Project Hephaestus

# Overview

Interactive VR game covering the history of blacksmithing as an educational tool.

Progress through different time periods learning new techniques and unlocking new materials.

In depth interaction covering all parts of blacksmithing including refuelling, temperature moderation, hammering techniques, etc.

Quality levels for created items based on how well they were made (common, uncommon, rare, legendary) resulting in equivalent reward.

Weapons, armour, tools and items based on time periods and areas.

# Team members

Clement Smith – Creative Director

Jack Denne – Lead Designer

Lizzie Briggs – Technical Director

Ian Barrow – Lead Engineer

Alex Southall – Art Director

# Research points

UI and VR

Mechanics and interaction

Time periods and localisation

Blacksmithing process

Localised Blacksmithing techniques

Materials

# Game Mechanics

## Core Mechanics

Movement controller. Walking mechanic can use head direction as forward and left stick for movement. Could use two sticks to control direction and turning. Alternatively the trigger could be used to move forward and analogue for turning.

Hammering mechanic. Uses force, possibly using gyroscope data, and timing represented by bars in the UI. Controller picks up and hold hammer, player can swing it down and strike registers the hit.

Furnace mechanic. Maintain temperature visualised by temperature gauge. Monitor temperature and time heated to determine quality. Player brings in fuel and inserts, places the materials in and out and carries them to where they are needed.

Cooling mechanic. Water area to cool down material. Placed in too long will complete the item, alternatively other cooling methods as part of crafting will be represented by timing in water. Similarly an oiling mechanic will use the same method as part of the item crafting process.

Inventory box. Player physically opens box, presented with two options for deposit and withdraw. Weapons dropped into the box can be deposited. When withdrawn, weapons will appear in the box to be grabbed.

End of level. Once a level is complete players will be prompted to craft a key. They key will follow the usual process but without a quality modifier. It will be an ornate reward relating to the time and area of the level, and once crafted the player can progress.

Tutorial. First level will integrate a tutorial into the first job. Crafting a simple item, the player will have the freedom to complete this as part of the progression. UI elements will be highlighted to indicate the process but the player will not be restricted in movement to complete these.

Timing gauge. Objects in the scene utilising heating and cooling will hold timers to show when something is ready. An area of time will be represented by colour to give change to remove items at the optimal time to move to the next stage. Items left too long, or removed too early, will be penalised the quality to represent the importance of the process.

Recycling. Materials and items that haven’t been crafted to a good standard can be recycled to be smelted and remade into better quality items.

UI Interaction. UI elements will show in the game world. The player can interact by hitting buttons, including with items such as the hammer.

## Additional Mechanics

Mechanic ideas to improve and expand the gameplay.

Using Lateral Thinking further mechanics were developed to expand the gameplay elements or use the core mechanics in new ways. This also includes alternative settings and focuses for items.

Word: Oranges

Association: Use tools the blacksmith has made to farm and grow produce.

Force connection: Sell items to farmers after making them.

Word: Alien

Association: In Egyptian era there are conspiracies to Aliens influencing the pyramids creation.

Force connection: If you see an Alien spaceship you are abducted to a bonus level. Intended to craft Alien technology at a good quality to be released.

Word: Ice Cream

Association: Sugar, teeth rotting.

Force connection: Craft dentist tools and items such as braces for Dentist contracts.

Word: Desert

Association: Snow deserts

Force connection: Make items and weapons in snow areas that would be used for crafting housing or fishing.

Word: Puppy

Association: Dog tags

Force connection: Craft military dog tags, jerry cans, ammunition & boxes, etc.

Word: Clocks

Association: Creating watch components

Force connection: Make the first watch/clocks. Craft gears and other parts.

Word: Stale

Association: Aging.

Force connection: Weapons left unattended, or on display, can degrade and become rusty. Will require restoration. Also restoration jobs to fix up items. Will include additional mechanics for cleaning and polishing.

Word: Pain

Association: Metal Piercings

Force connection: Craft piercing tools and jewellery.

Jack needs to find out how to create a UI and create 3D UI placeholders