The VR Future of Conservation Education

Visions of International MA Students in Regional and Environmental Economics

John von Neumann University
Hungary

Play & Learn

As part of the *Environmental Protection and Nature Conservation* course, students were tasked with designing innovative educational VR (Virtual Reality) applications tailored for various target groups. This collection presents a series of proposals that demonstrate how immersive technology can be integrated into environmental education to foster conservation awareness.

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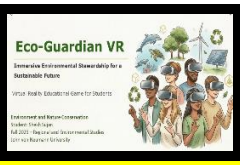

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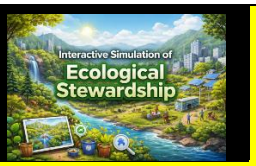

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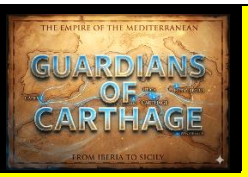

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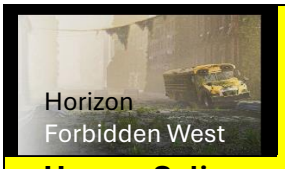

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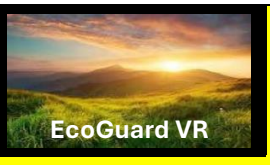


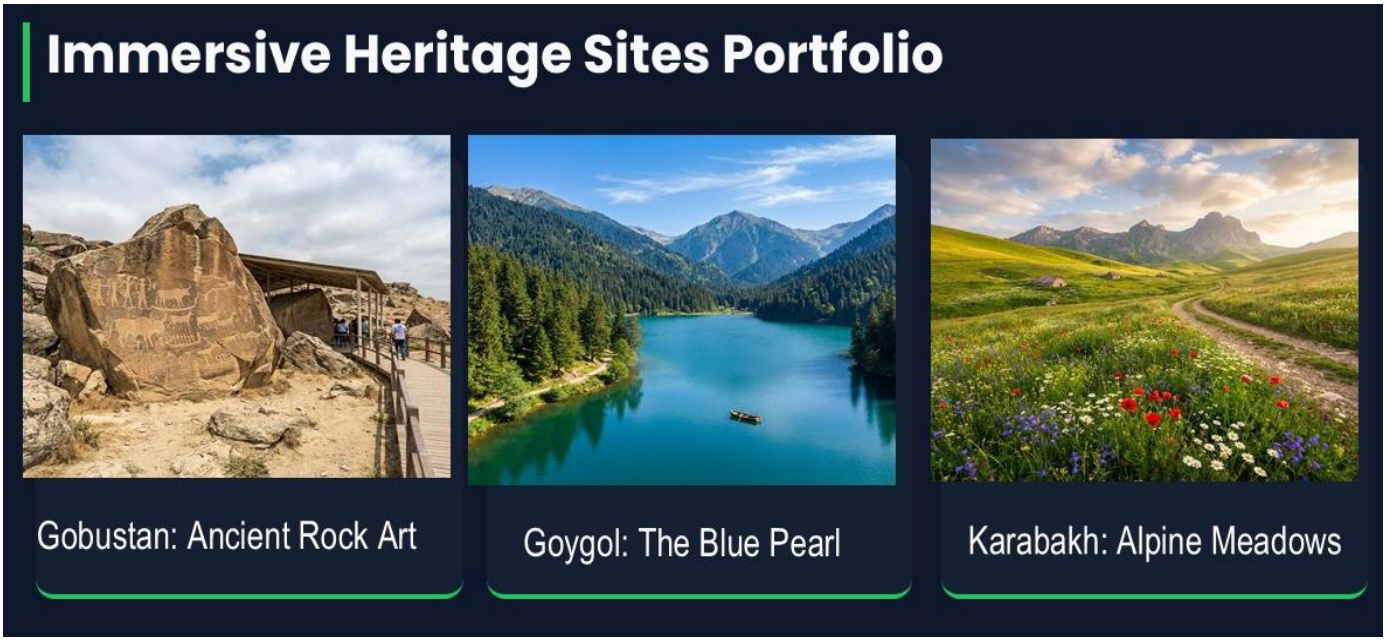
Kywe Kywe Chan

Bakhshalieyev Ayhan
Azerbaijan
Land of Fire
The Caspian Eco-Odyssey+

I'm excited to take you on a unique journey. We call Azerbaijan the 'Land of Fire,' but beyond the flames and modern skyline, there is a natural world that many have never seen. I present to you: **Land of Fire – The Caspian Eco-Odyssey.** This isn't just a game; it's an immersive VR experience designed to protect and explore our country's incredible natural heritage.

Our vision is simple: to **bridge the gap**. Azerbaijan has 9 out of 11 world climate zones, but many are inaccessible to local students and international tourists. Through VR, we can connect them to this beauty. But we want more than just 'looking.' We want a **real-world impact**. Virtual actions in our game lead to real funding and awareness for reforestation and wildlife protection right here in Azerbaijan.

- **The Peaks:** You will explore the Shahdag and Murovdag glaciers, which are the vital water sources for our entire region.
- **Ancient Forests:** You'll step into Hirkan National Park, the prehistoric home of the legendary Ironwood trees that lived through the Ice Age.
- **The Volcanoes:** And of course, you'll walk on the moon-like landscape of the Dashgil Mud Volcanoes on the Caspian shores."



As you progress, your 'Heritage Portfolio' grows. You'll visit the ancient rock art of **Gobustan**, dive into the crystal-clear waters of **Goygol –** known as the Blue Pearl – and breathe the fresh air of the **Karabakh** alpine meadows.

The Reborn Karabakh

The Thermal Springs of Kalbajar

In the game, players visit the historic **Istisu Thermal Springs**. This location serves as a "Rejuvenation Hub" where players can restore their avatar's energy while learning about the region's unique geology.

Experience the mist of the mountains and the healing power of the earth in high-definition VR.

A very special part of our odyssey is the **Reborn Karabakh**. In the game, players visit the historic **Istisu Thermal Springs** in Kalbajar. This isn't just for sightseeing; it's a 'Rejuvenation Hub.' Your avatar restores its energy here while you learn about the powerful geology and healing earth of the region.

Reward Systems & Eco-Manats

1000

Starting Eco-Manat Balance

The Green Currency

Players earn **Eco-Manat** by correctly identifying species and clearing environmental hazards.

This balance is used to "purchase" Wildlife Guardians or fund virtual conservation projects in Shusha or Hirkan.

To make the conservation interactive, we introduced **Eco-Manat** – our green currency. You start with a balance of 1000. You earn more by correctly identifying species and clearing environmental hazards. You then use this balance to 'purchase' protection for rare animals or fund real-life forest projects.

Facing Regional Environmental Risks

Caspian Oil Spills

Simulate specialized cleanup missions to save the Caspian Seal's habitat. (Penalty: -150 Points)

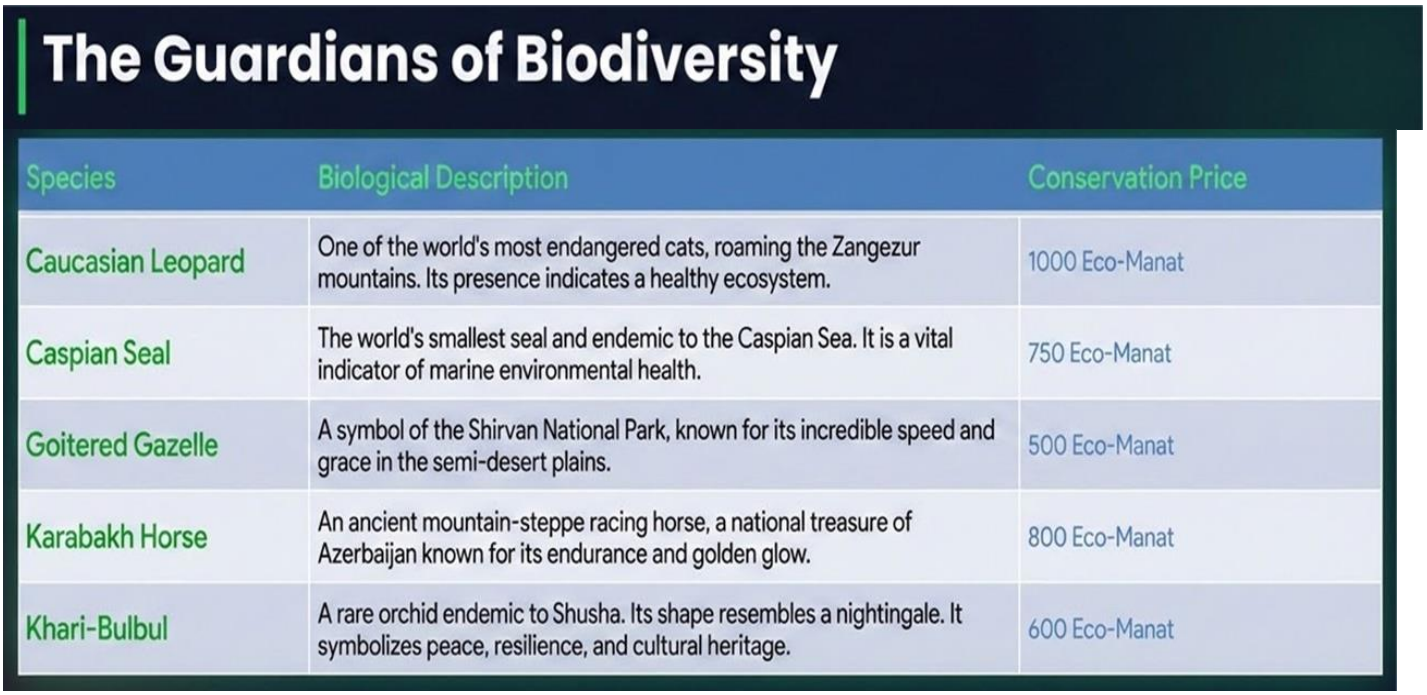
Hirkan Forest Wildfires

Learn fire prevention techniques to protect prehistoric Ironwood trees. (Penalty: -200 Points)

Kura River Pollution

Solve interactive puzzles to filter plastic waste and chemical runoff. (Penalty: -100 Points)

But be careful – the Land of Fire faces real risks. If you encounter a **Caspian Oil Spill**, you must simulate a cleanup mission to save the seals, or you lose points. Landing in a **Hirkan Forest Wildfire** zone or seeing **Kura River Pollution** requires you to solve puzzles to protect the prehistoric trees and filter out plastic waste. These are high-stakes missions with real penalties.



