B1 Level Design -Mechanics and Layout

While planning the biology levels, I found out that the content doesn't translate well into level design. This is evidenced well by the first stage of biology. Although the solutions to the puzzles themselves are simple enough to pass for the first level- it's the puzzles themselves that are complex.

The B1 level focuses on Topic 2- Responses to a changing environment, with the puzzles being:

- Erector muscles (homostatsis).

-Plant platform (plant hormones and plant response to stimuli).

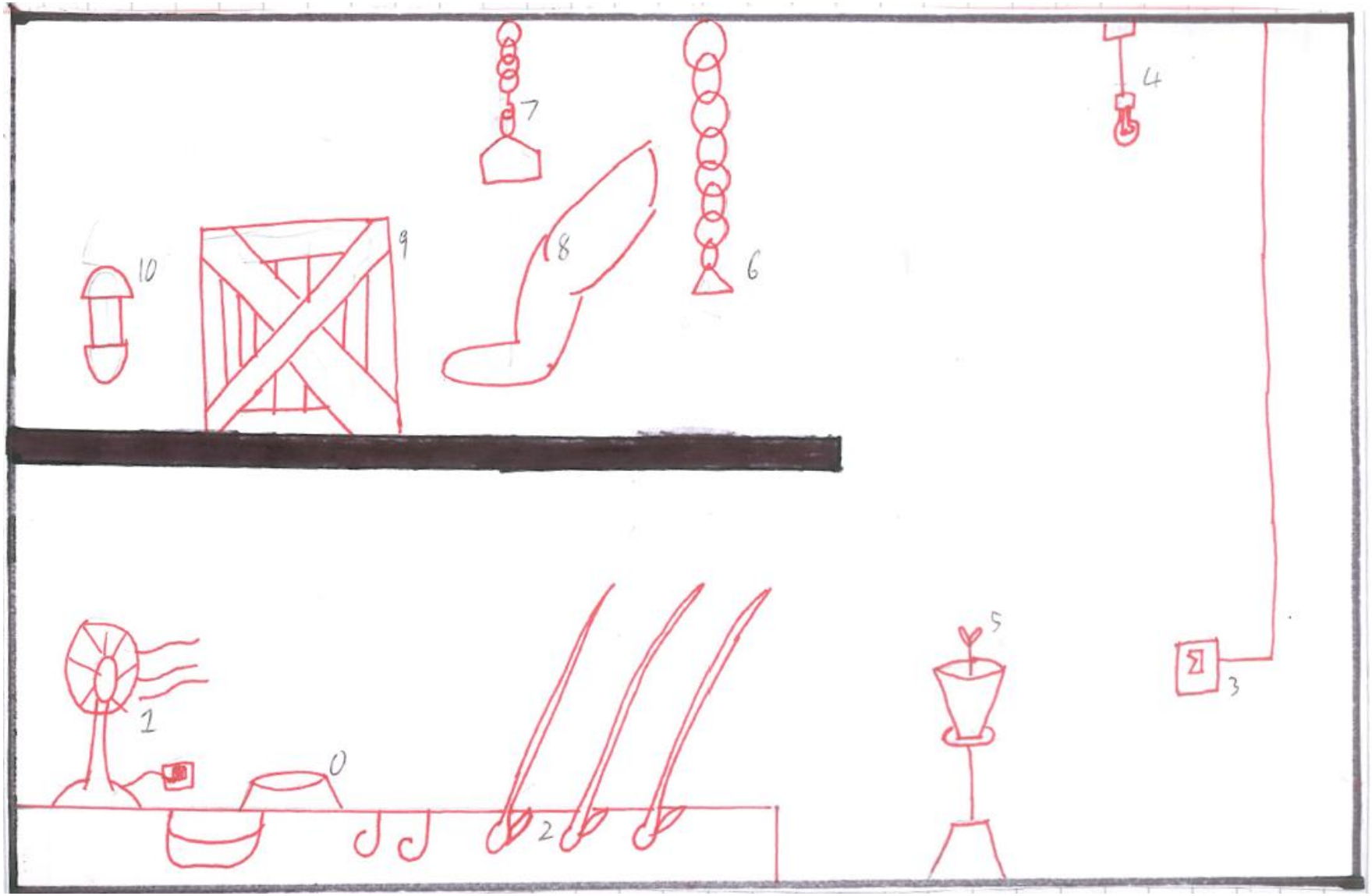
- Reflex Kick (responding to stimuli)

Name: B1

Class: Stage
States: Incomplete, Complete
Can transfer states: no
Starting state: Incomplete
Algorithm(s):
If [B.Teleporter]: {on},
enter {Incomplete}.
While: {Incomplete},
[B1] will be assigned to main instance.
If [Battery]: {Win},
enter {complete}.
While: {complete},
[B1] will be deleted.

