

# <Rhythm CPR >

-**Rhythm CPR** is a VR training game that teaches users proper CPR technique through rhythm-based interaction, where difficulty levels progress from calm, guided practice to realistic, high-pressure emergency scenarios. -

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## Description

- (1) Learning CPR correctly is essential but traditional methods are often dull, expensive, or inaccessible. Rhythm CPR makes the process engaging and memorable by merging medical accuracy with rhythm-based gamification in VR. It turns CPR training into an interactive, rewarding, and motivating experience.
- (2) Using VR hand-tracking or controllers, the player performs chest compressions in sync with the music's beat. Real-time visual feedback guides the user's depth, speed, and rhythm. Difficulty levels progress through increasingly realistic scenarios — from calm, guided practice to high-stress emergency situations. A scoring and reward system encourages repetition and mastery.
- (3) Unlike video tutorials or static manikins, Rhythm CPR combines realistic simulation, musical rhythm, and gamification in a fully immersive VR environment. It's educational but fun, blending serious training with playful feedback to improve learning retention and motivation.

## Similar products & Relevant Links(>=3)

### Lifesaver VR

URL:<https://life-saver.org.uk/>

#### Relevant Features:

- Official British Red Cross training simulator
- Uses interactive video-based scenarios
- Focused on narrative, not rhythm or gamified practice

### CPR Simulator – available on Meta Quest:

#### Link:

<https://www.meta.com/experiences/cpr-simulator/5019990081404984/?srsId=AfmBOordE-7H4HeXoVL6OyqqFWJrLJgOPBN5kzLtK9NJL3P6igWeEaaq>

### Relevant Features:

- Stand or kneel to perform chest compressions and simulate CPR on a virtual patient, including using an AED.
- Photorealistic 3D models and multiple environments (home, school, office) to enhance realism of different scenarios.
- Visual metronome or tempo feedback to assist correct compression rate (e.g., 100–120 BPM) and timing.
- Guided flow: assess consciousness, breathing, call for help, compressions, AED usage.

### Beat Saber (inspiration for rhythm gameplay)

URL: <https://www.beatsaber.com>

### Relevant Features:

- Popular rhythm-based VR game
- Excellent sensorial + visual feedback system
- Inspires our rhythm and timing mechanics for CPR training

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# Main Features

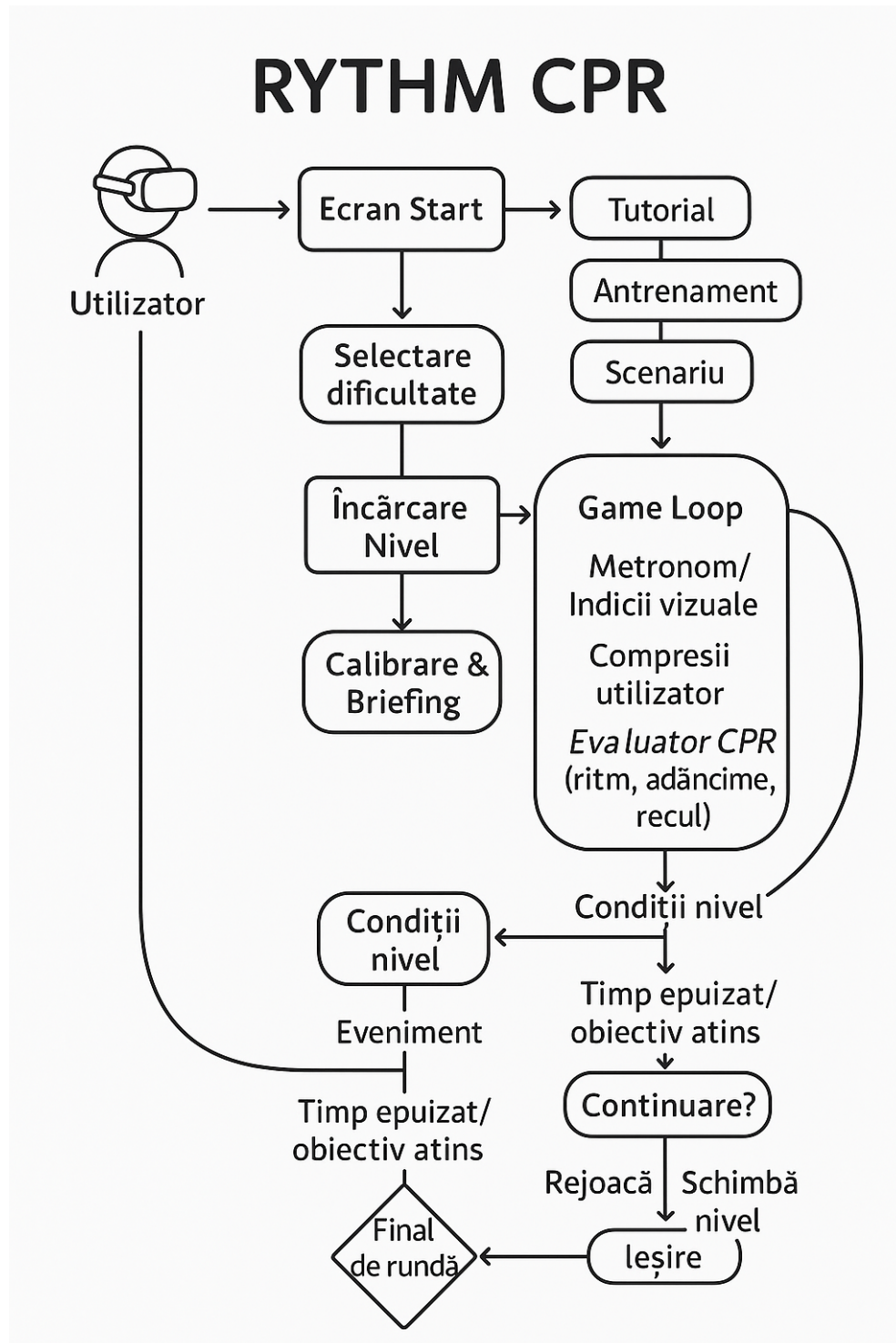
## **PRINCIPAL MAIN VERY IMPORTANT FEATURE:**