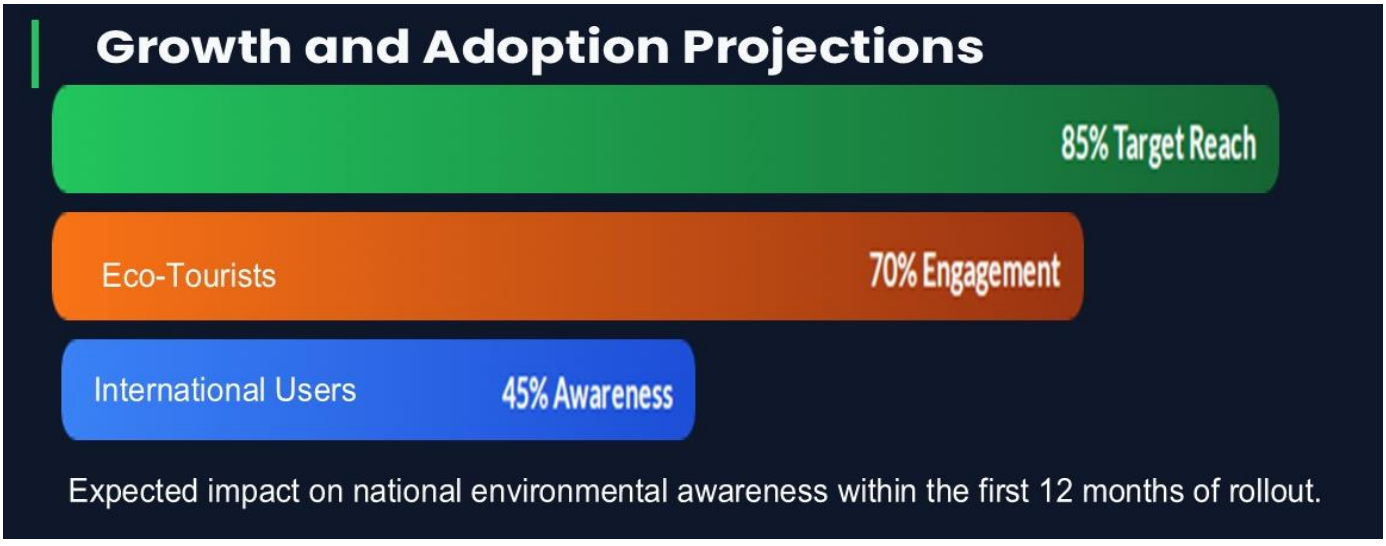
Who are we protecting? Meet our **Guardians of Biodiversity**. Each has a 'Conservation Price' in Eco-Manat:

Species	**Biological Description**	**Conservation Price**
Caucasian Leopard	One of the world's most endangered cats, roaming the Zangezur mountains. Its presence indicates a healthy ecosystem.	**1000 E-Credits**
Caspian Seal	The world's smallest seal and endemic to the Caspian Sea. It is a vital indicator of marine environmental health.	**750 E-Credits**
Goitered Gazelle	A symbol of the Shirvan National Park, known for its incredible speed and grace in the semi-desert plains.	**500 E-Credits**
Karabakh Horse	An ancient mountain-steppe racing horse, a national treasure of Azerbaijan known for its endurance and golden glow.	**800 E-Credits**
Khari-Bulbul	A rare orchid endemic to Shusha. Its shape resembles a nightingale. It symbolizes peace, resilience, and cultural heritage.	**600 E-Credits**

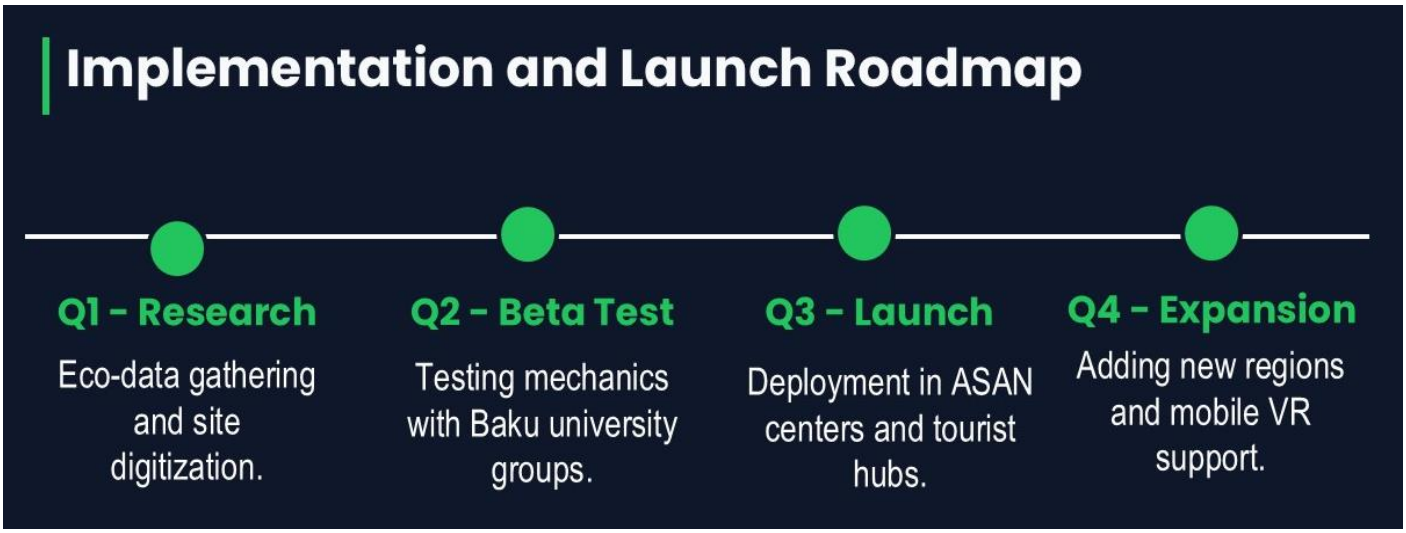
- The **Caucasian Leopard**, roaming our mountains.
- The **Caspian Seal**, found only in our sea.
- The graceful **Goitered Gazelle**.
- The national treasure, the **Karabakh Horse**.
- And the **Khari-Bulbul**, the rare orchid of Shusha that symbolizes our resilience and heritage.

Photos

As our philosophy says: **'Every Eco-Manat spent in this game represents a real-world commitment to our planet's future.'** Let's protect the Land of Fire together. Thank you! Are there any questions?



Our roadmap is ambitious. Within the first 12 months, we expect to reach 85% of local students and engage 70% of eco-tourists visiting our country. We want international users to see Azerbaijan through this green lens.



Our timeline is clear: We start with research and site digitization in Q1. We beta-test with students in Baku in Q2. By Q3, we launch in ASAN centres and tourist hubs and finally expand to mobile VR support by the end of the year.

Conteh Morris Mohamed

Sierra Leone

EcoQuest Salone
a Visual Environmental VR Game
for Sierra Leona

BLOCK 1. ECOQUEST SALONE

It is a **Visual Environmental VR Game for Sierra Leone**
Immersive Learning Through Nature, Conservation & Technology By Morris

BLOCK 2. INTRODUCTION (Top Left Column)
EcoQuest Salone is an immersive VR environmental education game that guides players through Sierra Leone's ecosystems from coastal beaches to montane forests. Inspired by Hungarian ecological board games, it transforms environmental knowledge into interactive VR missions, wildlife encounters, and conservation challenges. The game promotes ecological literacy, national pride, and environmental stewardship.

BLOCK 3. VR MAP (Top Middle Column)
VR Map: Interconnected Ecosystems of Sierra Leone

BLOCK 4. VR ENVIRONMENT PREVIEWS (Top Right Column)
VR Environment Previews
Coastal Zone

BLOCK 5. THREAT ZONES (Middle Left Column)
Environmental Threat Zones

- Deforestation & illegal logging
- Mining pollution
- Poaching & wildlife trafficking
- Mangrove destruction
- Plastic waste on beaches
- Climate-driven flooding

Threat Zone Visual

⚠ RED ALERT ZONE
Trees fallen • Polluted river • Wildlife missing

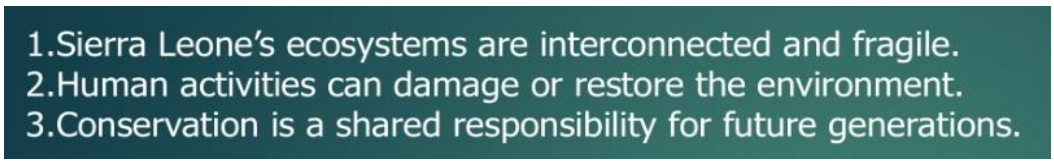
BLOCK 6. WILDLIFE CARDS (Middle Center Column)
Wildlife Cards (VR Animal Models)

Species	Conservation Price
Pygmy Hippopotamus	500 eco-coins
Western Chimpanzee	550 eco-coins
Diana Monkey	300 eco-coins
White-necked Picathartes	350 eco-coins
African Forest Elephant	600 eco-coins
Green Turtle	400 eco-coins
Red Colobus Monkey	250 eco-coins
Giant Pangolin	450 eco-coins
African Grey Parrot	300 eco-coins
Mangrove Oyster	150 eco-coins

WILDLIFE CARD Forest Elephant Status: Endangered Price: 600 coins

BLOCK 7. GAMEPLAY MECHANICS (Middle Right Column)
Gameplay Mechanics

BLOCK 8. EDUCATIONAL MESSAGE (Bottom Left Column)
Educational Message



BLOCK 9. CONCLUSION (Bottom Middle Column)
Conclusion

EcoQuest Salone blends VR technology with environmental education to create an immersive learning experience. By exploring ecosystems, confronting threats, and protecting wildlife, players develop ecological literacy and national pride. The game supports sustainable development and environmental stewardship in Sierra Leone.

Dutta Shovon Raj
Bangladesh
EcoQuest VR

EcoQuest VR: Introduction

- **A Virtual Reality (VR)-based environmental education system**
- **Enhances experiential learning through simulation**
- **Bridges theory and real-world environmental challenges**

EcoQuest VR is designed to transform environmental education by using virtual reality as an immersive learning tool. Instead of only reading about environmental issues in textbooks, learners can explore realistic situations and better understand the challenges through direct virtual experience.

Target Users & Scope

- **Primary users: Students aged 10–25**
- **Applicable from school to higher education**
- **Focus on global and local environmental issues**
- **Key areas: climate change, pollution, sustainability**

The main target users of EcoQuest VR are students between the ages of 10 to 25, making it suitable for both school-level and university-level education. The platform is flexible in scope and focuses on important environmental topics such as climate change, pollution, and sustainability at both local and global levels.

Educational Objectives

- **Develop environmental awareness and responsibility**
- **Promote sustainable behavioral change**
- **Enhance critical thinking and decision-making skills**
- **Support experiential and problem-based learning**

The purpose of EcoQuest VR is not only to provide information, but also to influence students' attitudes, thinking, and behaviour toward the environment. It encourages responsibility, supports better decision-making, and promotes active learning by placing students in practical, problem-solving situations.

Game Design & Mechanics

- **Role-based learning: Player as 'Eco Hero'**
- **Mission-driven tasks addressing real-world issues**
- **Interactive problem-solving scenarios**
- **Reward system: points, levels, achievements**

In EcoQuest VR, the learner takes on the role of an Eco Hero who must complete different missions related to real-world environmental challenges. Through interactive tasks, problem-solving activities, and a reward system based on points, levels, and achievements, the game keeps students engaged while they learn through action.

Feasibility & Sustainability

- **Freemium business model with scalable features**
- **Integration with institutional learning systems**
- **Potential funding: NGOs, governments, EdTech partners**
- **Represents future direction of digital education**

EcoQuest VR is designed to be both practical and scalable, making it a realistic solution for modern educational systems. With a flexible pricing model, opportunities for partnerships, and the ability to integrate into institutions, it offers strong potential as a sustainable and future-focused digital learning platform.

Kallibekova Saltanat

Uzbekistan

Region of Charvak Under Pressure:
VR Environmental Solutions

This project presents a conceptual VR eco-board game designed for students of environmental studies in Uzbekistan. The objective is to create an interactive learning platform where students explore real environmental problems, understand their causes and impacts, and propose practical solutions within a virtual simulation. The system combines education, simulation, and assessment, allowing students to gain hands-on experience in environmental decision-making.

