CSE310 Final Report
Filthy Cell-Culture Dish

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1 Rationale for Including and Excluding Game Elements

1.1 Included

Those included elements might have slight change, comparing to original design.

1.2 Map

We used Diamond map instead of Hexmap, because budget constraint. The Hexmap package costs 50 dollars per computer. The game map is limited to be a pure square world instead of cylinder. This is due to data structure constraint. Other aspects are implemented.

1.3 Traits Tree

We implemented this elements faithfully in most cases, since this is the essential part of gameplay. However, for exploration trait, we use it for deciding population obtained by per exploration and threshold for expanding to nearby cells. The reason is that we did not implement an shadow system.

1.4 Camera

Zooming in/out and translation of map are all implemented.

1.5 Graphics

We successfully implemented an simple 2D graphical system for our game.

1.6 Excluded

Those elements are largely not implemented, mostly because of time limitation.

1.7 Animations

We have some sort of ppt like animation for scene besides the main game scene. The two subsection mentioned are not implemented.

1.7.1 Status Indicating Animation

We believe it is sufficient to use mixture of color and numerical information to indicate status.

1.7.2 Declaration of Gaining New Traits

We achieved this through color and text.

1.8 Artificial Intelligence

After some discussions, we found that it should technically feasible to implement it using convolutional network as [1] did for GO. However, we found it hard to implement an A.I. for this game within the time constraint.

1.8.1 Difficulty Choice

We did not make A.I., therefore it makes little sense to setup difficulty level. Currently, all three difficulty level in the game setting has no effect.

1.8.2 Other Values' influences

Again, we don't have A.I..

1.9 Sound Effects

Not essential to gameplay, therefore we excluded this given time constraint.

1.10 Networking

Not essential to gameplay, therefore we excluded this given time constraint.

2 Testing Player Feedback

2.1 Tester 1

Relate population and trait development to make it obvious that those are linked.

It is confusing that choosing trait has no immediate feedback. This tester prefer choosing trait after cumulating enough points.

More text tips for new player.

Map shape should be able to customize.

2.2 Tester 2

The game is not very friendly to new player.

3 Reflection on Development Experience

3.1 Group Working

It must to be admired that for such project a group of skilled people cooperating with each other is essential since too many different fields of programming and designing are involved. Also, it is important to make clear jobs each individual need to accomplish at the beginning of the project, which not only helps group members to focus on a particular part of works in the developing step, but also decreases the difficulty of later steps of the project such as combining and debugging.

Talking more with group members can help individuals since it is hard for oneself to discover the problems in the thinking or programming processes. We have experienced a lot that someone made silly mistakes but was not aware and other group members corrected it.

3.2 Developing Tools

Version control tools such as Github is necessary for group working because there exists many situation that multiple people working on same code files and conflicts may occur and be leaving unnoticeable. Such tools can compare the historical version of code files and highlight crucial parts for programmers to solve or automatically merge different copies of code.

3.3 Scheduling

Making a reasonable schedule for development and keep tight with it is significant for large projects. The schedule must give clear sub-deadlines for different tasks and flexibility should be left in advance for handling emergent issues, especially for CSE310's final project, which may conflict with a lot of other deadlines in the second semester of year-4.

Also, it is crucial for group members to have a clear and correct prediction on the total time consumption of the project, which helps them physically and mentally. It prevents them stay too late at night and have more relaxed mood when developing, which significantly reduces chances of producing unnoticeable bugs in code.

4 Ethical Issues

References

[1] Christopher Clark and Amos J. Storkey. Teaching deep convolutional neural networks to play go. *CoRR*, abs/1412.3409, 2014.