Name: B1.Teleporter

Class: Stage object
States: Off, on
Can transfer states: no
Starting state: Off
Algorithm(s):
animation: teleporter
If [B1]: {Off};
Load [Player] in +0 spaces


7
4
10
9
8
6
1
0
2
5
3

1. *The fan*: Starts in an on state. When the player interacts with object 1, it'll change state to an off state.

Name: The fan
Class: Interactive Object
States: Off, On
Can transfer states: no
Starting state: On
Algorithm(s):
While: {On}; animation: On
If {interacting} occurs within +-1 spaces,
enter {Off}.
While: {Off}; animation: Off.

2. *Hair*: If object 1 is in an on state, then object 2 will change state from locked to unlocked. This changes it's animation and its interaction, removing its ability to block the player.

Name: Hair
Class: Reactive Object
States: Locked, unlocked
Can transfer states: no
Starting state: Locked
Algorithm(s):
While: {Locked}; animation: Locked,
Mimic {[platform]}.
If [The fan]: {Off},
enter {unlocked}.
While: {unlocked}; animation: unlocked.
Mimic {[none]}

3. *Switch*: Starts in an off state. If the player interacts with object 3, it will enter an on state.

Name: Switch
Class: Interactive Object
States: Off, On
Can transfer states: no
Starting state: Off
Algorithm(s):
While: {Off}; animation: Off
If {interacting} occurs within +-1 spaces,
enter {On}.
While: {On}; animation: On.

4. *Lightbulb*: Starts in an off state. If object 3 is in an on state, then object 4 enters an on state. When in an on state, objects 4's animation will change.

Name: Lightbulb
Class: Reactive Object
States: Off, On
Can transfer states: no
Starting state: Off
Algorithm(s):
While: {Off}; animation: Off
If [Switch]: {on},
enter {On}.
While: {On}; animation: On.

5. *Plant*: Starts in an unpowered state. If object 4 is in an on state, object 5 enters a powered state. When in a powered sate, object 5 will change animation that interactions, becoming a curved platform.

Name: Plant
Class: Reactive Object
States: Unpowered, Powered
Can transfer states: no
Starting state: Unpowered
Algorithm(s):
While: {Unpowered}; animation: Unpowered,
Mimic {[none]}.
If [Lightbulb]: {On},
enter {powered}.
While: {powered}; animation: none.
Mimic {[platform]}.

6. *Pull chain*: Starts in an off state. When the player interacts with object 6, it'll change state to an on state.

Name: Pull chain
Class: Interactive Object
States: Off, On
Can transfer states: no
Starting state: Off
Algorithm(s):
While: {Off}; animation: Off
If {interacting} occurs within +-1 spaces,
enter {On}.
While: {On}; animation: On.

7. *Drop weight*: If object 6is in an on state object 7will change state from locked to unlocked, this will change its animation.

Name: Drop weight
Class: Reactive Object
States: Locked, Unlocked
Can transfer states: no
Starting state: Locked
Algorithm(s):
While: {Locked}; animation: Locked
If [Pull chain]: {on},
enter {Unlocked}.
While: {Unlocked}; animation: Unlocked.

8. *The knee*: Starts in a relaxed state, if object 7 is in an unlocked state, then object 8 will enter a reflex state, this will cause it to undergo an animation.

Name: The knee
Class: Reactive Object
States: relaxed, reflex
Can transfer states: no
Starting state: Off
Algorithm(s):
While: {relaxed}; animation: relaxed
If [Drop weight]: {Unlocked},
enter {reflex}.
While: {reflex}; animation: reflex.

9. *The box*: When in a normal state, it will function as a vertical platform. If object 8 enters a reflex state, then object 9 will enter a broken state, removing all its interactions and changing its visuals.

Name: The box
Class: Reactive Object
States: Idle, Broken
Can transfer states: no
Starting state: Locked
Algorithm(s):
While: {Idle}; animation: Idle,
Mimic {[platform]}.
If [The knee]: {reflex},
enter {Broken}.
While: {Broken}; animation: Broken.
Mimic {[none]}.

10. *Battery*: when the player touches object 9 the level instance enters a win state. This will end and lock the instance while loading up the neutral area in a B1 clear state (This will change certain visuals of the neutral area).

Name: B1 Battery

Class: Stage Object
States: On, Off, Win
Can transfer states: no
Starting state: On
Algorithm(s):
While: {On}; animation: On.
If [Player] enters +-0 spaces,
enter {Off}.
While: {Off}; animation: Off.
If {Off},
Wait 5seconds
enter {Win}.