

OOGASalad - UI Prototyping

CS308: Team 03

Level Editor User Interface

Types of Screens

public abstract class Screen

Subclasses:

- splashScreen
- simulationScreen
- levelEditorScreen

While there is one **View** object, we change from “screen” to “screen” like a person switching TV channels. The TV never changes, but what’s displayed on the TV changes based on the buttons we press on the user interface. -Luke’s thoughts

Class Name: public abstract class Screen

Responsibilities:

private final static int width;
private final static int height;

private Properties screenProperties;

Collaborators:

Called by frontend UI.

Splash Screen User Interface

MARIO
000000

0x00

WORLD
1-1

TIME

SUPER MARIO BROS.

©1985 NINTENDO



1 PLAYER GAME

2 PLAYER GAME

TOP- 000000



Class Name: public abstract class Screen

Responsibilities:

private final static int width;
private final static int height;

private Properties screenProperties;

Collaborators:

Called by frontend UI.

Level Editor User Interface



CLIMB



Options



Credits



Exit





SUPER
MARIO BROS.



500

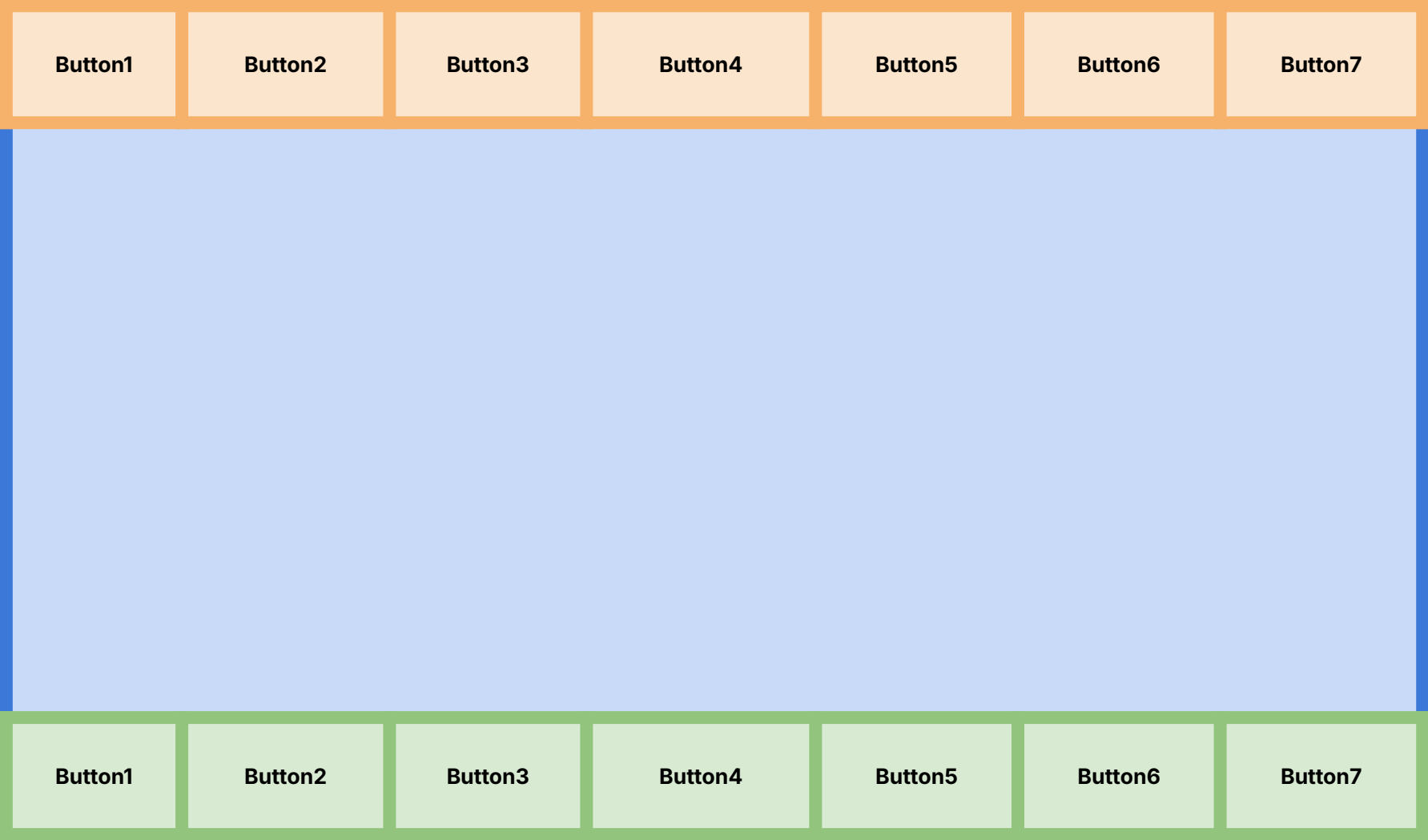


Bare Bones UI Draft

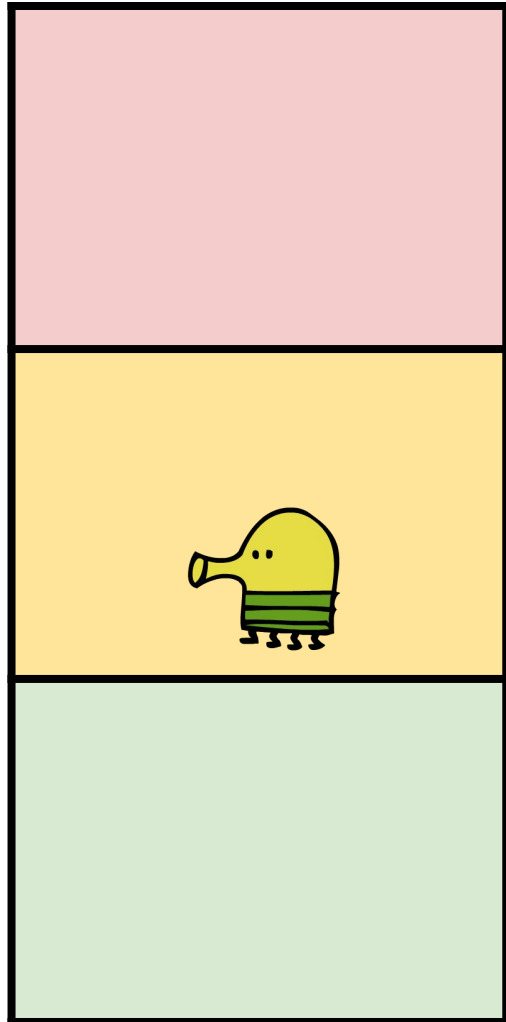
File menu for adding shapes, features, etc.

**Animation loads here.
Can possibly break into "Animation" class**

Button menu for options like loading, saving.



Breaking down a Map

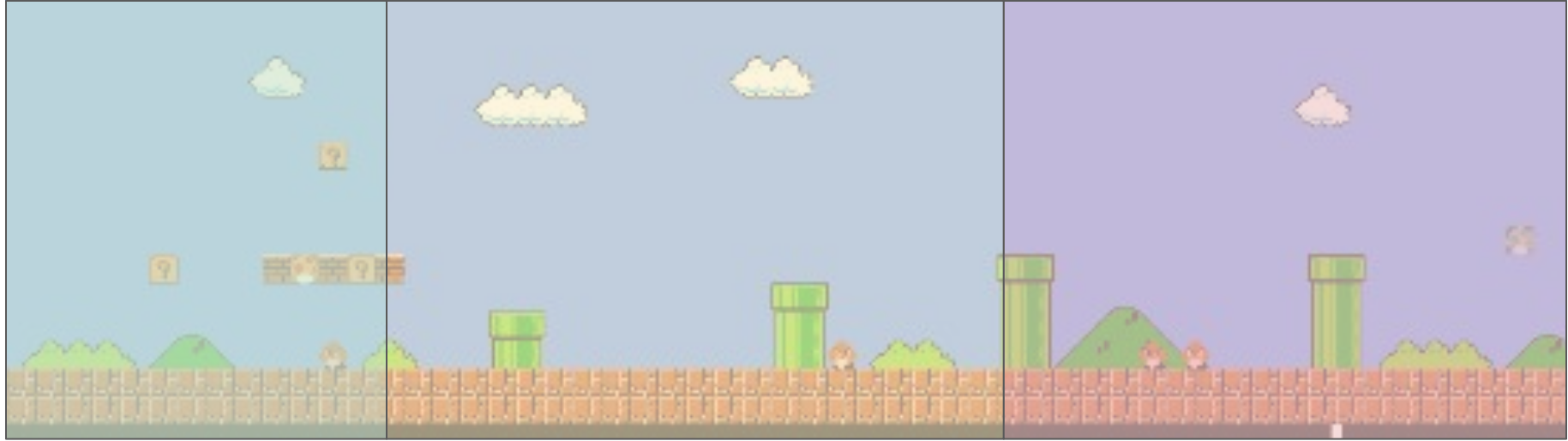


The red “chunk” represents the part of the map Doodle will soon enter. We need to preload this.

