A-PEEL

A-PEEL SHOULD GIVE THE PRIMATES MORE AUTONOMY OVER THEIR FEEDING PROCESS WHILE TRIGGERING THE COGNITIVE MEMORY, DECISION MAKING AND PROBLEM SOLVING ABILITIES.

A foraging enrichment device

▶ Context |

Growing awareness on the mental state of animals has triggered a global push to improve laws and regulations in animal welfare, prompting zoos worldwide to increase their efforts in **enhancing the quality of life for their captive animals.**

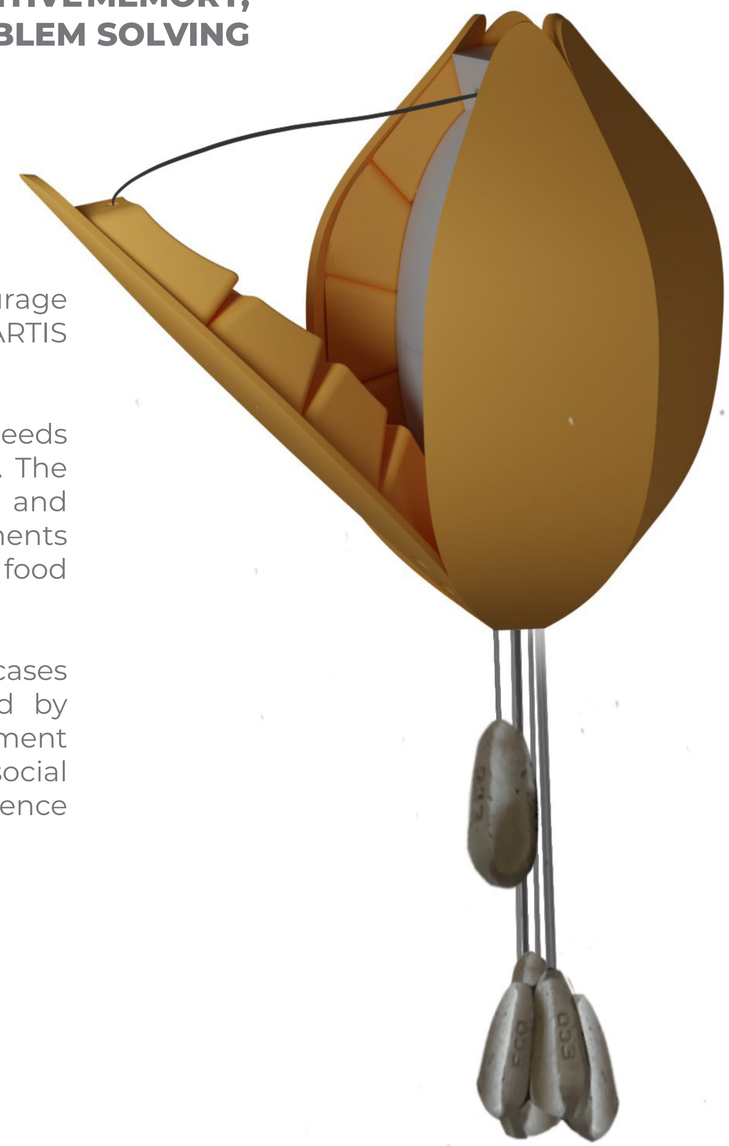
In an effort to further enhance the lives of their animals, **ARTIS Zoo** has joined forces with the faculty of Industrial Design Engineering of TU Delft to design a versatile device serving as both **an enrichment tool** and **a research device**. The project focusses on designing a feeding solution that mimics **the natural foraging behaviour** of the yellow cheeked gibbon and black crested macaque, taking into account both physical behaviour as well as cognitive abilities.

▶ A-peel |

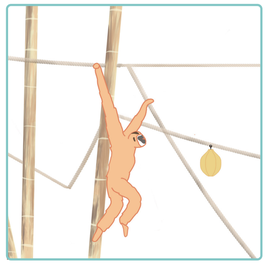
A-peel is an enrichment device designed to encourage the natural behaviour profiles of the primates at ARTIS zoo.

The final design takes the form of a fruit, which needs to be peeled by primates to reveal food inside. The device closes automatically and can be locked and unlocked remotely. Iterative design improvements enhance user usability, material sturdiness, and food safety.

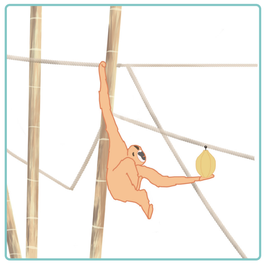
User testing with gibbons at ARTIS Zoo showcases significant interest and interaction, supported by observational data indicating heightened engagement between gibbons, increased foraging activities, social behaviour and extended active periods in the presence of the device.



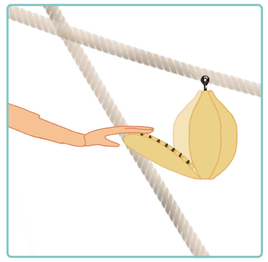
The device opens every two days. On the days between the time intervals, the device is locked.



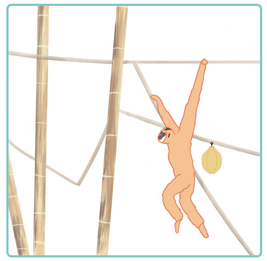
When two days have passed, the devices unlocks automatically.



The gibbon recognises this and approaches the device .



The gibbon interacts with the device by peeling the petals open with his hands and feet.



Ones all the food is retrieved, the petals close on its own and the device is filled and locked again by the zookeeper.

Roos Hack
Designing a feeding enrichment device
08/11/2023
Integrated product design

Committee Rick Schifferstein
Govert Flint
Karline Janmaat
Company ARTIS ZOO