

# **Itzamná's Heritage**

Mayan Red Light

**Alpha Release**

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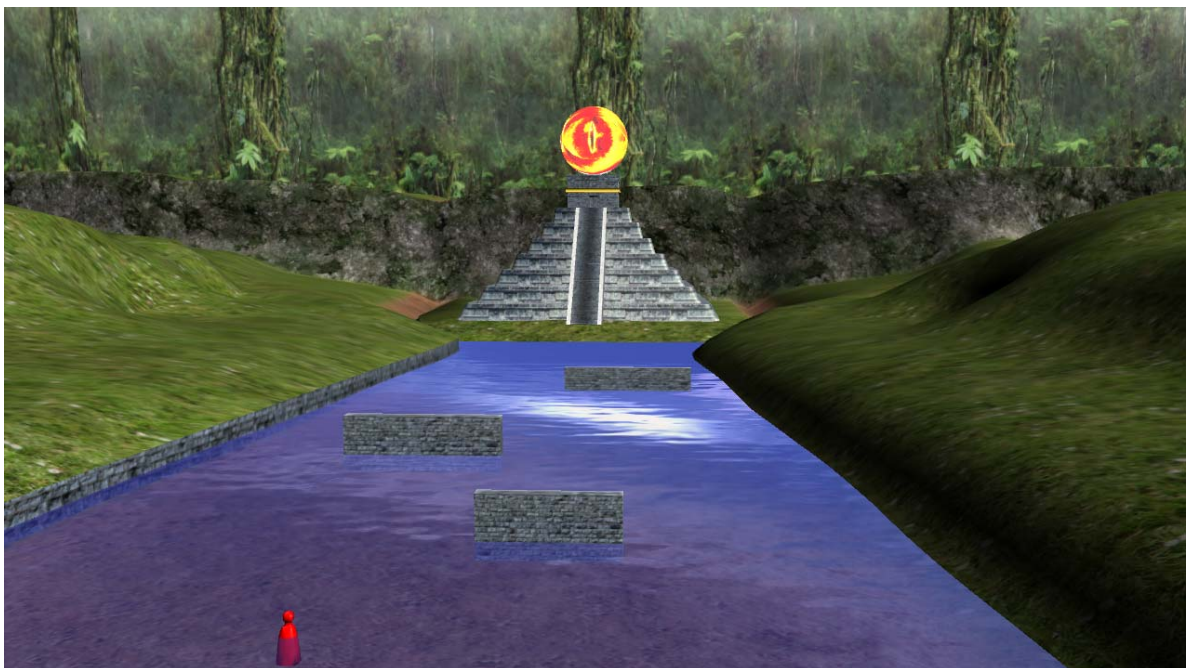
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# 1 Development Status

## 1.1 Overall Status

We are happy to announce that we managed to catch up the time we were lacking behind at the interim stage. By now we have basically completed all the targets of layer three! Additionally we have added other features and effects that were not planned in the beginning but provide extra value to our game. We will further discuss them in the next sections.

The only main component currently missing are the sound effects. However, we have already a good understanding of what we expect and where we want to introduce sounds.



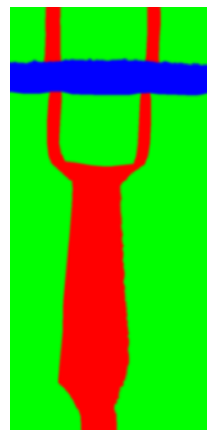
## 1.2 Technical Elements and Shading

After having unintendedly changed our technical element to a physics engine we decided to skip the shallow water simulation and instead focus on shading. Since the interim report we debugged our physics engine which is supposed to run bug free now.

We invested a considerable amount in the creation of shaders, such as for the texture-based water simulation, which uses a height field (displacement map), bump mapping, refraction and reflection.

Furthermore, the environment is shaded via multi texturing. The terrain is colored according to the actual trait, i.e. stone, rock, mud, grass etc. and the multi texture shader takes care of the respective mapping.

When the guard opens his eye, a glow effect visualizes his evil intentions to punish anyone who approaches his treasure.



On watch event – in addition to the glowing eye – the whole scene is shaded differently using a shadow map generated by a light ray emitted from the guard's eye.

### **1.3 Power-Ups**

Until now we have implemented four different power-up types: stone, slow, haste and invisibility. These power-ups can all be applied to other players as well on oneself (which of course would not always make sense).

They are explained in more detail in section 2.4.