**Rhythm-based CPR training synced to music beats**

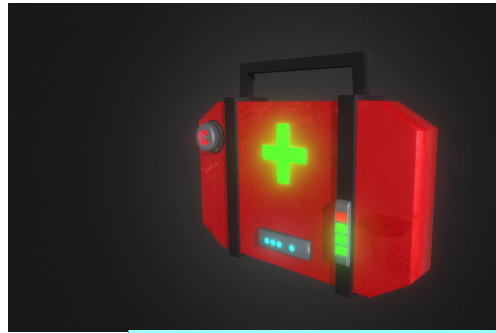
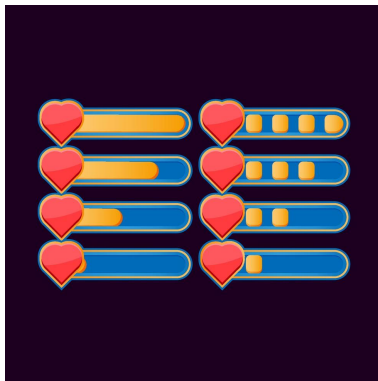
### Other features:

- Real-time feedback on compression depth, rhythm, and speed through visuals and haptics.
- Multiple difficulty modes and emergency scenarios (home, street, hospital, etc.).
- Gamified scoring and reward system to motivate frequent practice and mastery.
- Immersive 3D environments to enhance focus and realism
- Hand-tracking and controller support for realistic motion detection.

# User Journey Diagram - Step by step flow through app



# Moodboard (10+ images)



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## Technologies, Libraries, Assets (cu linkuri) ( $\geq 5$ )

### 1. Unity

<https://unity.com/>

## 2. **XR Interaction Toolkit**

<https://docs.unity3d.com/Packages/com.unity.xr.interaction.toolkit@2.3/manual/index.html>

3. **Meta XR SDK (OpenXR)** – Official SDK for Meta Quest devices with full OpenXR support, hand tracking, and haptic feedback

<https://assetstore.unity.com/packages/tools/integration/meta-xr-core-sdk-269169>

4. **TextMeshPro** – For displaying dynamic text and on-screen feedback clearly in VR

<https://docs.unity3d.com/Packages/com.unity.textmeshpro@latest>

5. **FMOD Studio** – Adaptive audio and beat synchronization system for rhythm-based gameplay

<https://fmod.com/>

6. **Mixamo** – For importing and animating 3D human models and CPR motions

<https://www.mixamo.com/>

7. **Blender** – To create or refine 3D models of human bodies and environments

<https://www.blender.org/>