

A5 Project Proposal

Title: Ellipsoidal coordinates in Computer Graphics

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1 Purpose

I wish to experiment with different coordinate systems within computer graphic scenes. The rationale behind this is mostly artistic, however I believe it would also have scientific use for visualising the effects of gravitational lensing.

2 Statement

My final product will be a scene rendering:

It is about changing coordinate systems, and other random approximations

I will program in a manner that

This is an interesting challenge as I believe it has a unique artistic perspective.

From this I am hoping to understand more about changing coordinate systems, and non-linear transformations.

3 Technical Outline

Basically, your objectives in your objective list should be fairly short statements of the objective; you should provide additional details about your objectives in this section to clarify what you plan to do.

Further, survey the important data structures and algorithms that will be necessary to achieve the goals, and (for ray tracing projects) lists the new commands that will need to be added to the input language.

To get bold face: **bold face words**. To get italics: *italic face words*. To get typewriter font: `typed words`. To get larger words: large words. To get smaller words: small words.

4 Bibliography

Ellipsoidal coordinates (3D): https://en.wikipedia.org/wiki/Ellipsoidal_coordinates Elliptic coordinates (2D):

https://en.wikipedia.org/wiki/Elliptic_coordinate_system Hyperbolica Game: <https://store.steampowered.com/app/1256>

Objectives:

Full UserID:_____ Student ID:_____

- ___ 1: Objective one.
- ___ 2: Objective two.
- ___ 3: Objective three.
- ___ 4: Objective four.
- ___ 5: Objective five.
- ___ 6: Objective six.
- ___ 7: Objective seven.
- ___ 8: Objective eight.
- ___ 9: Objective nine.
- ___ 10: Objective ten.