The yellow “chunk” represents the current part of the map Doodle is in.

The green “chunk” represents the section of the map Doodle just completed.

Apply the same concept for horizontal scroll games like Super Mario Bros.



green
chunk $k-1$

yellow
chunk k

red
chunk $k+1$

Class Name: public abstract class GameMap

Responsibilities:

private List<Chunk> gameChunks;

NOTE: Define custom abstract class Chunk for map support, and use an iterator of immutable chunk objects to prevent leaking the backend implementation

Collaborators:

Called by backend model.

Should support encapsulation.

Class Name: public abstract class Chunk

Responsibilities:

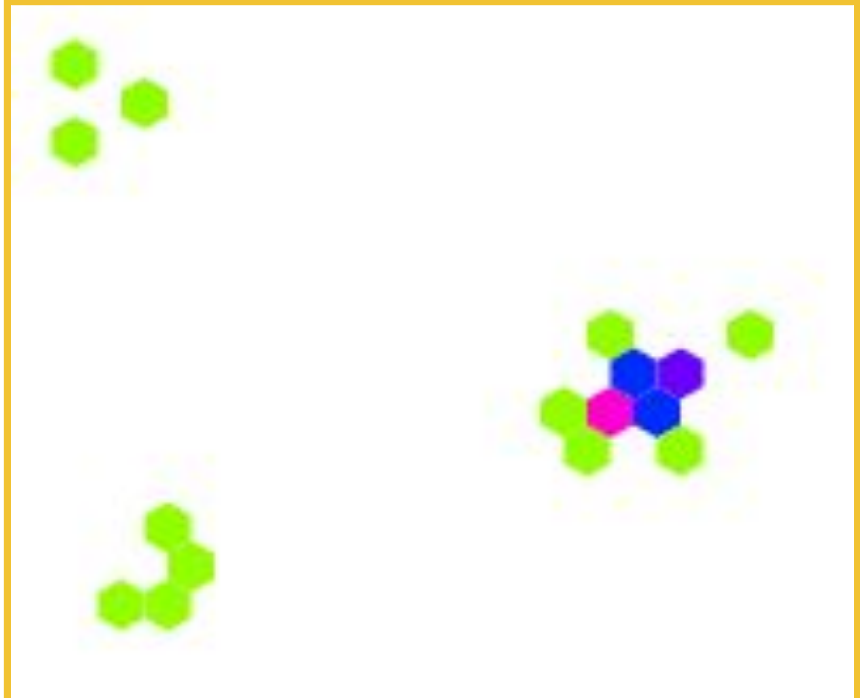
private final static int width;
private final static int height;

Collaborators:

Called by GameMap to represent backend implementation

Extra Graphics from Cell Society (for Reference/Inspiration)

