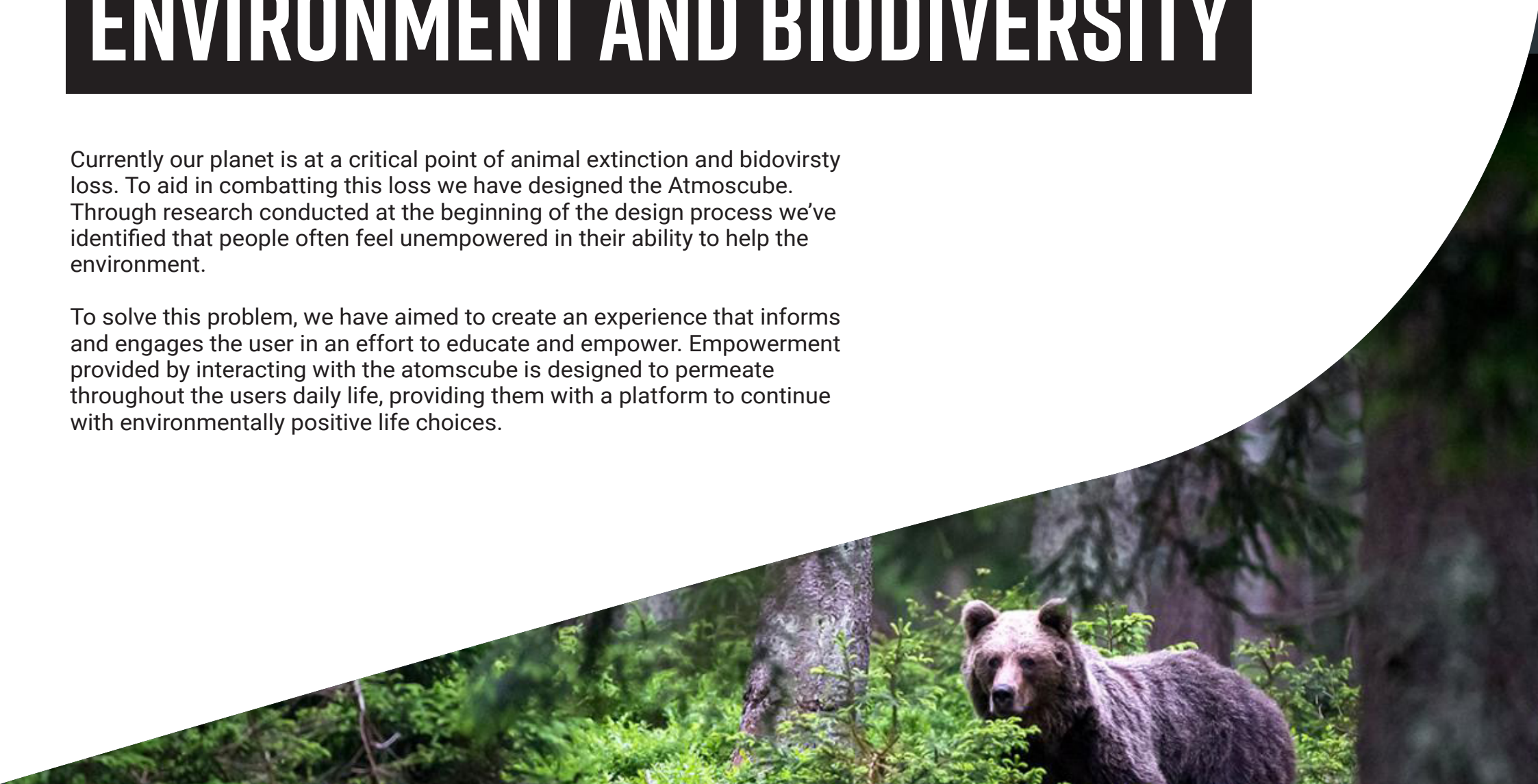
QUICK LOOK AT THE PROBLEM SCENARIO
KNOWLEDGE AS A TOOL TO CONSERVE

ENVIRONMENT AND BIODIVERSITY

Currently our planet is at a critical point of animal extinction and bidovirsty loss. To aid in combatting this loss we have designed the Atmoscube. Through research conducted at the beginning of the design process we've identified that people often feel unempowered in their ability to help the environment.

