Project Charter

Milestone 0

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Summary

Our plan for Project Charter is to make a fully-functional Pokémon game using OCaml. To make things more exciting, we would like to introduce a new set of Pokémon inside of a whole new game (Pokémom). The chief objective of this "remixed" game is that it introduces a new theme: Ash has been kidnapped and his mom needs the Pokémons' help to retrieve him from the evil clutches of Team Rocket and the various evil Pokémon it has set up around the Pokéworld (Cornell–the ice kingdom).

We plan to have a few gyms wherein Ash's mom can engage in battles with other Pokémon to help retrieve key secrets about Ash's location. The gyms become progressively harder as Ash's mom travels, starting in the forests, moving through the hinterlands, climbing the mountainside, and finally floating through the clouds to find her beloved son. Other effects come into play as time progresses in the game.

Plan for Design

For now, we do not have a comprehensive design created, but we have some ideas about structure. We prefer not to use native OCaml to render the GUI, instead relying on the foreign function interface described in Chapter 19 of RWO. We would like to use either C or C++ to render the graphics in Pokémom. As far as the actual game goes, we plan on deviating from the traditional Pokémon game, instead introducing new game mechanics to have more of an adventure-esque feel than the original series did (the actual mechanics have yet to be determined, but see below).

To that, we would like to use the battles against various bosses as the so-called "artificial intelligence" unit of our game, so that playing is automated and becomes more difficult over time. Of course, no OCaml game would be complete without a final camel boss that is quite difficult to defeat, so we definitely plan to include one.

As far as key features go, we hope to have the following implemented:

1. Interactive text/dialogue that describes the underlying storyline and shows how characters develop over time, including during boss fights.
2. New game mechanisms, like concurrent playing for two players (Nintendo-DS style).
3. A load/store/save mechanism with an interactive and simple GUI so that players can load a saved state (achieved by perhaps reading/writing to a file on the local disk, but without exposing this functionality to the user for good abstraction).
4. Music that changes interactively with user input, suggest as advancing to a different gym (each one has a separate theme depending on the corresponding Pokéworld appearance) or fighting various menacing bosses.
5. Various items, both from the original series as well as a few new objects that have some surprise features.
6. Classic-style Pokémon battling with options to dodge that may take advantage of monadic structure and concurrent programming. (Fun stuff!)

We hope to be able to implement all of these designs in our finalized project.

Meeting Plan

We all live near each other on West Campus, so organizing meetings in a lounge shouldn't be too bad. We will probably meet for a few hours every day, though those few hours themselves may vary due to differing schedules. We want to shoot for at least 8 to 10:30 PM every night on weekdays, and perhaps 6 to 9 PM on the weekends, with maybe a few "relax days" thrown in to take a break and focus on other work for a while (since taking breaks can be critical in developing new mindsets to attack problems).