### **1.4 Implementation Challenges**

The shaders revealed to be a tough challenge for us. On the one hand it required a lot of time to read into it and understand the concept of effect. On the other hand it was not trivial to understand HLSL which we had to learn from scratch. This consumed a lot of time and was very exhausting, but also extremely interesting and it was fun to play around with that stuff. Furthermore, our basic design on the Draw() methods did not consider the importance and influence from the various effects and techniques. Hence, it was pretty time-consuming to re-factor the whole architecture based on our Drawables.

### **1.5 Design Revisions**

There were no major design revisions we had to undertake. Thanks to our sound architecture we were able to continuously expand our game element by element. It was very satisfying to see that our design decisions from the early stages proved to be successful.

Compared to the formal prototype report we decided to slightly alter our targets for layer four. We decided not to implement any major game logic elements anymore since we think the game already provides a lot of fun.

However, we would like to focus more on visual elements like more advanced shaders. A game depends heavily on its visual appearance and we would like to make it as appealing as possible.

## 2 Game Documentation

In this chapter we quickly recapitulate the theme of our game and the consequential mission the players have to accomplish.

### 2.1 Game Theme

375 B.C.: The legend about the magical treasure of Itzamná – the Mayan creator deity – is known by every child. The myth says that it is guarded by Itzamná's mighty eye. Its immeasurable value has tempted thousands of people to start a treasure hunt for it of which all ended without success... No one knows its exact locations until one day, deep in the jungle, a mystical palace was discovered, a kind of royal temple, resembling a pyramid, an almost indescribable construction. It attracted many treasure hunters who strongly believed it to be the well-hidden location of Itzamná's treasure. They thought it would be a child game to claim the treasure for themselves, but none of them ever returned...

### 2.2 Mission

We write the year 2010 when four independent teams started another try to find Itzamná's lost treasure. Every expedition team suffers of major losses and only the team leaders manage to survive the everywhere present dangers in the deep jungle. Completely exhausted they arrive the very same day on a hidden forest clearance and are stunned from the catching scenery in front of them: The mystical eye of Itzamná is glaring threateningly from the top of the most beautiful Mayan pyramid they have ever seen.

From now on every second counts. Everybody wants to be the first one reaching the pyramid and experiencing the glory of finding the lost treasure. However, the treasure hunters do not only have to fight against each other. The guarding eye is watching attentively over the ground and spots every movement. Of course, the wild river does not help in advancing fast and additionally makes standing still a real challenge.

Whoever manages to find the best trade-off between speed, balance and applying the given aids powerfully may outreach his competitors and get to the lost treasure.

### 2.3 Controller

The following table lists all supported controls on the game pads and the keyboard. (Note: The keyboard only controls player number one!)

#### General Controls

Action	Game Pad	Keyboard
Pause Game	Back	Esc / P
Restart Game immediately	-	R
Quit Game immediately	-	Q
Toggle Fullscreen	-	F
Disable Guard Punishment	-	F1

## Game Controls

<u>Action</u>	<u>Game Pad</u>	<u>Keyboard</u>
Move	Left Thumbstick	Arrow keys
Sprint Mode	X	S
Balance Mode	Left and Right Trigger simultaneously	Space Bar
Balance	Left Thumbstick	Arrow keys
Switch current Power-Up to previous one	Left Shoulder	K
Switch current Power-Up to previous one	Right Shoulder	L
Enter Power-Up Mode	B	-
Apply Power-Up	Color Buttons (color corresponds to target player)	-

## Camera

<u>Action</u>	<u>Game Pad</u>	<u>Keyboard</u>
Toggle Camera Mode (Chase -> Steady -> Static)	Y	C
Move Camera Position	-	NumPad
Reset Camera Position	-	0

## 2.4 Power-Ups

The following power-ups are currently available. As of now the players are equipped with five different power-ups from the beginning on. We will soon (hopefully by tomorrow!) introduce the spawning of power-ups on the playground such that they can be picked up while playing.

Here is a short explanation of the current available power-ups:



### **Stone:**

If you throw a stone at another player it will be stunned for a couple of seconds. While a player is stunned it cannot move nor balance and is thus very vulnerable if the guard is watching.



### **Slow:**

Decrease the maximum speed of your target. This will slow down the player by 1 m/s but also makes it easier for it to balance.



### **Haste:**

Increase the maximum speed of your target. This will enable the player to move forward at a higher speed (additional 1m/s). However, the faster a player moves, the more difficult it gets to balance.



### **Invisible:**

Use this effect to get invisible and to hide from the guard for some time – but not from players. Be aware that you are not safe against punishment the very moment the effect wears off!

### **3 What's next**

Of course, our next main task is play testing. We are aware that there needs a lot of tuning be done until the game is fully playable.

Besides, we want to accomplish the following tasks:

- Introduce sound effects and background music
- Include more advanced shaders for better visual appearance
- Improve the Menu structures