To solve this problem, we have aimed to create an experience that informs and engages the user in an effort to educate and empower. Empowerment provided by interacting with the atomscube is designed to permeate throughout the users daily life, providing them with a platform to continue with environmentally positive life choices.



HOW TO MAKE CHANGE?
KNOWLEDGE

EMPOWERMENT

Our Design solution and rational revolves around educating and empowering individuals to believe in their ability to make a change. Our research conducted suggests that the feeling of empowerment is directly linked to an individual taking action.

GIVE THE MEMBERS A GENEROUS BOUNDARY.
This is referring to the level of freedom an individual has in case of making decisions. (Kasanoff, 2016).

PROVIDE GROWTH PATHS.
If there is no way for a person to grow they either have to leave the goal or grow stagnant. (Kasanoff, 2016).

BELIEVE IN YOUR COMMUNITY MEMBERS.
•Discover the strong point in any person and what they do best. (Kasanoff, 2016).
•Provide ways for people to support each other. (Kasanoff, 2016).

PRAISE EFFORT.
In a long period of processes, the effort becomes more important and valuable than talent. Also by praising efforts of an individual, that person will be more motivated.(Kasanoff, 2016).

GIVE INDIVIDUALS TIME.
This includes time to learn, time to experiment, and time to manage their personal affairs. Time produces better results.

FORGIVE MISTAKES.
“Establish clear differences between acceptable mistakes versus mission-critical offenses.”(Kasanoff, 2016).

ASK POWERFUL QUESTIONS.
By observing more than talking, leaders can come up with strong questions to ask to improve the movement of their society. (Kasanoff, 2016).

WHAT IS THE STRATEGY?

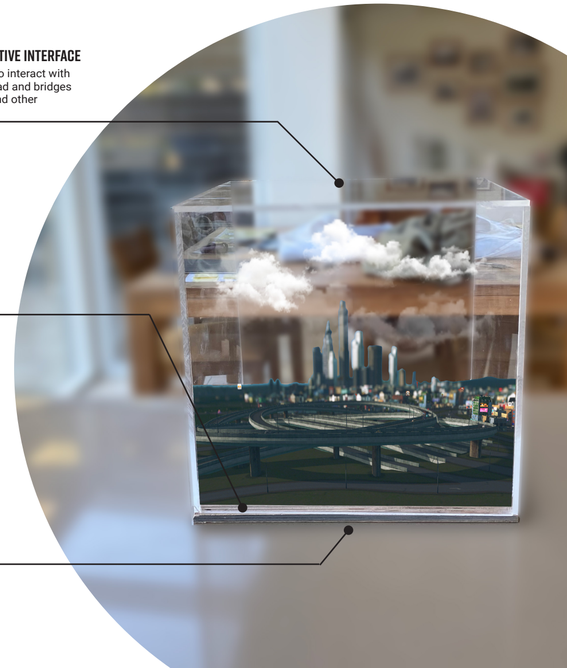
DESIGN SOLUTION

Our design Solution is the **Atmoscube**, a cube roughly 450mm in width, height and depth. Within this **hologram** cube we are propose a **city build game**. The top of the product houses a **touch and distance sensitive** interface that along with **AI voice operated** system will be the way in which the user engages with the product. Within the product will be a small AR city projected from the base, this AR city will be built and managed by the user.

TOUCH AND DISTANCE SENSITIVE INTERFACE
This Display allows the user to interact with **city build features** to build road and bridges as well as pacing buildings and other facilities in the city.

SOUND SYSTEM
A sound speacjer and reciver as a sources of connection between user and interface.

