

COP701: Assignment #2

August 26, 2023

1 Contra game

1.1 Problem Statement

Implement the Contra game. Use Unity3D or the Unreal engine.

1. Make it a standalone application.
2. Incorporate very nice visual elements.
3. Make the graphics very smooth.
4. Gradually make a level harder.
5. Have at least three levels. Be creative and improvise. Add at least two new features.

1.2 Game details

1.2.1 Game overview

”Contra” is a classic run-and-gun platformer game known for its intense action and challenging levels. Players control soldiers fighting against alien and enemy forces in a 2D side-scrolling environment.

1.2.2 Game mechanics

The following features must be included:

- **Player Controls:** Player(s) can move left/right, jump, crouch, and shoot.
- **Health:** Players have a health bar; getting hit reduces health.
- **Enemies:** Enemies include alien creatures, soldiers, and mechanical foes.
- **Display:** The game screen should display health, current weapon, and score.

1.2.3 Level design

You can consider the following for designing your levels. Try to be creative.

- **Themes:** Levels include jungle, base, alien ship, and fortress themes.
- **Obstacles:** Levels feature platforms, traps, and moving hazards.
- **Boss Battles:** Each level ends with a challenging boss battle.

1.2.4 Bonus

The following can be considered for extra credit.

- **Weapons:** Players start with a basic rifle and can pick up various power-up weapons.
- **Power-ups:** Collectible power-ups include spread shots, laser beams, and rapid-fire. Power-ups are dropped by defeated enemies or found in hidden areas.
- **Lives:** Players have a limited number of lives; extra lives can be earned
- **Multiplayer:** Multiple players can complete the levels together.

2 Logistics

- The **deadline** for this assignment is **30/09/2023 at 11:59 PM**. It is a hard deadline and will not be extended.
- This assignment can be done in a group of two people. Only one of you must submit. (30 Marks)
- You need to create a private git repository either on <https://git.iitd.ac.in> or github. Git commit history will be checked during evaluation.
- ANY form of **plagiarism** will not be tolerated.
- Your game can either be a desktop application or can be exported to run on a web browser (documentation)
- Submission will be made on Moodle. You need to submit all your code and a pdf format report. Compress all these in a tar file with the name `<entry_number1> - <entry_number2> .tar` and upload on Moodle.
- You will be graded on the output of your code (smoothness of graphics etc.), the coding style and your viva/presentation.
- Any doubts regarding the course/assignment should be asked on Piazza.

2.1 Marks distribution

Report	10%
Coding style	10%
Regular git commits (from both the members)	5%
Overall Graphics	25%
Three levels and game demo	50%