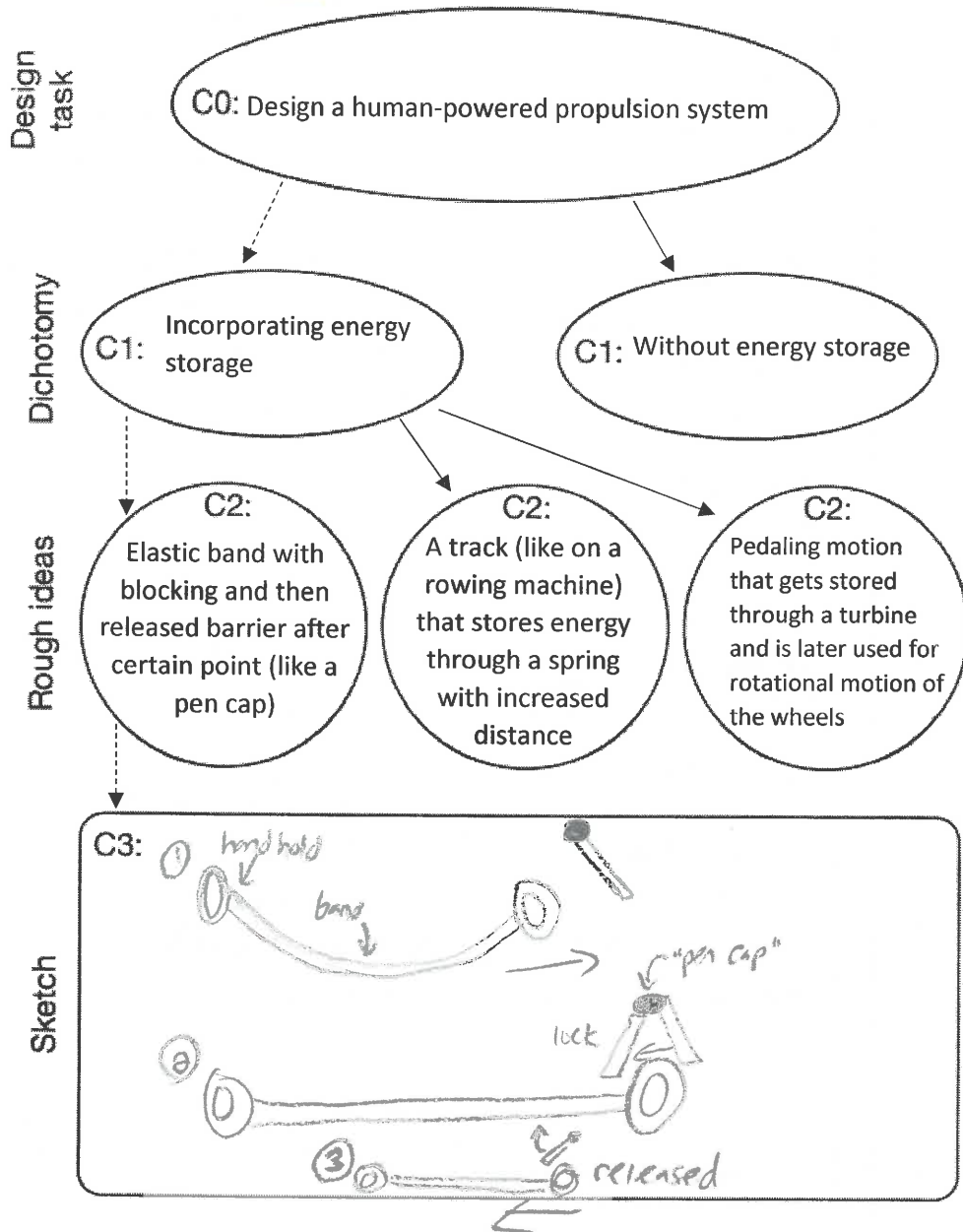


Concept Space



Knowledge Space

**Traditional Knowledge**

**Existing Solution**

Springs, trampolines

Spring suspension on seat tube of bike

Immediately utilizing the mechanical energy given to the propulsion system through the crank arm and to move the chains and wheels

Springs must have some sort of force preventing the release of compression or expansion of the system once the spring has reached its maximum potential energy.

There are compression and tension springs

The seat of a bike that incorporates the storage of energy through the use of a spring bounces vertically in order to lessen the energy required from the rider.

**Biology Knowledge**

**Biological system:** Northern Leopard Frog

**Unexpected Property**

The tendons and muscles in the Northern Leopard Frog are extremely elastic, allowing the storage and release of energy to drive propulsion.

The muscles in the legs of the Northern Leopard Frog contract in order to force the tendons to be stretched, which stores energy through its elasticity. This energy is then quickly released when the frog jumps at a high angle above horizontal, where there is a very high acceleration of motion.