The core geographical focus of the project is the Charvak Reservoir watershed, an important water resource currently facing environmental pressure from overdevelopment, pollution, and ecosystem degradation. Within the VR environment, the area is divided into several problem zones, including the Charvak Dam shores, Pskem River confluence, and mountain slopes. Each zone represents a specific environmental issue such as water pollution, soil erosion, habitat loss, or biodiversity decline.

Instead of traditional game penalties, the system is based on a solution-oriented scoring mechanism. Students enter each zone, analyse the environmental problem, and propose realistic interventions such as improving wastewater management, stabilizing slopes, restoring vegetation, or protecting habitats. The VR simulation then provides real-time feedback, showing how these solutions affect water quality, ecosystems, and biodiversity. Points are awarded based on the effectiveness, feasibility, and sustainability of the proposed solutions.

The Charvak module serves as a detailed pilot case, after which students progress to other environmentally challenged regions of Uzbekistan, such as the Aral Sea area or the Fergana Valley. This ensures that learners gain a comprehensive understanding of regional environmental issues across the country.

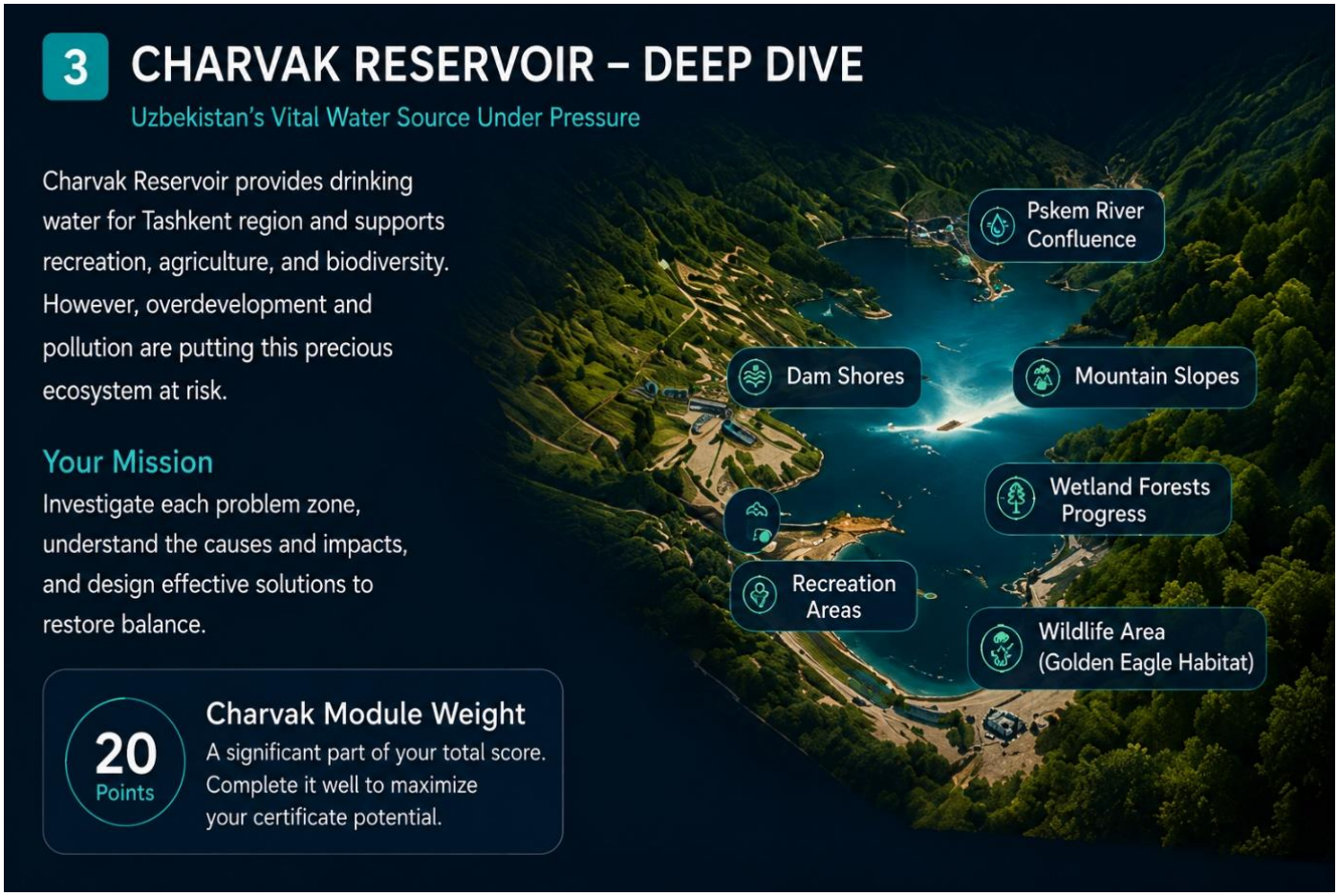
A key feature of the project is its connection to real-world outcomes. The platform can be supported through collaboration between the World Bank and the Government of Uzbekistan, and high-performing students are awarded a certificate authorized by the Ministry of Ecology. This certificate reflects their ability to analyse environmental problems and propose effective solutions, making them more competitive in the job market.

The main educational message of the project is that environmental problems are interconnected and require informed, practical decision-making. By engaging with realistic scenarios in VR, students develop critical thinking, systems understanding, and applied problem-solving skills that can be transferred to real-world environmental management.
Overall, this VR eco-board game transforms environmental education into an active, solution-driven experience, preparing students to address current and future ecological challenges in Uzbekistan.

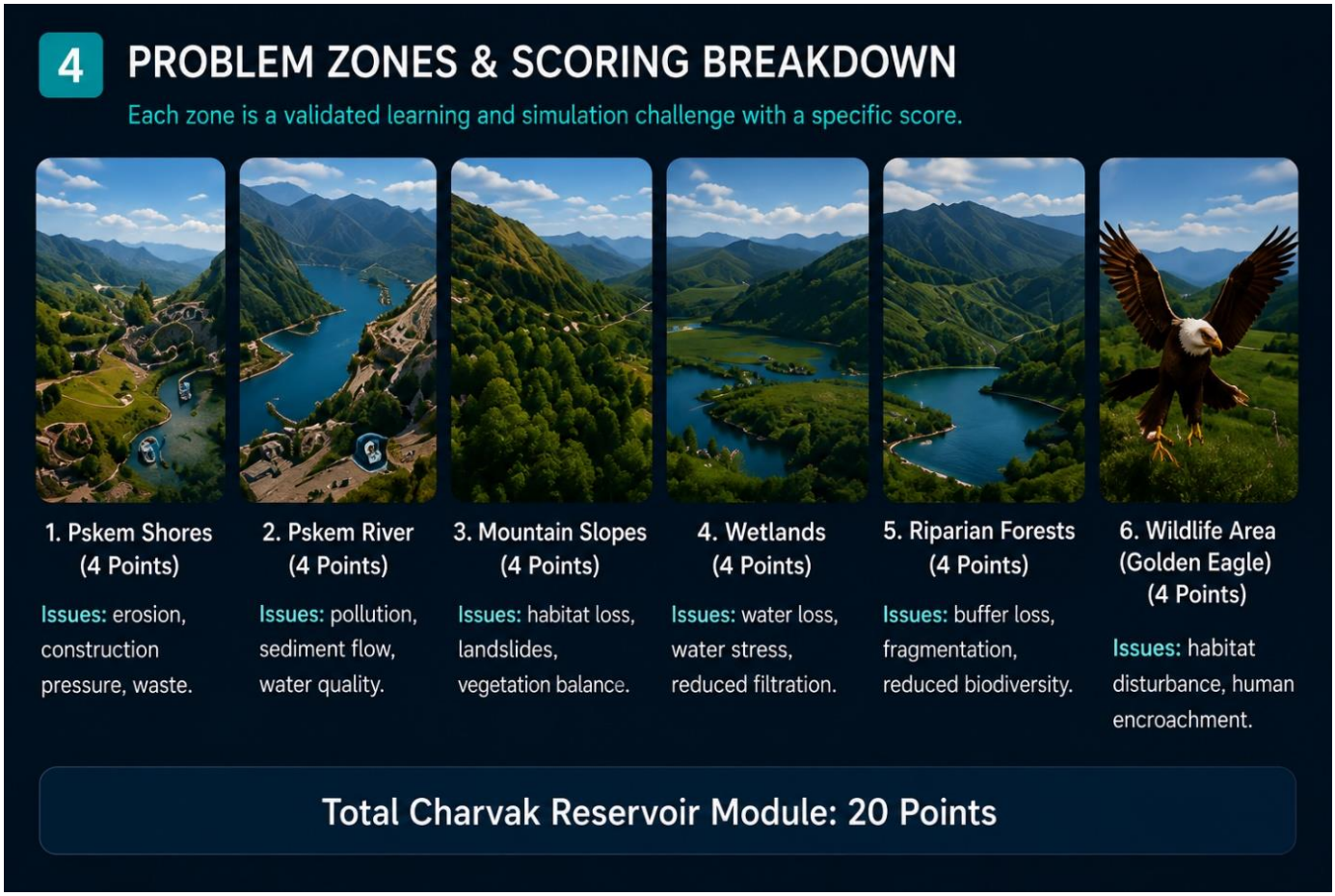
Layout in Virtual Reality

Introduces the project's goal, purpose, and learning approach

Shows the 4 main steps students follow in the VR experience.