Simulating... {modelName}
Current Step = {currStep}



Play

Pause

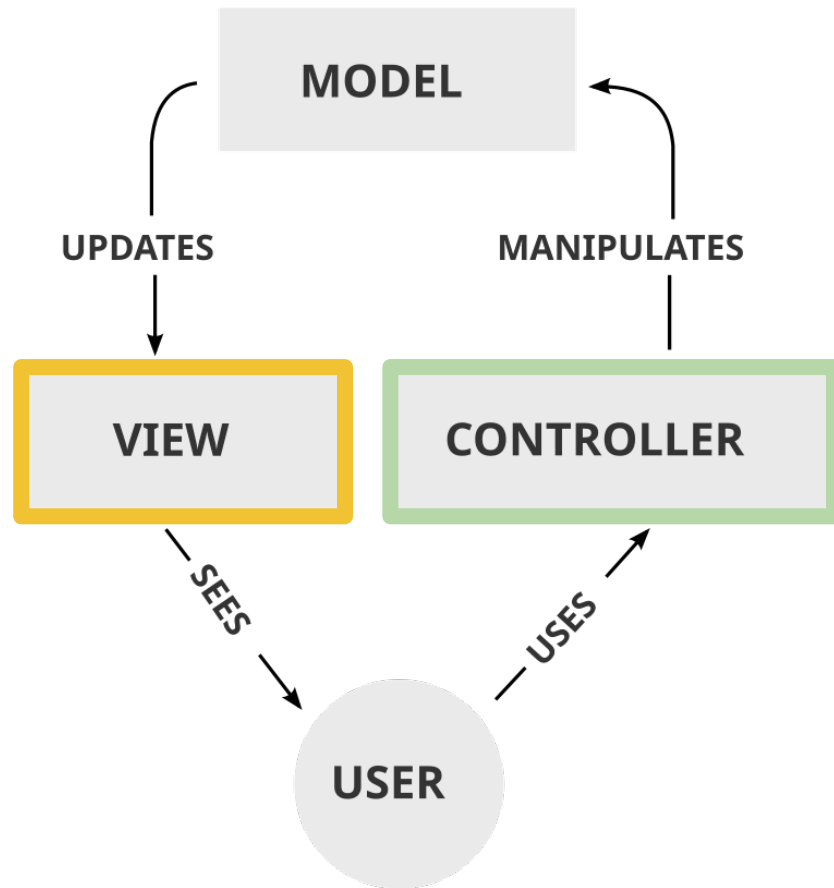
Reset

Speed
Up

Slow
Down

Save

Home



Editor Section

Background

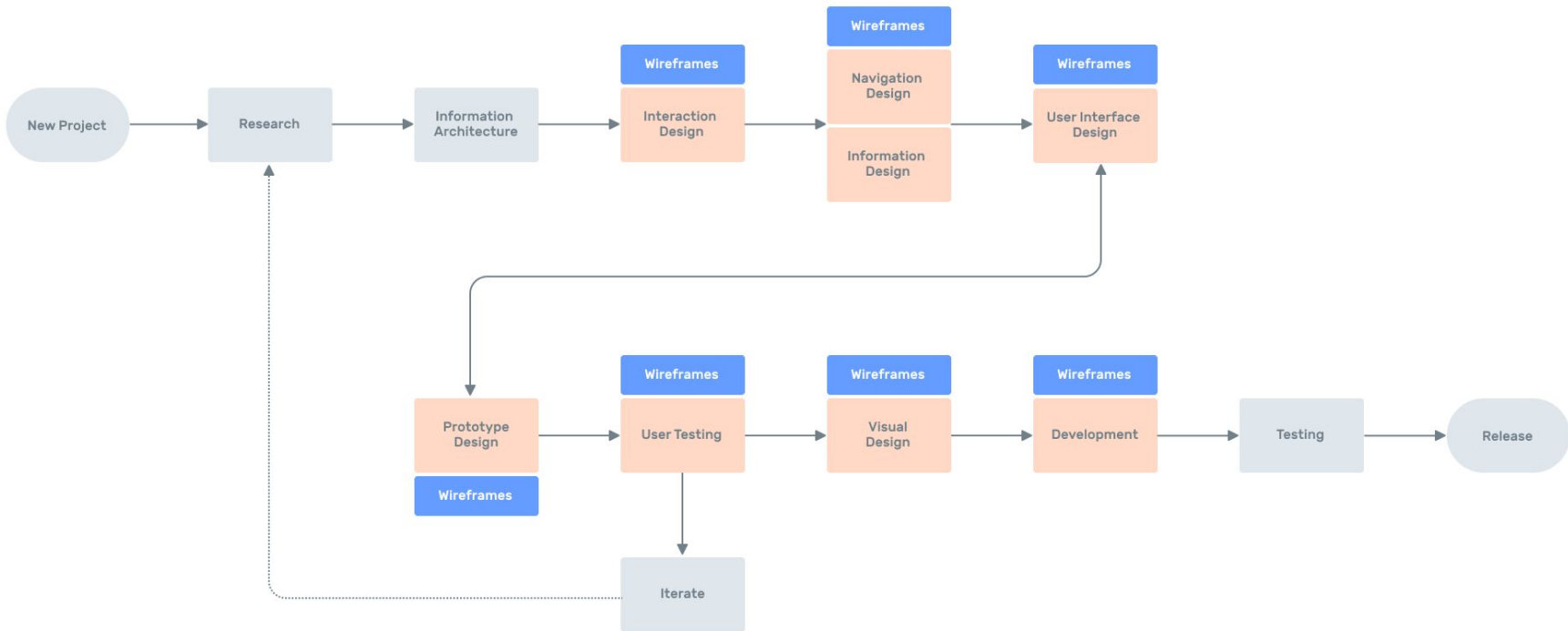
Foreground

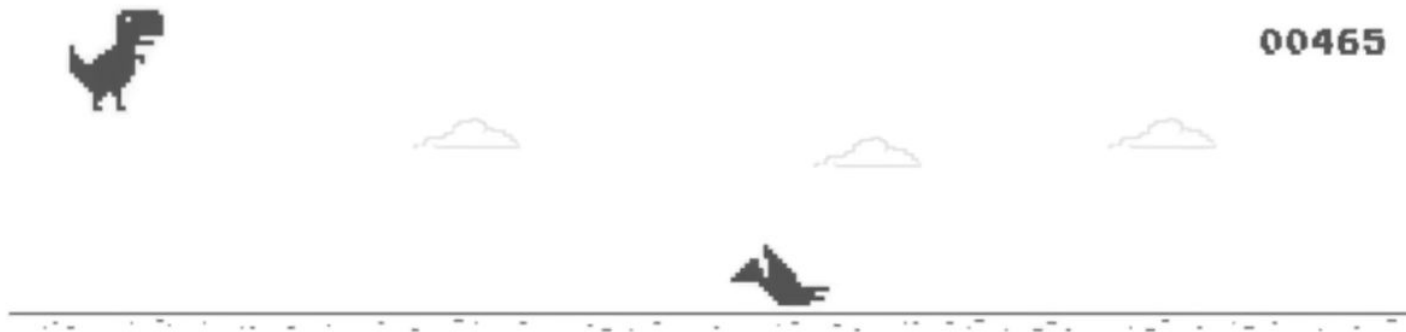
**Button menu for selecting
different objects to add to
scene**

Background

Foreground

**Button menu for selecting
different objects to add to
scene**





Chrome Dinosaur Game



Extracting the Assets

There's this Github repository with the Chrome assets