HOLOGRAM AUGMENTED REALITY
Hologram box that the game is projected at. This all technologies used within the game. **Artificial Intelligence, Augmented Reality and Internet of Things.**



DECISION MATRIX

CRITERIA	SUPERMARKET ADVANTAGE POINTS	AR CITY BUILD GAME	ENVIRONMENTAL FOOTPRINT CALCULATION APPLICATION	ENVIRONMENTAL SIMULATION VR HEADSET	AR MUSEUM
EDUCATIONAL LEVEL	1	3	3	3	3
USE OF PHYSICAL COMPONENTS/ENVIRONMENT	1	3	0	0	0
USE OF EMERGING TECHNOLOGY	1	3	1	3	2
LEVEL OF FREEDOM IN DECISION MAKING	2	3	0	3	0
OPPORTUNITY TO FIND USERS POTENTIALS	0	3	2	1	1
OPPORTUNITY TO FIND NEW IDEAS	3	2	2	2	3
FORGIVE MISTAKES	3	3	0	0	2
PROVIDE GROWTH PATHS FOR USER	0	3	3	2	3
IS PERSONAL EFFORT RESPECTED	3	3	2	1	1
OBSERVABLE PROGRESS IN ORDER TO MAKE NEW CHALLENGES/GOALS	2	3	3	0	0
PROVIDES ENOUGH TIME FOR MAKING DECISION	1	3	2	1	1
ANY TROPHIES (TROPHIES, MONEY, SOCIAL RECOGNITION, OR PRAISE)	3	3	3	2	0
MOTIVATION ARISE FROM THE USER	3	2	2	3	1
TOTALS SCORE	23	37	23	21	17

TRIAL AND ERROR

DESIGN PROCESS

The design process was guided by the aim of empowering people through education in an effort to aid against biodiversity loss and animal extinction.

Stage one of the design process involved conducting research with finding key insights regarding the problem space in mind.

Stage two of the process involved studying the research gathered, finding explicit and intrinsic insights into solutions for the problem space.

Stage Three involved each design member submitting two idea and subsequent storyboards that aided the problem space and successfully met design criteria.

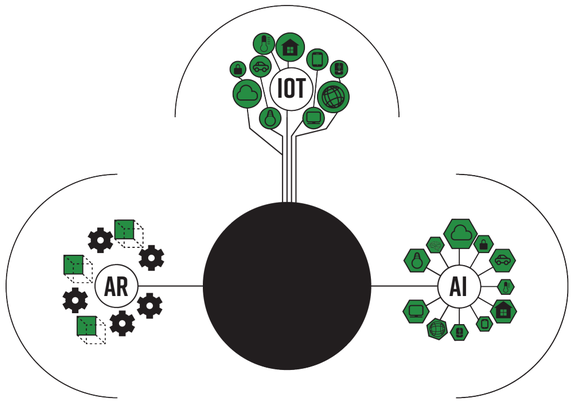
Stage four involved each design team members idea being inputted into a design matrix created to highlight the best design and what was most suited to the tasks needs.

Stage five of the design process was guided by tutor feedback and involved iterating current ideas to better meet design expectations.

Stage six of the design process involved focusing energy on the physical design of the ideas final design iteration.

PROVIDING KNOWLEDGE EMERGING TECHNOLOGY

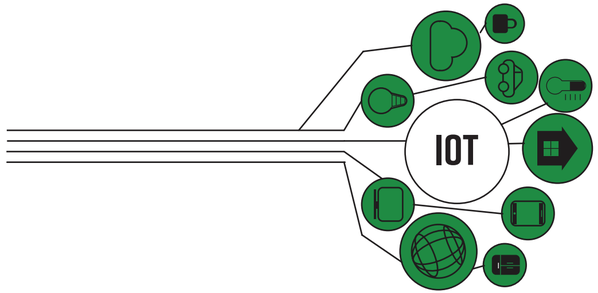
Artificial Intelligence refers to a group of technologies combined to solve problems by performing tasks in the direction of defined objectives without human leadership. The main focused of AI is over automation and machine learning and current examples in this scope can refer to natural language processing in Apple Siri and Amazon Alexa, (Australian Government-Department of Industry, Science, Energy and Resources. 2020).