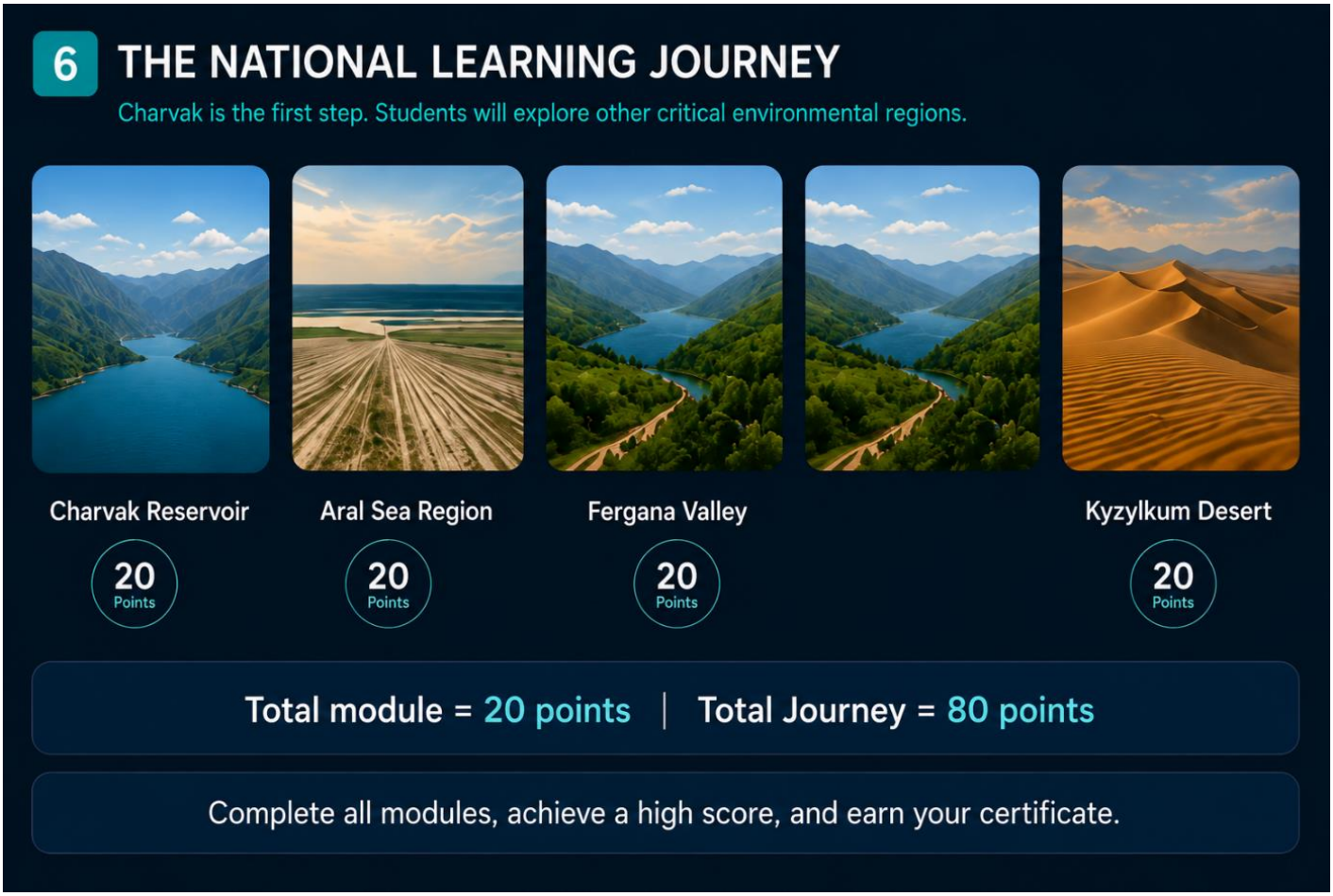


Shows on Charvak's importance and its problematic zones.



Breaks down the 5 key problem areas and their points.

Explains how students solve problems and earn points.



Highlights the reward and its real-world value.

Certification upon successful completion.

Shekh Sujan
Bangladesh

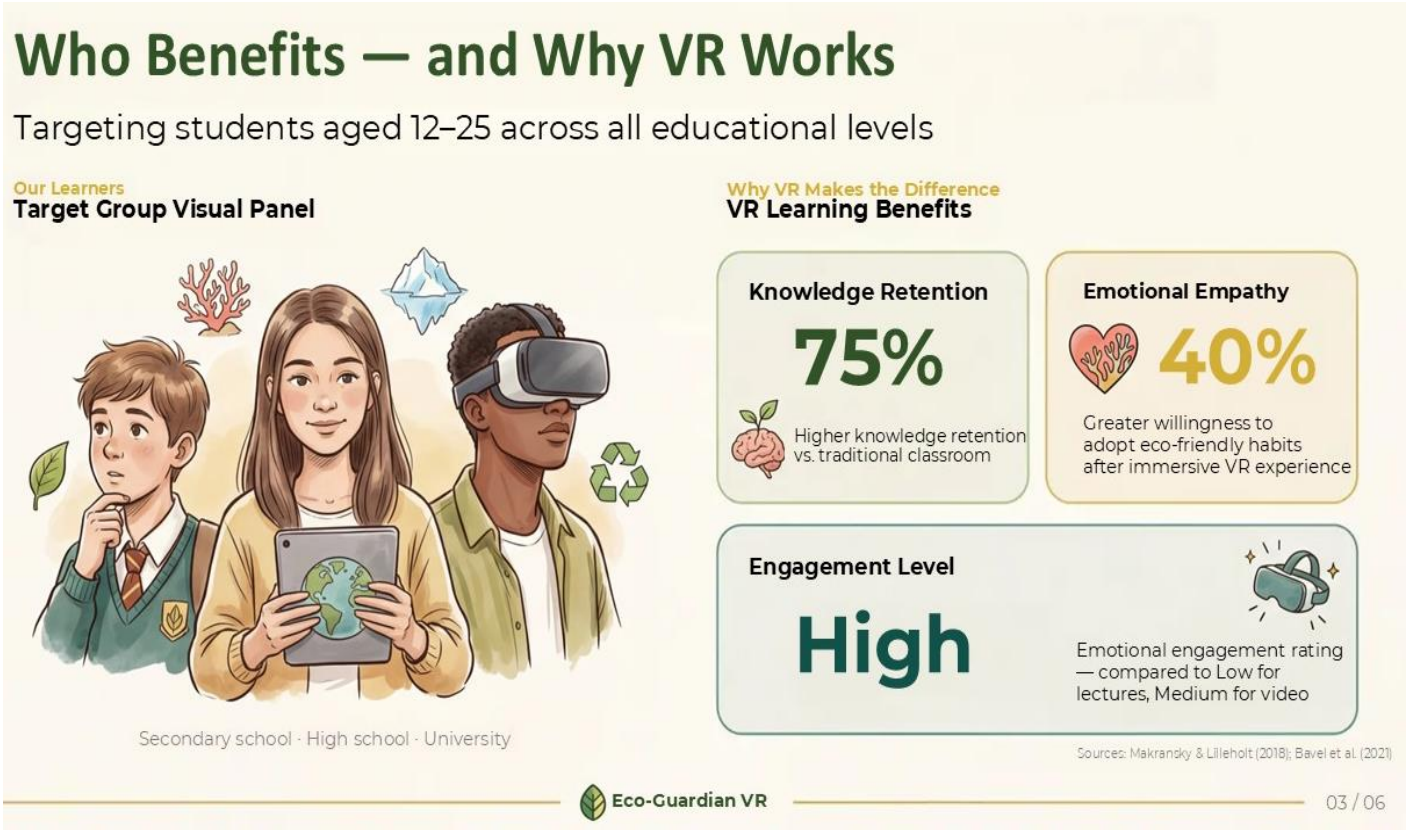
Eco-Guardian VR
Virtual Reality Educational Game for Students

This is a project proposal called **Eco-Guardian VR: Immersive Environmental Stewardship for a Sustainable Future**. This is a virtual reality educational game designed to help students learn about the environment in an interactive and engaging way.

Game Overview and Core Mission
In traditional learning, students mostly learn by reading or listening. But in Eco-Guardian VR, we change this from **passive learning to active participation**. In this game, players become an **Eco-Guardian**. They can explore different environments like cities, rainforests, and oceans. Players can see real-time results of their actions. For example:

- If they plant trees, forests grow
• If they reduce pollution, the air becomes cleaner

This helps students understand that their actions have real impact.

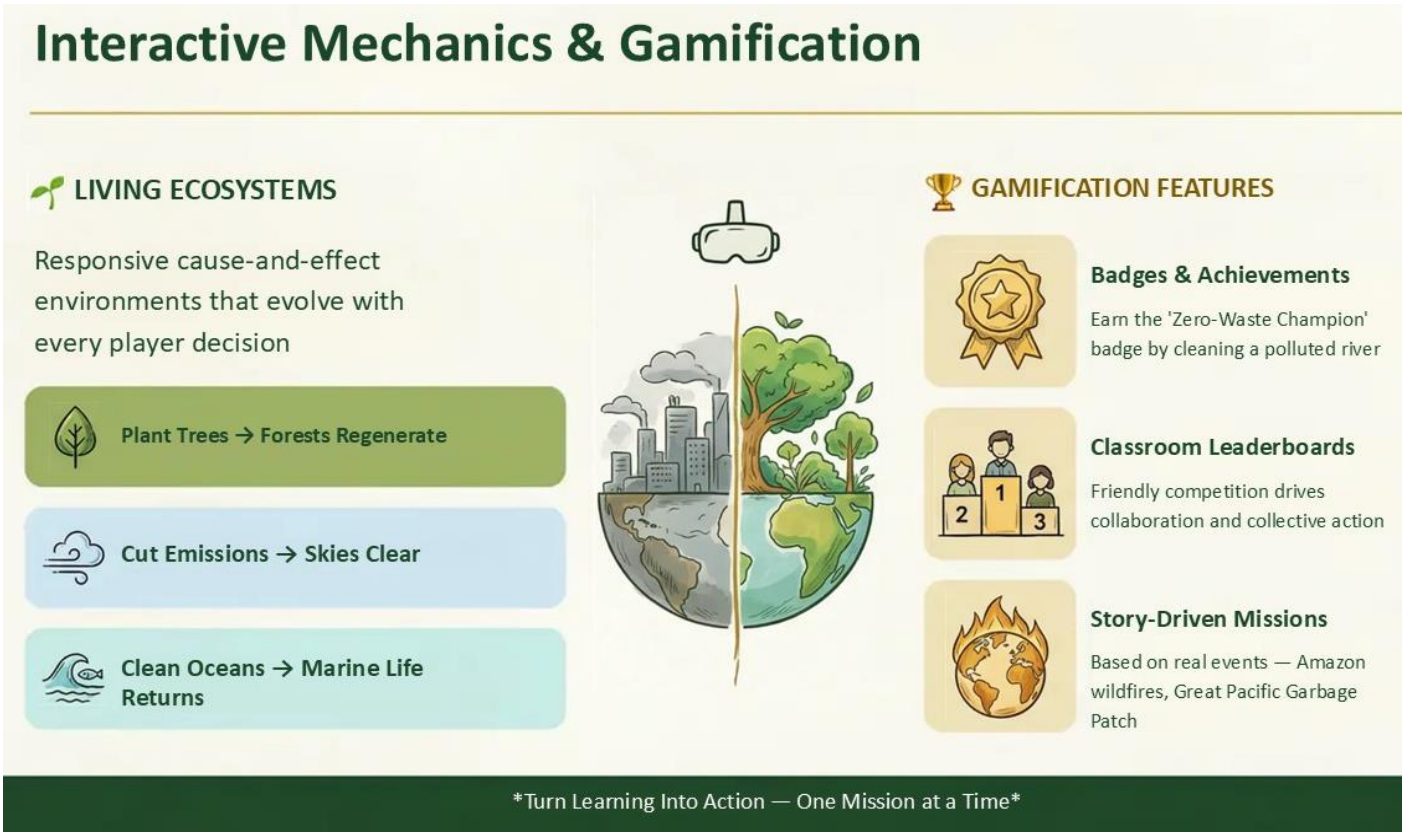


Who Benefits -- and Why VR Works

This game is mainly for students aged **12 to 25**. Virtual reality is very effective because:

• It increases **engagement**
• It improves **memory and learning**
• It creates **emotional connection**

Studies show that students remember more when they experience something, not just read or watch it. Also, students become more willing to follow eco-friendly habits after using VR.



Interactive Mechanics & Gamification
Eco-Guardian VR uses **game features** to make learning fun. The environments are alive and change based on player decisions. Examples:

• Plant trees → forests grow
• Clean oceans → marine life returns
• Reduce emissions → sky becomes clear

There are also:
• Badges and rewards
• Leaderboards
• Story-based missions

For example, players can earn a "Zero-Waste Champion" badge by cleaning a polluted river. This makes learning enjoyable and motivates students.

Educational Objectives & Global Scope
The main goal of this project is education. Students will learn:

• Climate change and how systems work
• Biodiversity and ecosystems
• Recycling and circular economy
• Sustainable lifestyle choices

The learning starts from **local issues** and goes to **global understanding**.
This project also supports global education goals like sustainability and environmental protection.