<https://github.com/wayou/t-rex-runner>



More specifically, you can find the sprites here:

https://github.com/wayou/t-rex-runner/blob/gh-pages/assets/default_100_percent/100-offline-sprite.png

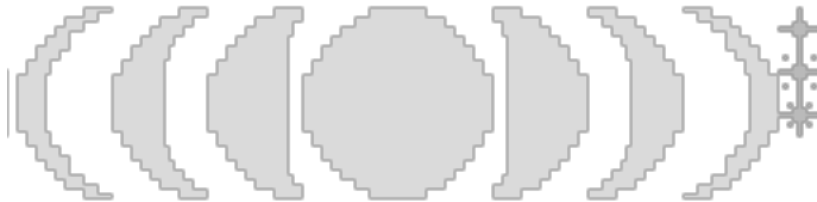
Chrome Dinosaur Game - Sprite Design



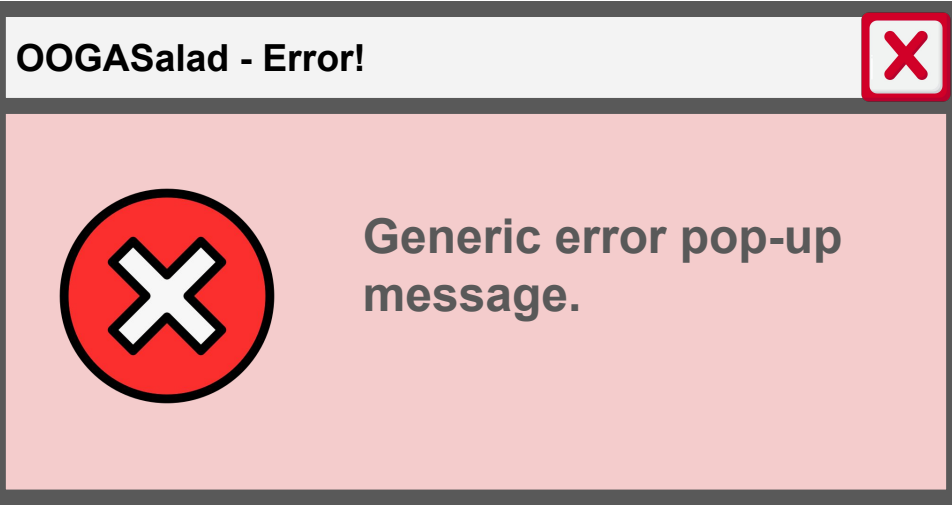
Talk about characters



Obstacles



Aesthetics

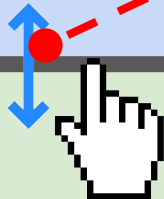


Background

Foreground

Game Editor

The editor item menu and the game display should allow the user to change the heights when hovering over the boundary.

