DNA Games Mid-Project Demo

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Project Aims

- To create a collection of games that teach basic bioinformatics concepts.
- Each game should be based on a classic retro game. I have chosen Snake, 2048, Minesweeper and Paperboy.
- The games are being developed in Python and will be hosted on a website that provides a way to view high scores and progress in each game.

Snake Game Details

- The snake game gives the player multiple food options, which contain a nucleotide that can be added to the snake (sequence).

- The player is expected to build a string of matching pairs, the incorrect characters appear red to the user when they make a mistake.

- In the future the food generated will not be random as the sequence generated is going to be used in the later games

Development Process

- I am using an agile process where I have a backlog and a list of issues / goals for the week.
- The issues are recorded on github and the week's backlog is in a 'dev' folder.
- I am also using blogs to record the work and problems that I face.
- While I am trying to be agile, I have also set milestones in order to stay on track, unfortunately, this means that if there is a roadblock I fall behind schedule, this has now happened.

Current Progress

- So far I have created a fully functional prototype of the snake game.
- It also has a saving feature so that the sequences can be used in later games
- I have now began working on the tile merge game (based on 2048)

Thoughts technologies used

- So far I am happy with my choice to develop the games in python
- While I could have chosen a games specific technology such as unity, which would have provided me with extra tools, python has given me everything that I need and I do not see any reason to change.
- I have had an issue with Pygbag which packages the game into webassembly, but I am sure that I can resolve this.

Future Plans

- Create a prototype of each game (28th March)
- Build the website that the games are hosted on (15th April)
- Tie the games together, by designing sequences and characters that can be plugged into the games and collect user feedback (22nd April)
- Refine the games, improve graphics, create tutorials etc (29th April)
- Report will be written alongside development using blogs as reference for work completed.

Questions?