Sustainability & Market Strategy

Eco-Guardian VR also has a clear business and growth plan. It will be available for:
• Schools and universities through licenses
• Individual users through platforms like VR stores

We will partner with:
• Educational platforms
• Environmental organizations
• Universities

The project will start with a pilot program in schools, then launch globally. The goal is to reach many students and create a more environmentally responsible generation.

Nwakanma Nmesoma Miracle

Nigeria

Breath VR the Port Harcourt Soot Mission – a Virtual Reality-based Feasibility Study on Environmental Educational Game for Secobdary School Students

Executive summary

The project is an immersive virtual reality game, educating youths on environmental degradation. The objective is to reduce environmental ignorance and promote sustainable behaviour.

Executive summary

The project is an immersive virtual reality game, educating youths on environmental degradation. The objective is to reduce environmental ignorance and promote sustainable behaviour.

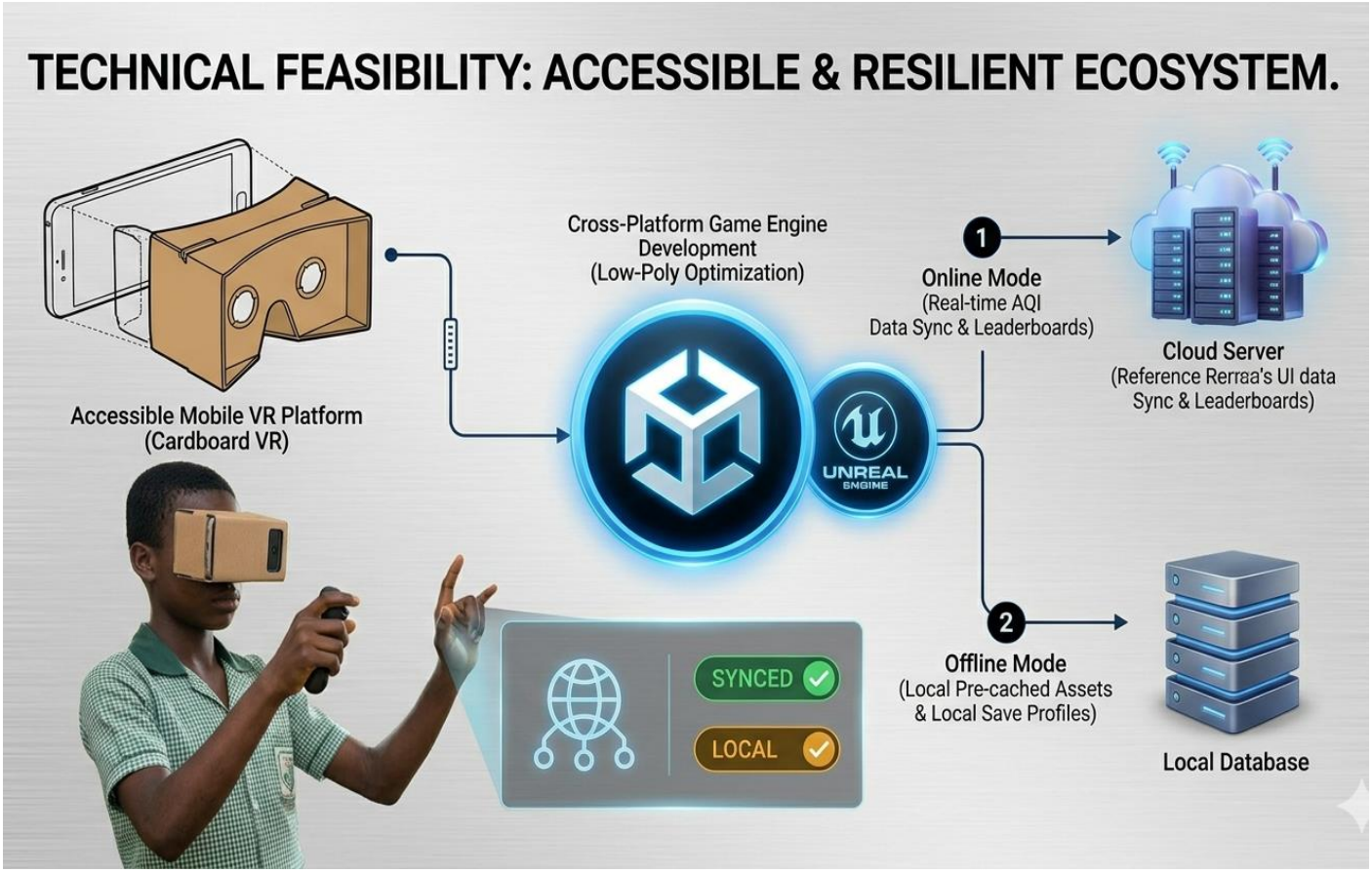
GAMEPLAY MECHANICS

- Mission-based tasks (clean-up, tree planting)
- Reward System and Levels
- Real life Scenario simulations

	**LEVEL 1** **INSTRUCTION:** **Player is tasked to scan the virtual representation of Port Harcourt using gesture controls. The goal is to pinpoint the exact soot sources** .
	**LEVEL 3** **INSTRUCTION:** **Player is required to deploy restoration by planting trees**

TECHNICAL FEASIBILITY

1. Platform (Mobile VR): Low-cost VR Headsets
2. Simple Game Engines: Optimized for moderate phone/desktops. Should not require high end tech.
3.Offline and Online Compatibility: Should be compatible both online and offline



FINANCIAL FEASIBILITY

Three main funding channels:

1. **Non-Governmental Organization grants and climate funds**
2. **Tech Investors and Venture Capital**
3. **Government/corporate partnerships and sponsorships**

Conclusion

- BREATHE VR is a feasible and highly necessary tool for environmental literacy
- It empowers the youth of Port Harcourt with knowledge and transforms environmental fatalism into active solution-oriented civic responsibility
- Next steps: Secure initial seed funding for prototype.

Vah Obediah Kopee

Liberia

The Guardians of the Secret Forest:
A Day in the Life of a Sapo Junior Ranger

Introduction

Welcome to Sapo Explorer, an immersive VR journey into the heart of Liberia's largest primary rainforest. Step into the shoes of a Junior Ranger to discover rare treasures like the elusive Pygmy Hippo and the majestic Forest Elephant. Use your high-tech AR visor to identify endangered species and learn how each creature helps keep the jungle healthy. Navigate through the dense canopy and hidden trails to uncover the secrets of this vibrant ecosystem. Your mission is to protect the "Lungs of Liberia" and ensure this wild paradise thrives for generations to come.

Teaching points to kids

- Protecting Endangered Animals Matters-Some animals in Sapo National Park are endangered, meaning there are very few left. Protecting their homes helps them survive.
- Forests Are Important Habitats-Forests provide food, shelter, and safety for wildlife. When forests disappear, animals lose their homes.
- Conservation Uses Modern Technology-Technology can help us *see* and *understand* nature better, encouraging more people to protect it.
- Humans Should Explore Nature Responsibly- When visiting natural places, we must follow rules, stay on paths, and respect animals.
- Every Species Has a Role- Elephants create paths in forests, monkeys spread seeds, and small mammals help keep the ecosystem balanced.
- Losing even one species affects the entire forest.
- Kids Can Be Conservation Heroes-Learning about nature is the first step to protecting it. Kids can help by raising awareness, reducing waste, and supporting wildlife protection.
- Conservation Is About the Future- If we take care of nature today, future generations will still be able to see these animals in the wild.
- Respecting Wildlife- Animals are not pets or toys—they need space, safety, and a healthy environment.

Sapo National Park – Conservation Status Map

Conservation Status game

In the Conservation Status Game, kids become "Wildlife Detectives" using their VR headsets to scan the Sapo forest for hidden animals. When they spot a creature like the Forest Elephant or the rare Jentink's Duiker, a digital AR tag pops up displaying its "Conservation Status" (such as Endangered or Critically Endangered).

Rifai SamaAhmed Abdalbaqi
Palestine

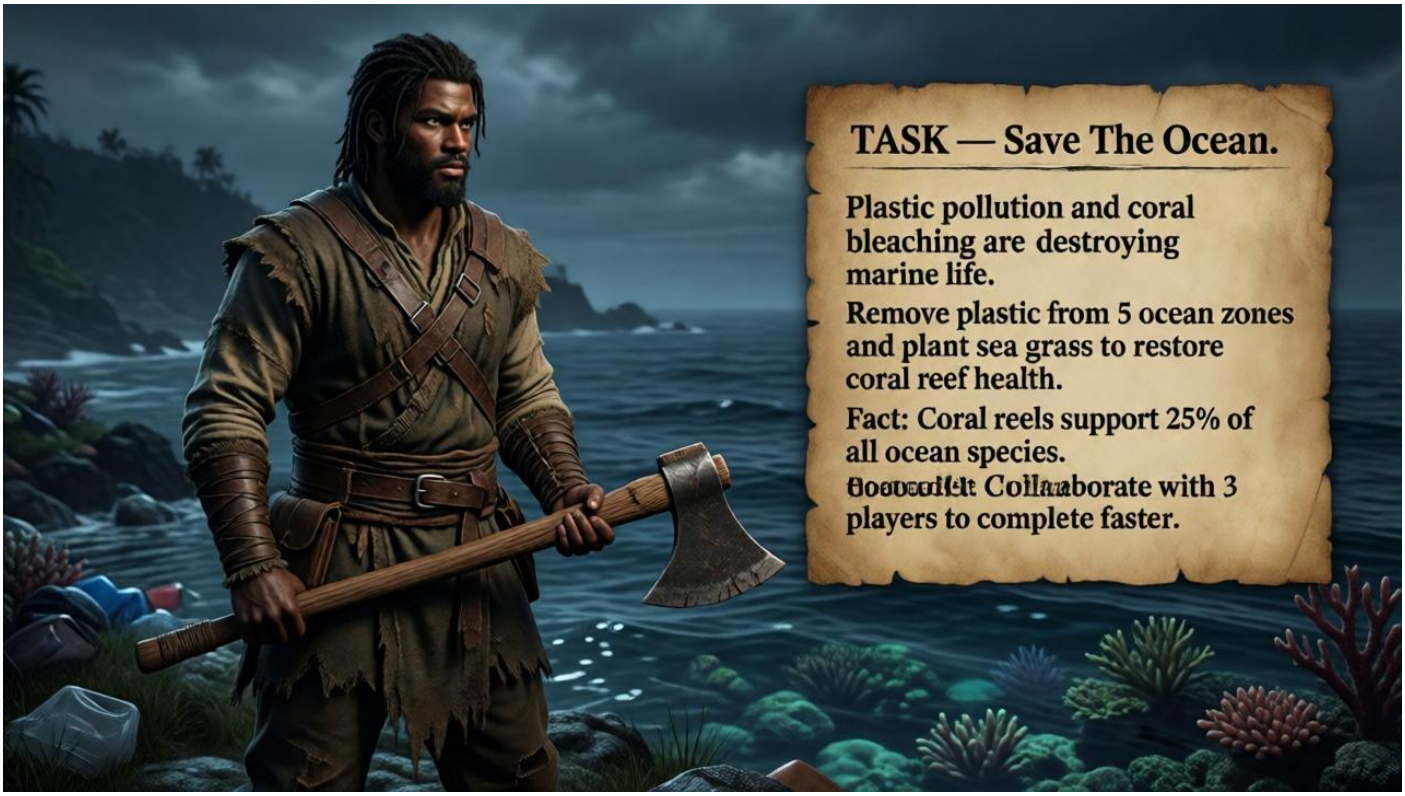
Ash to Eden –
Educational Environmental Game

