

組別 **Team ID** : 004

專題屬性 **Category** : 多媒體應用 (**Multimedia Applications**)

專題名稱 **Project** : 復甦古象

一、指導老師 **Advisor** : 呂慈純 老師 (**Tzu-Chuen Lu**)

二、組員 **Team members** : 陳鈺綺 (10914061)、黃佳瑄 (10914073)、藍文佑 (10914082)、顏睿麟 (10914085)、吳宏恩 (10914118)、許郁欣 (10914127)

三、系統環境 **System environment** :

(一) 軟體 **Software** :

作業系統 **Operating System** : Window 10

語言 **Programing language** : 藍圖

開發工具 **Toolkits** : Unreal Engine 5、ZBrush、Substance Painter、Sketch up、Photoshop、Illustrator

(二) 硬體 **Hardware** :

CPU : Intel® Core™ i5-8400 @ 2.8GHz 或更高規格；硬碟：15GB 以上；記憶體：8G RAM；顯示器: Geforce 6600GT/ Radeon X600XT 以上。

四、簡介：

(一) **系統簡述 (系統的主要功能)**

在數位時代，遊戲已成為教育與學習的強大工具。本專題旨在透過創新的遊戲化學習體驗，將淮河古菱齒象的歷史與生物學知識帶給公眾。淮河古菱齒象，這種曾經漫步於今日中國大地上的巨型哺乳動物，其獨特的生物特徵與滅絕的歷史，蘊含著豐富的自然與科學教育資源。

本遊戲設計了四個不同的關卡，每個關卡都圍繞著淮河古菱齒象的一個核心主題：了解身體構造及科學家發現過程。透過互動式學習，玩家將能夠深入了解這種史前巨獸，並體驗到科學探索的樂趣。

透過本專題開發的遊戲，我們期望能夠激發公眾對古生物學的興趣，特別是對淮河古菱齒象這一重要但不為人熟知的物種的認識。我們相信，結合教育與娛樂的遊戲化學習方法，將能夠有效地傳達科學知識，並啟發玩家對自然歷史的好奇心。

(二) **特色 (系統的亮點)**

- 認識淮河古菱齒象： 玩家將學習到淮河古菱齒象的基本資訊，包括它的生活時期以及它在地球歷史中的位置。
- 解剖學習： 通過遊戲中的互動元素，玩家將對淮河古菱齒象的身體構造有直觀的了解。
- 生態與進化： 玩家將探索淮河古菱齒象的生態環境，以及它如何適應並

演化以應對古代的氣候變遷。

- 保育意識： 關卡設計將引導玩家思考物種滅絕的原因，並對當前的野生動物保護工作產生興趣。

- 遊戲體驗：

為了確保無需人工導覽或指引，遊戲的介面設計直觀易懂，並融入教育元素於趣味性之中。遊戲將採用敘事式的進展方式，讓玩家在完成任務的同時，自然而然地吸收知識。此外，遊戲將包含豐富的視覺與聲音效果，以增強沉浸式學習體驗。

## 五、 Introduction :

### (一) Introduction

In the digital age, gaming has become a powerful tool for education and learning. This project aims to bring the history and biological knowledge of the ancient Stegodon, a giant mammal that once roamed what is now China, to the public through innovative gamified learning experiences. The unique biological characteristics and extinction history of the ancient Stegodon contain rich natural and scientific educational resources. The game is designed with four different levels, each revolving around a core theme related to the ancient Stegodon: understanding its physical structure and the scientific discovery process. Through interactive learning, players will be able to gain an in-depth understanding of this prehistoric behemoth and experience the joy of scientific exploration.

With the game developed in this project, we hope to spark public interest in paleontology, especially in recognizing the important but not well-known species of the ancient Stegodon. We believe that the gamified learning approach, which combines education with entertainment, will be effective in conveying scientific knowledge and inspiring players' curiosity about natural history.

### (二) Features

- Understanding the Ancient Stegodon of the Huai River: Players will learn basic information about the Huai River ancient Stegodon, including its era of existence and its place in the history of the Earth.
- Anatomical Learning: Through interactive elements in the game, players will gain an intuitive understanding of the body structure of the Huai River ancient Stegodon.
- Ecology and Evolution: Players will explore the ecological environment of the ancient Stegodon and how it adapted and evolved to cope with the climatic changes of ancient times.
- Conservation Awareness: The level design will guide players to consider the reasons for species extinction and generate interest in current wildlife conservation efforts.

To ensure that no manual guidance is needed, the game interface is designed to be intuitive and easy to understand, incorporating educational elements into the fun. The game will adopt a narrative progression, allowing players to absorb knowledge naturally as they complete tasks. Additionally, the game will include rich visual and audio effects to enhance the immersive learning experience.