OfficeSwipe: A Choose-Your-Own-Adventure Game

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1   Project Description

Drawing inspiration from Netflix's interactive film *Bandersnatch*, part of the anthology series *Black Mirror*, we have developed a choose-your-own adventure game in which players are tasked with developing an automated system for vetting potential hires.

As a new employee at **OfficeSwipe**, a fictional gig-economy startup aiming to be the "Uber for office supplies", you are anxious to make a good impression and to showcase your machine learning skills. Like *Bandersnatch*, as the player you make decisions that ultimately afffect the outcome of the game. Players are given opportunities to revisit checkpoints in order to explore paths they have not attempted and undo mistakes that they have made.

The game is in the form of an HTML file and is playable from any web browser.

2   Story Line

Here, we discuss several entities encountered throughout the game along with the overall plot. Similar to *Bandersnatch*, instead of being an expansive game with an exponential number of paths, we have an over-arching main narrative with a restricted number of outcomes.

2.1   FAIR: A non-profit organization

FAIR (Fairly Automating In Reality) is an ill-defined non-profit introduced in the story. The most drastic outcomes of the game are a result of their analysis into OfficeSwipe's algorithm, i.e. the algorithm you are tasked to create.

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2.2 The LinkedIn Dataset

The main story arc begins when the player makes the decision to use the LinkedIn dataset, a fictional dataset consisting of user resumes, profile pictures, number of LinkedIn connections, and number of views. Ultimately, the player will be tasked with developing a model that predicts connections and views given a profile picture and resume, essentially equating the number of connections and views with candidate potential.

2.3 Possible Endings

The main story consists of three possible endings; some of which have some variation to them depending on how the player reached that ending:

- **Time runs out:** At the *Google Search* stage of the game, players have the option of exploring several links. If a player spends too much time exploring links, the game ends prematurely and they are asked to start over. This is to coerce players into either unlocking the "ethically aware" path or beginning the main storyline more quickly.

- **OfficeSwipe goes under due to public backlash:** If a player naively optimizes for the best possible regression algorithm without taking into account the ethical underpinnings of such a model, the company is then scrutinized over their use of a biased model.

- **You reach an acceptable ending:** If a player takes the time to thoroughly explore the consequences of their actions and take many ethical considerations they will eventually reach the only resemblance of a good ending, where taking the proper precautions lead to the company surviving both its budget constraints and an unknown investigation from FAIR.

2.4 Conditional Paths

A player will find it impossible to reach every ending in one go. The more a player explores the different scenarios, the more likely they are to trigger the conditions necessary to reach the final ending. Our hope is that by experiencing a realistic story that highlights the consequences of negligence using machine learning, a player will be able to ask themselves questions about their understanding of machine learning, thereby establishing a more educated opinion on a modern day issue.
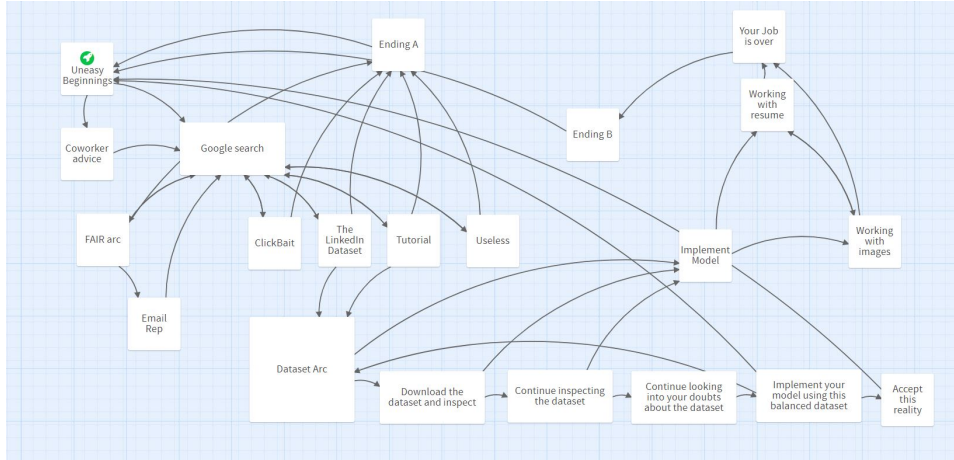
Figure 1: Twine storyboard of OfficeSwipe. Each edge is directed and connects two parts of a story via a choice from the source story.

3 Implementation

Twine[1] is an open-source project for creating interactive, nonlinear stories. Complete with a UI and the option for embedding logic and HTML elements, Twine allows for immediate story boarding and testing. The program publishes stories to a single HTML file that encodes all of the path logic.
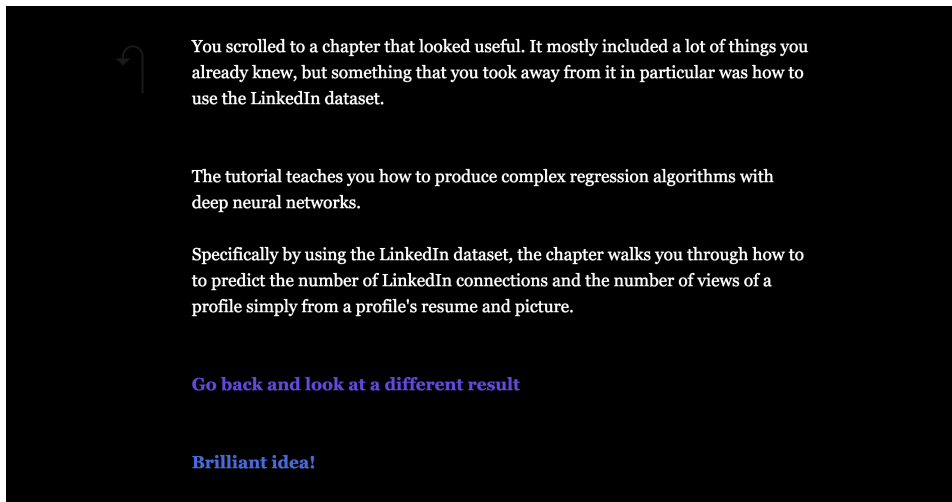
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[1] http://twinery.org/

Figure 2: Example gamplay, specifically the entrypoint of the main story.