Opening scene

Game Overview

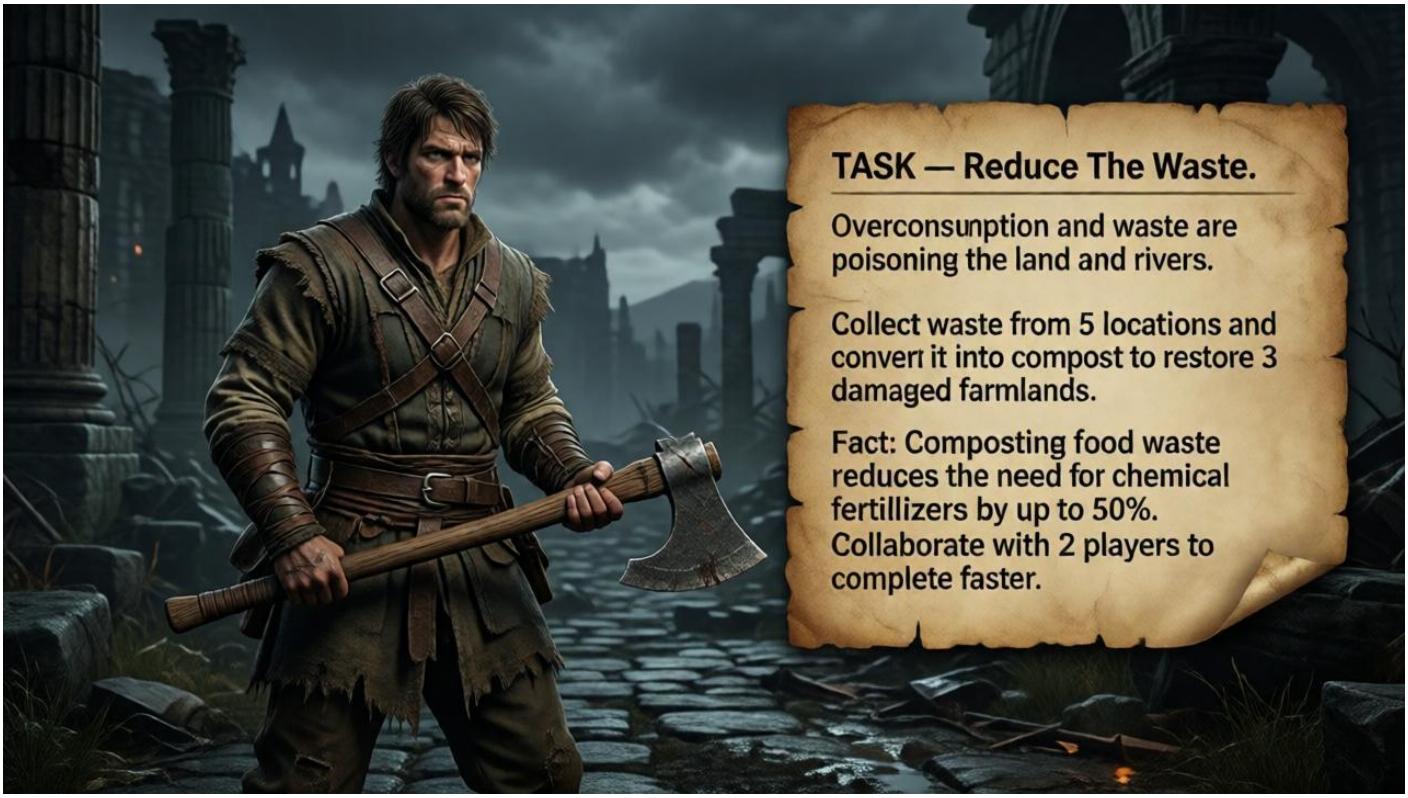
Ash to Eden is a free-to-play educational software game available on PC and PlayStation, designed for players aged 16 and above. With no physical product, the game is built with sustainability at its core no packaging, no waste, just pure digital impact.

The game takes you on a global journey across all five continents, Asia, Africa, Europe, the Americas and Oceania. Challenging you to restore a world that has collapsed into ruin. It begins in paradise. Then a glitch tears reality apart and everything is destroyed. Your mission is simple but powerful: bring humanity back from the edge.



Task 1

Starting in Asia, players tackle environmental and ecological issues specific to each continent. Successfully restoring one continent unlocks the next. But every failure comes at a cost — the Earth gets worse, challenges multiply and humanity edges closer to an eternal doom. The more you collaborate with other players around the world, the stronger your chances of saving the planet.



Task 2

There are no traditional rules. Real facts guide you through every step; growing food, managing land, turning waste into compost and exchanging goods and services instead of relying on money. Players learn by doing, discovering the importance of slowing down, sustainable living and the power of global collaboration. Finish all five continents, restore the Earth and save humanity.

Task 3

Ending scene

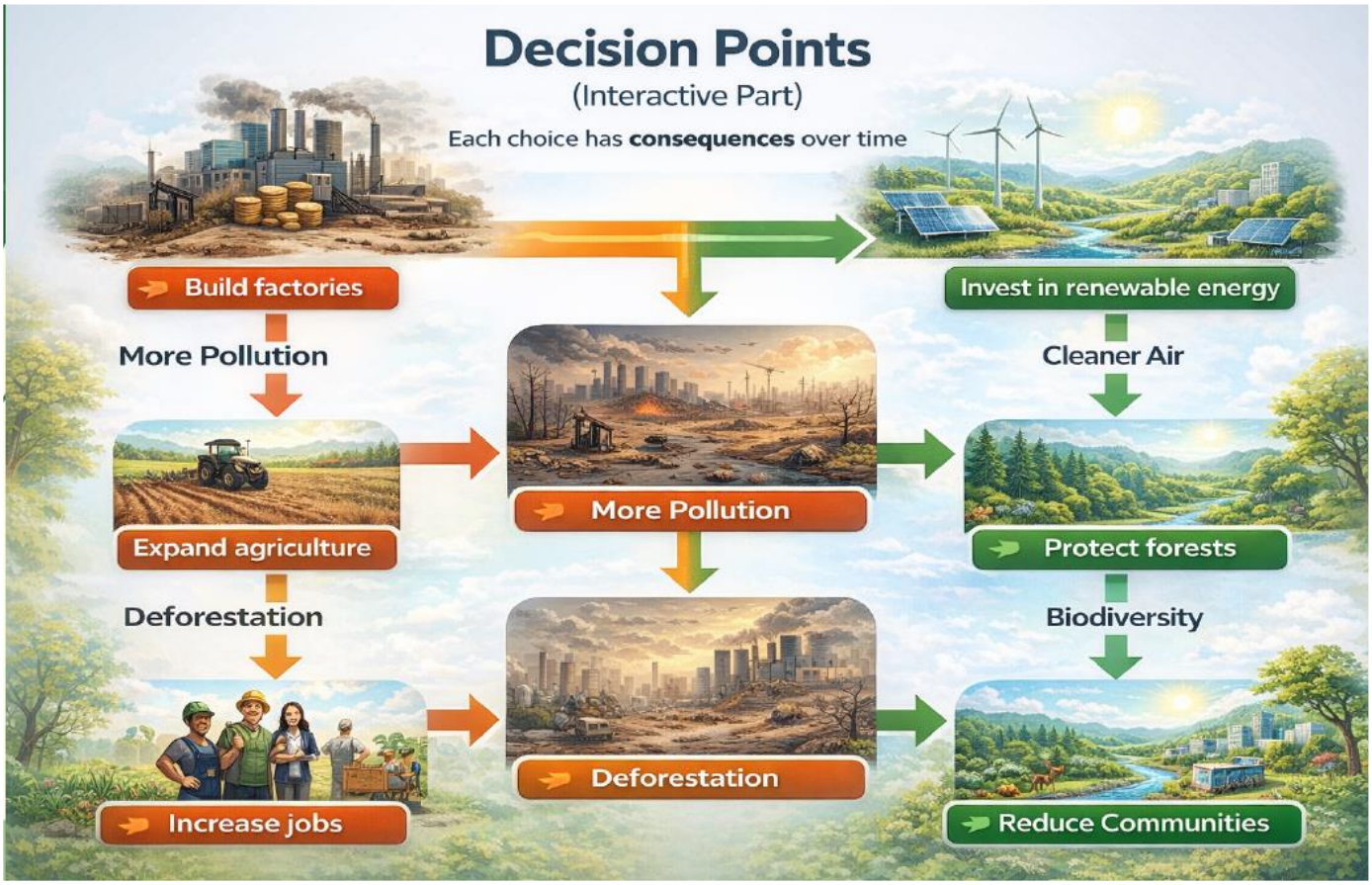
Ismail El Edrissi
Marocco

Ecological Stewardship –
an interactive simulation

This **Interactive Simulation of Ecological Stewardship,"** explores a 50-year "What if?" scenario for a growing city. The simulation uses interactive decision points and a feedback system to show how choices between industrial growth and sustainability impact long-term environmental health.

The Scenario: What if you had 50 years to prevent total ecosystem collapse? You are the decision maker of a growing city. Natural resources are limited. Climate pressure is increasing. Every decision shapes the future.

The world you control forests, water, energy, economy, population. All systems are interconnected



Build factories OR invest in renewable energy? Expand agriculture OR protect forest?
Increase jobs OR reduce pollution? Each choice has consequences over time.

The feedback system of the simulation. After decision the player receives: Environmental Health Index, Economic Growth Rate, Resource Availability, Citizen Well-being indicators

Every choice has consequences over time.
Year 1, Years 15, Yeras 35, Years 50. A visual chronicle of stewardship and collapse prevention.
While industrial moves may boost the economy

Maphalala Sebulelo Tengekile
South Africa

EcoQuest – Save the Planet

Introductory text and explanatory captions to the pictures are missing.

GAME CONCEPT

SINGLE PLAYER GAME

- PLAYER TAKES ON ROLE OF AN ***ECO- AGENT*** TASKED WITH RESTORING ENVIRONMENTAL BALANCE ACROSS DIFFERENT REGIONS
- PLAYER GETS TO CREATE THEIR OWN AVATAR.
- GAME COMBINES: MATHEMATICS, ENVIRONMENTAL AWARENESS AND DECISION MAKING.
- ***PROGRESSION IS DONE IN FIVE DIFFERENT LEVELS***

1. FOREST, 2. ECO TOWN, 3. FACTORY LAB, 4. UNDERGROUND, 5. GREEN CITY

- QUEST: COLLECT ARTIFACTS IN EACH LEVEL TO USE IN BUILDING YOUR GREEN CITY.

GAME RULES:

- POLLUTION DONE IN ONE LEVEL SHOWS UP IN THE NEXT.
- THE MORE POLLUTION YOU CREATE WHEN SOLVING PROBLEMS, THE MORE DIFFICULT THE NEXT LEVEL WILL BE.
- EACH LELVEL CONTAINS TYPES OF CHALLENGES;

FOREST ---- MATH PUZZLES, CARBON CALCULATIONS

FACTORY---- SORTING, RECYCLING, PERCENTAGES

ECO TOWN----- PRODUCTION, WASTE COLLECTION

UNDERGROUND----EXPLORATION, RESOURCE MANAGEMENT

GREEN CITY---- SUSTAINABLE DEVELOPMENT.

