Design Doc

Gameplay Stage:
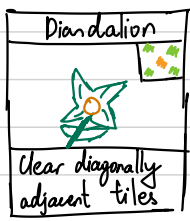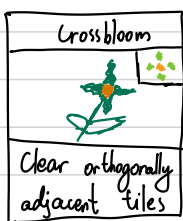
1) Since we have a stable sized board $(n \times m)$, we use Rocks to shape the field.

2) There are Corrupt tiles which need to get purified. → Grass tiles.

Corruption: flowers CANNOT be placed on these.

Once all the corruption is gone, the stage ends.

Grass: flowers CAN be placed on these.

3) There are Grass tiles which plants can be placed on.

Crossbloom — Clear orthogonally adjacent tiles

Diandalion — Clear diagonally adjacent tiles
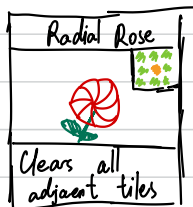
Radial Rose — Clears all adjacent tiles

4) The player is given exactly enough to solve the puzzle.

Reason: • Player will not be overwhelmed
• Player will not be hard locked on a stage.

5) When a player plays a flower, some tiles are cleared of the corruption, creating more Grass tiles to play on.

6) Once the entire field is Grass, the stage is beat & player moves on or beats the game.

Intersting extension:

Programatically reverse engineer a puzzle starting from a solution.

User Helping Features:

An Undo Feature:

- We keep a linear flow of cards played,
  and when "Undo" is hit,
  we reset to a previous state with two options:

    - We store the state of the board as
      a bitboard or similar (chess engine style)
      and change the display to that.
   - We store the changes made by a card
      of the form:

      $$Queue = \{ pos\,1, \; pos\,2, \; pos\,3, \; \ldots \}$$

   where
      $$Queue\,[i] = (x, y) \text{ position of the tile to revert}$$
      to corrupt.

  Note: We would need to also store the positions the card
  itself was to edit the board.

Helper Cards: One time use items can be stored in a "helper buffer"

of very few cards.

Purifying Powder

Clear 1 tile
(single - use)

Bone Meal

Double a plant's
effectiveness
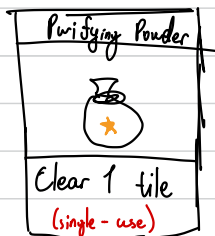
- These cards are single-use so they take affect
  immidietly and do <u>NOT</u> take up board space.
- Do not transfer between stages and
  instead, they are created like so:
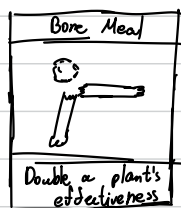
    - Once the level is beat, the player is given
      a choice of a few of the single-use cards.
    - The player has X cards so once full,
      they must swap them in for another.

This process:

window

| C1 | C2 | C3 |

↑   ↑

| Existing card | Empty |
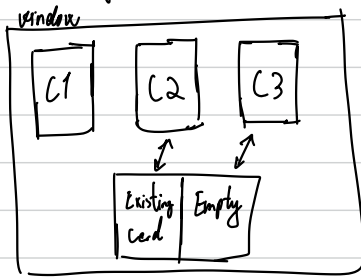
The player drags the card they want to swap out. Otherwise they click and the empty slot is filled.

Once done, the player goes onto the next stage.