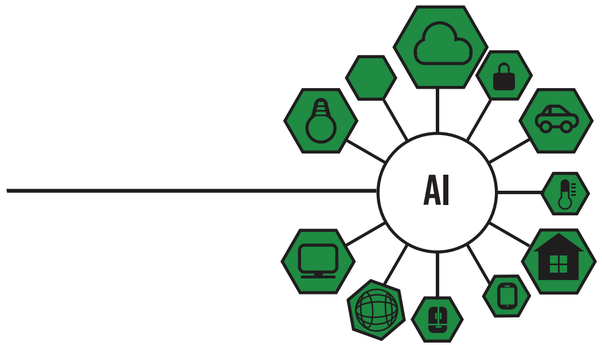
The benefits of this revolution in education industry using AR can refer to increased content understanding, learning spatial structure and function, learning language associations, long-term memory retention, improved physical task performance, improved collaboration, increased student motivation. (The Franklin Institute. 2020).

Internet of Things is combined information collected by increasingly use of sensors. This information can be sound, touch, movement, temperature and chemical composition collected automatically about individuals, environment and objects and transmitted to the internet. (Australian Government-Department of Industry, Science, Energy and Resources. 2020).

To use the Atmoscube the user must ***connect*** it to its home and vehicles IoT (Internet of things), the data received from the ***users amenities*** will be the ***core of the users experience*** within atmoscube, the electricity, water and Co2 used by the user within their ***real daily lives*** will have a ***direct effect*** to their experience within the product. An example of this is smog within the user's city from high Co2 emissions or Electricity use in real life.



To accompany these mechanics is the systems AI, with the gathered ***data from the users IoT*** the AI will learn the ***user's habits***, ***lifestyle*** and how they could lower their ***impact on the environment***. These ***improvements*** will be set to the user ***as challenges,*** these challenges were designed ***with gamification in mind,*** engaging the user and investing them in the experience as a whole.



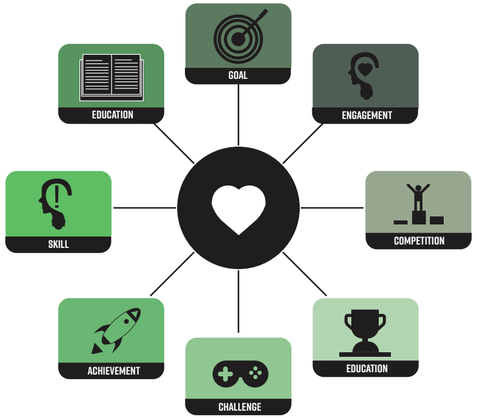
ENGAGING &
INFORMING

GAMIFICATION

SELF-DETERMINATION

Processes such as gamification & self-determination theory are used to enrich the experience of the Atmoscube. Gamification of the experience was implemented with past educational experience success in mind, it promotes ***continued interaction with the experience*** and can come from several sources such as ***leveling up, leader boards, progress bars and virtual currencies.*** Through gamification often overlooked actions such as ***lowering electricity*** or ***water usage*** become alluring and engaging.

Along with gamification, the product has been designed with Self-determination Theory in mind. Self-Determination Theory or SDT is centered on the belief that ***human nature*** shows persistent positive features, with people ***repeatedly*** showing ***effort, agency and commitment*** in their lives that the theory calls ***"inherent growth tendencies"***. People also have innate psychological needs that are the basis for self-motivation and personality integration.



GAMIFICATION
SELF-DETERMINATION

ENGAGEMENT

To accompany gamification ideas of self-determination theory were held at the heart of the design process **ensuring the innate needs of competency**, **autonomy & Relatedness** were fulfilled throughout the experience. The atmoscube is designed with **real life considerations** in mind, through positive habit building and showing the user the **consequence** of their actions we aim to educate and provide a sense of empowerment that **lives beyond** the atmoscube experience, following the user into their real lives and informing them all of **their action have consequences** in relation to the loss of biodiversity and animal extinction.

Images Reference:

UN Environment Program. (2020). Bear in Forester. Retrieved from https://assets.unenvironment.org/s3fs-public/styles/article_billboard_image/public/2017-11/Shutterstock-TomasHulik.jpg?itok=opSunDs4

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