- MAPS CAN BE USED IN ONLY ONE LEVEL, AGENT GETS TO CHOOSE WHICH. REST OF THE LEVELS OPERATED BASED ON MEMORY.
- MAP SHOWS CRITICAL AREAS WHERE POLLUTION IS THE WORST, ARTIFACTSTO COLLECT, PLACES TO AVOID ETC.

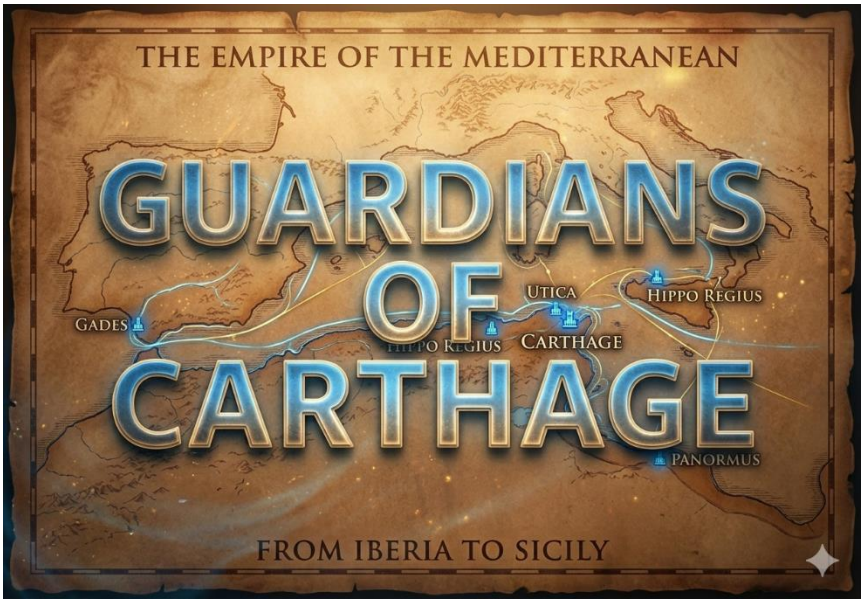
GAME RELEVANCE

- Combines education with engagement .
- Encourages critical thinking.
- Gives student real life applications of environmental issues and action.
- Encourages environmental responsibility
- Fun and impactful way of learning about nature conservation.

Yagouta Sarra

Tunesia

Guardians of Carthage



Step into a VR journey across the heart of Ancient Carthage, where history meets nature and every choice shapes the environment around you. Travel between ancient cities, coastal landscapes, wetlands, and mountains as you explore a world where ecosystems are alive and interconnected.

In **Step 1: Choose Your Carthage**, players begin their immersive VR journey at the historic ruins of Carthage. Every player starts with an initial balance of **100 eco-points** and must select a strategic starting location on the map, such as the coast, wetlands, or mountains. This first phase sets the foundation for the game's mission: balancing historical heritage with active environmental conservation.

This demonstrates the **Ecosystem Connection**, showing how land and sea are linked within the game. It highlights the direct relationship between terrestrial actions, like stabilizing soil with **Aleppo Pines**, and the resulting health of marine habitats like **Posidonia seagrass meadows** and **Loggerhead Turtle** nesting grounds. By maintaining this balance, players ensure that species like the **Greater Flamingo** and **Barbary Partridge** thrive, ultimately achieving a high **Sustainability Score**.

Restoring Pollution: Using specialized VR cleanup tools, you can actively remove threats like oil slicks and coastal waste. These actions are rewarding, earning you **+30 to +50 eco-points** per task.

Losing Points: You lose points through **neglect** or **threats**. If you ignore critical habitat or fail to stop a threat (like erosion or industrial runoff), your score drops by **-20 to -60 points**.

Species Risk: Continuous neglect leads to species becoming "Threatened," which significantly lowers your final sustainability rank and total balance

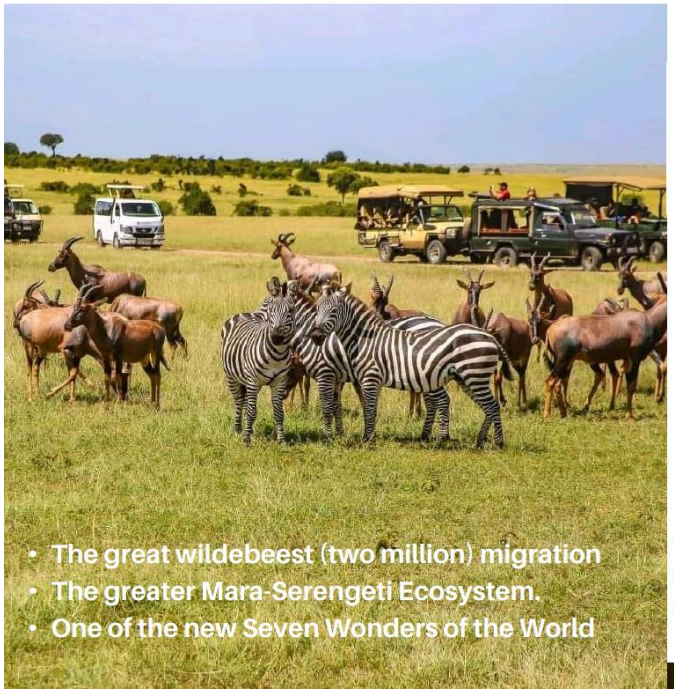
Mission Accomplished! You've successfully restored the balance between history and nature across the entire Carthaginian map. By cleaning every city, protecting every key species, and stabilizing both land and sea, you've reached the maximum **Eco-Champion** rank. The Mediterranean is now a thriving, sustainable sanctuary.

Masai Sylvia Tata

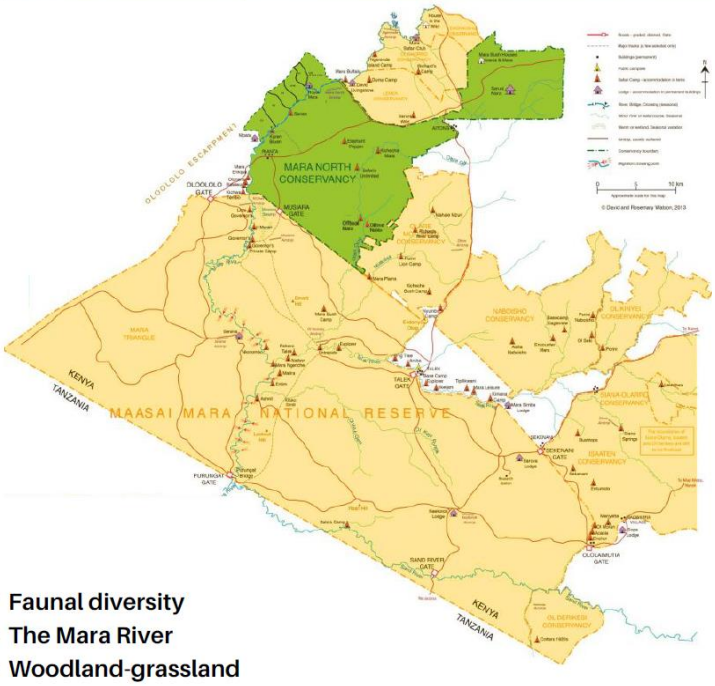
Kenya

Big5 Masaai Mara

Introduction



- The great wildebeest (two million) migration
- The greater Mara-Serengeti Ecosystem.
- One of the new Seven Wonders of the World



- Faunal diversity
- The Mara River
- Woodland-grassland habitat

TARGET SPECIES

- large carnivores (including lion, Spotted hyena, cheetah, Wild dog, and leopard) and pangolin.
- Black Rhinos
- Roan antelope
- Greater kudu

Strategy

- Protecting the Ecosystem
- Involving local communities in the restoration process
- Maintain sustainable tourism

Deteriorating tourism product and visitor experience, Developments, Fires

Intensive pastoral practices and Poaching

Steep declines in populations of key wildlife species, Disease,

illustration

Level 1

Concept

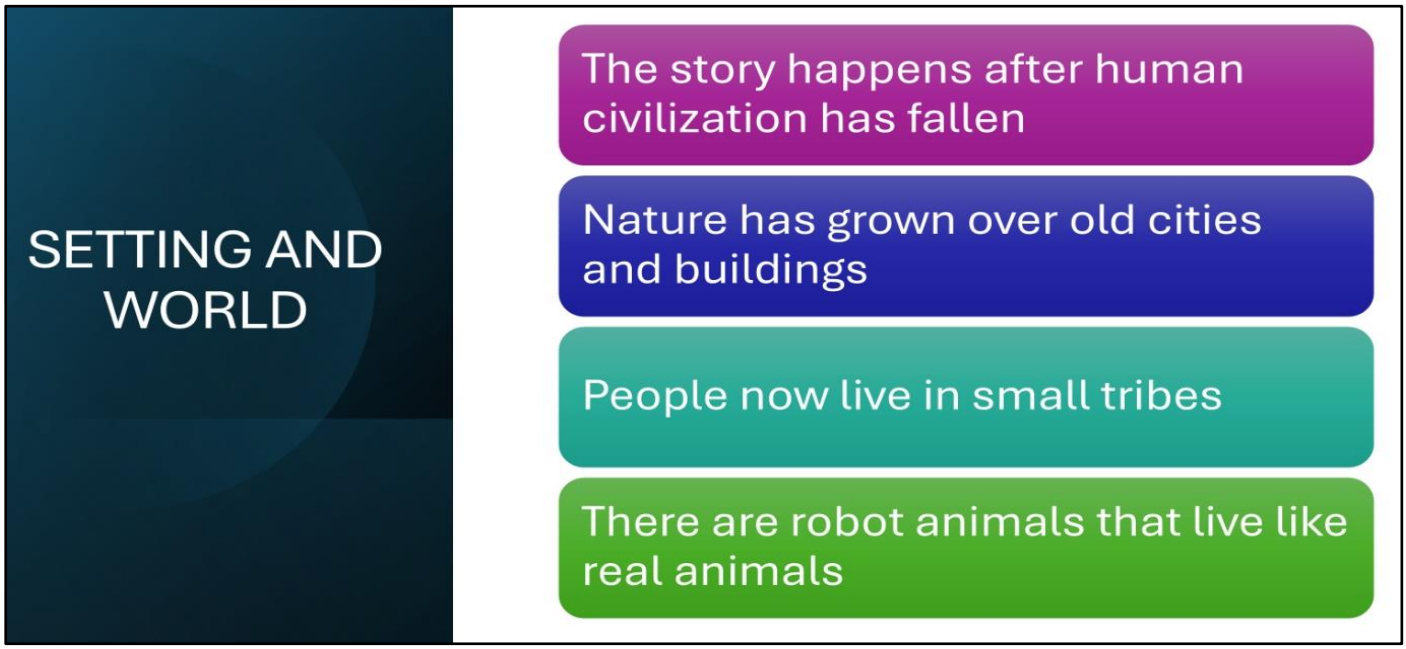
- It has several levels-@ with a specific conservation type, Route, Role, species ...
- Each Part has description of the various species, updated challenges & to pay penalty ...
- Awards: Badges, tour ...
- Technology-based approaches to monitoring and evaluation
  - Players assist to monitor (gadgets)
  - Based on the means chosen, a player can interact with community ...


www.sunworld-safari.com

Usman Salim Adamu
Nigeria

Horizon Forbidden West and the Environment

This is a VR game that is set in a post-apocalyptic future where advanced artificial intelligence, robotics, and environmental collapse have transformed Earth. Players control the protagonist, Aloy, a hunter and explorer who travels across dangerous landscapes to uncover the causes of ecological destruction and restore balance to the planet. The game is widely recognized for its advanced environmental graphics, its immersive open-world exploration, its strong ecological storytelling and its realistic environmental simulations



Environmental problems in the game refer to the central ecological crisis in Horizon Forbidden West which is the spread of a biological corruption called the Blight.

The Blight destroys agricultural land, plant ecosystems, water quality and human food systems. The game also presents climate instability, violent storms, flooding. droughts and ecosystem collapse.

- The first three pictures are pictures of robot animals in the game.
- The last picture is a picture of old buildings taken over by nature.

ENVIRONMENTAL PROBLEMS

- The environment is in danger
- A disease called the *Blight* is killing plants
- Plants are important for food and life
- Weather is becoming extreme and dangerous

- This is a picture of the extreme weather conditions caused by climate change in the environment.

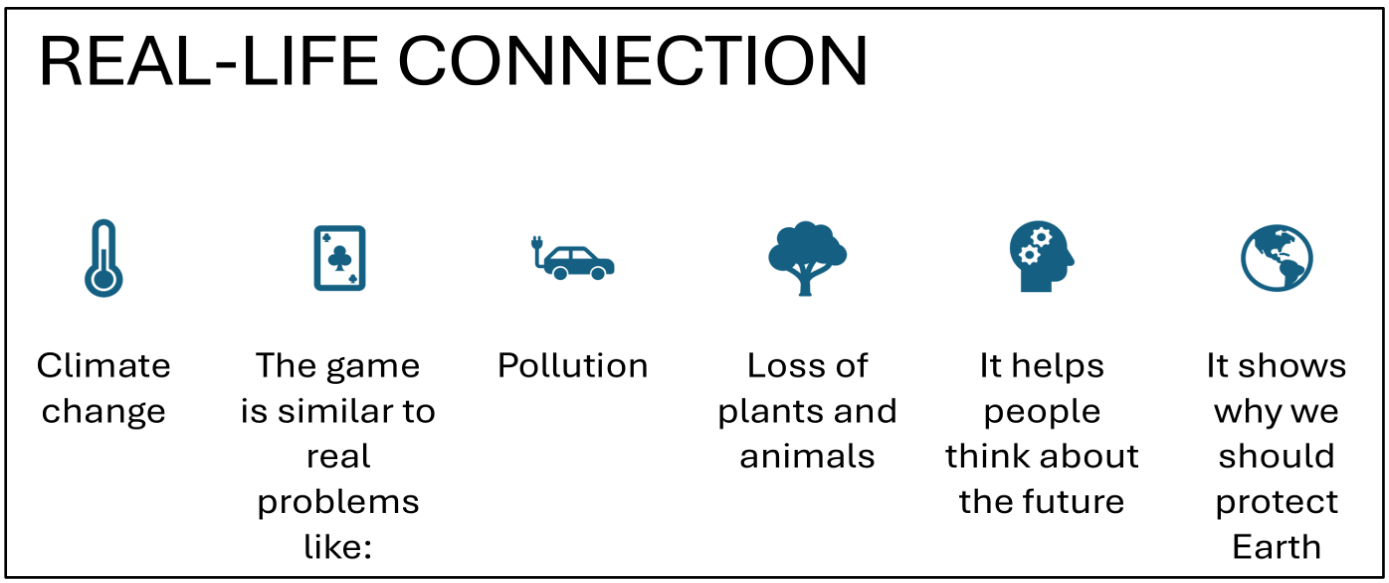
VR gaming and environmental immersion

Although Horizon Forbidden West is not fully VR-based, its immersive environmental design reflects many principles used in virtual reality experiences. The game creates environmental immersion through realistic landscapes, dynamic weather systems, spatial audio, interactive ecosystems and first-person emotional engagement

The importance of immersion lies in the immersive gaming environments that can increase emotional connection to environmental issues. improve environmental awareness, encourage empathy toward ecological destruction and enhance educational engagement.

Theoretical framework

This presentation can be analysed through Environmental Communication Theory explaining how media communicates environmental messages to audiences. Also, through Ecocriticism, studying the relationship between humans, nature, and environmental representation in media. And finally, through Posthumanism examining how technology, artificial intelligence, and humanity interact in future societies.



Conclusion

Horizon Forbidden West demonstrates how digital gaming can function as a powerful platform for environmental storytelling and sustainability awareness. The game combines immersive world-building, ecological collapse narratives, and technological critique to encourage reflection on humanity's relationship with nature. Its environmental themes mirror real global concerns regarding climate change, biodiversity loss, and unsustainable technological development. Ultimately, the game illustrates the growing role of interactive media in shaping environmental consciousness and sustainability discussions.

Md Rubai Mia
Bangladesh

Future Planet

An Immersive VR Experience for Environmental Education

Future Planet

An Immersive VR Experience for Environmental Education

Regional and Environmental Economics

John von Neumann University, Hungary
Name: Md.Rubai Mia
Bangladesh

Where every choice shapes the world — for players of every age.

The Challenge: Engaging Minds for a Sustainable Future

The Attention Gap

Traditional environmental education often struggles to capture attention and inspire meaningful action in learners of all ages.

The Urgency

Climate change and ecological crises demand innovative learning tools that make complex concepts accessible and compelling.

The Question

How do we transform passive awareness into active understanding — for children, adults, and everyone in between?

Our Solution: Future Planet

A virtual reality game designed to educate, empower, and inspire environmental stewardship across all ages.

For Everyone

Accessible to children and adults alike, fostering shared understanding and family conversations about sustainability.

Immersive & Interactive

Players experience the direct consequences of their choices on the planet through engaging, dynamic gameplay.

Empowering Action

Every decision — from planting trees to managing resources — visibly shapes the virtual world and teaches real-world impact.

How It Works: Play, Learn, Transform

Step Into the Future

Players enter dynamic virtual environments where every decision ripples forward in time. Choices made in the present visibly alter the landscape, wildlife, and atmosphere of the world around them.

→ **Plant trees** → combat deforestation and restore habitats

→ **Build wisely** → reduce pollution and protect waterways

→ **Choose energy** → shift from fossil fuels to clean power

Immersive Learning Mechanics

Environmental Simulation

Experience real-time consequences — from crystal-clear rivers to polluted landscapes — as your actions reshape the world. Inspired by the *Environmental Simulation Project* and *EnvironMetaverse*.

Collaborative Play

Work alongside others to solve environmental challenges, building teamwork and shared responsibility. Inspired by *Treeam* and *Planet Purifiers*.

Interactive Challenges

Engage in mini-games focused on recycling, resource management, and clean energy solutions. Inspired by *EnvironMetaverse* and *Future Planet*.

Real-World Impact, Virtual Experience

Games Leading the Way

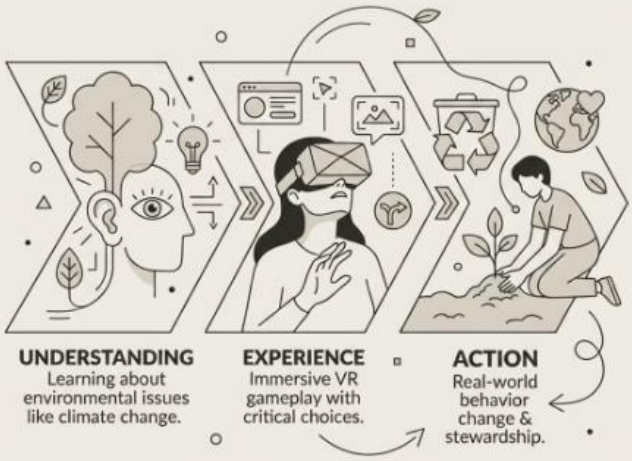
Planet Purifiers

Players collect pollutants and care for wildlife, restoring natural landscapes and demonstrating ecological recovery.

Climate Connected

An immersive VR and PC experience that places players directly inside climate change scenarios, bridging understanding and action.

These titles prove that VR can transform passive knowledge into lived experience — and lived experience into real-world change.



See the Future You Create

Future Planet is more than a game — it is a window into the world we can build together, one choice at a time.

🎯 Educate

Make environmental science accessible to all ages

Connect

Foster collaboration and shared responsibility

Inspire

Turn awareness into meaningful, lasting action

Future Planet

An Immersive VR Experience for Environmental Education

Where every choice shapes the world — for players of every age.

Chan Kywe Kywe
Myanmar

EcoGuard VR

A Virtual Reality Environmental Educational Game for Students

This document presents the concept design of EcoGuard VR, an educational virtual reality environmental game created to promote environmental awareness and sustainable behaviour among students through immersive learning experiences.

Introduction

EcoGuard VR is an immersive educational virtual reality game designed to teach students about environmental protection through interactive learning experiences.

Players explore forests, oceans, and cities while solving real environmental problems such as pollution, deforestation, and climate change.

The game combines education, entertainment, and technology to encourage sustainable behavior among young people.

Target Users

Students aged 12–25
Schools and universities
Environmental learners

Educational Objectives

Increase environmental awareness
Promote sustainable living
Teach recycling and conservation
Improve problem-solving skills
Encourage climate action

EcoGuard VR is an educational virtual reality game designed to teach students about environmental protection through immersive and interactive learning experiences. The game helps players understand environmental challenges such as pollution, deforestation, and climate change while encouraging sustainable behaviour.

Gameplay Mechanics

Players become “Eco Rangers” and complete environmental missions.

Main Activities

- Cleaning polluted rivers
- Planting trees
- Protecting endangered animals
- Recycling waste
- Reducing air pollution

Reward System

- Eco Coins
- Green Badges
- Achievement Levels
- Environmental Hero Certificate

In EcoGuard VR, players become Eco Rangers responsible for protecting the environment through different missions and activities. Players clean polluted rivers, plant trees, recycle waste, and rescue endangered animals. The game uses rewards, badges, and achievement levels to motivate students and make learning enjoyable.

The VR environment allows students to experience real-world environmental problems in a safe and interactive virtual setting.

VR ENVIRONMENTS

Forest Zone

Players restore forests and protect wildlife.

Ocean Zone

Players remove plastic waste and save marine life.

City Zone

Players improve recycling systems and reduce pollution.

Wildlife Protection Area

Players rescue endangered animals and restore habitats.

The project aims to increase environmental awareness among students and promote sustainable living practices. Through interactive gameplay, students develop problem-solving skills, environmental responsibility, and knowledge about climate change, biodiversity, and conservation.

CONCLUSION

EcoGuard VR transforms environmental education into an interactive and engaging learning experience.

By combining virtual reality technology with environmental challenges, students develop awareness, responsibility, and practical knowledge for protecting the environment.

The project promotes sustainability and inspires future generations to become environmental protectors.

EcoGuard VR combines education and technology to create an engaging learning platform for environmental education. The game encourages students to become active protectors of the environment and supports the development of a more sustainable future.

References

- Virtual Reality in Environmental Education
- Environmental Protection and Sustainability Concepts
- Climate Change Awareness Materials
- Google Images (for educational visuals)
- Course materials from John von Neumann University