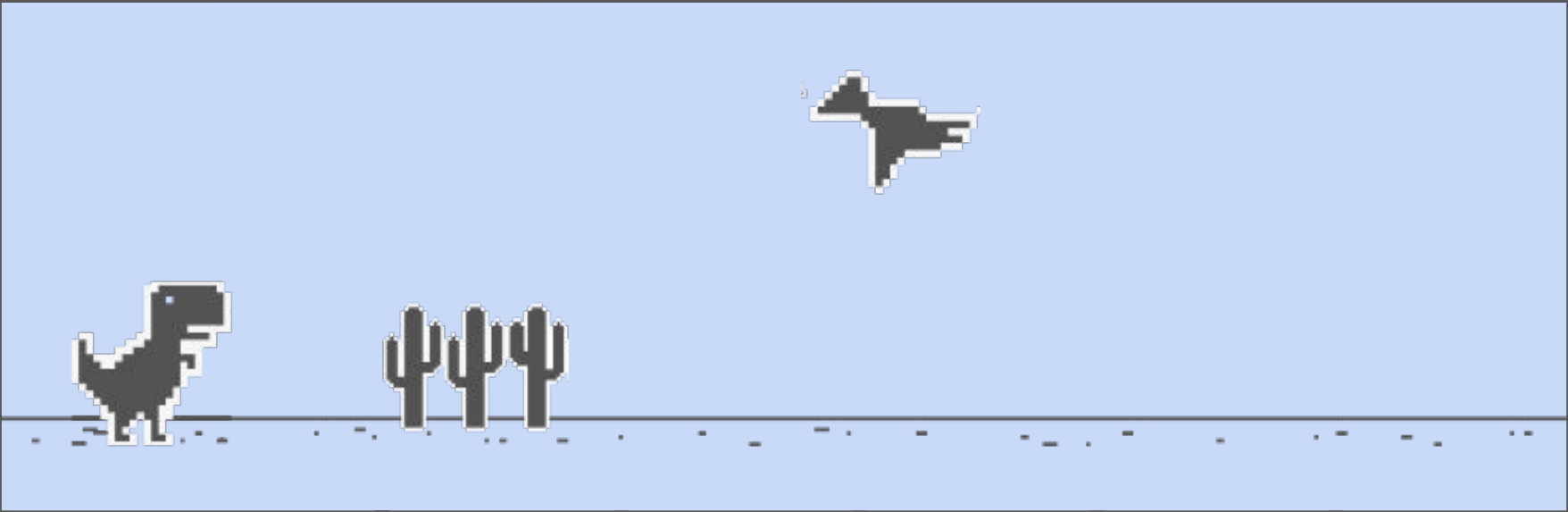


File

Background

Foreground


Game Editor




Obstacles


Aesthetics


Clear

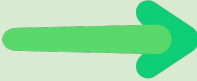


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User Interface Wireframe

Create one or more pictures of both programs' user interface to serve as a [wireframe](#) of your GUIs, a prototype that can be shared, commented on, and easily updated. Provide enough detail to show basic interactions and at least **one** erroneous situation ***per team member*** that are reported to the user (i.e., bad input data, empty data, etc.). You are encouraged to use a modern drag and drop layout tool for web or desktop apps (such as [Figma](#) or [PowerPoint](#)), [ExcaliDraw](#) (a Markdown-oriented drawing tool!) or you can scan in hand drawn, annotated, pictures.

**Erroneous Case: Load a level file that
doesn't exist
Assigned: Jacob**

OOGASalad (Splash Screen)

OOGASalad



Select Simulation Type

Start Game Editor

Start Game Engine

Help/Credits

Let's say we try click the "Select Simulation Type" button and try to load a simulation for "Minecraft", but we don't support that game.

OOGASalad (Splash Screen)

OOGASalad



OOGASalad - Error!



Selected simulation
type not supported by
our application!

To tell the user a leve file doesn't exist, we should use a pop-up message for user readability.

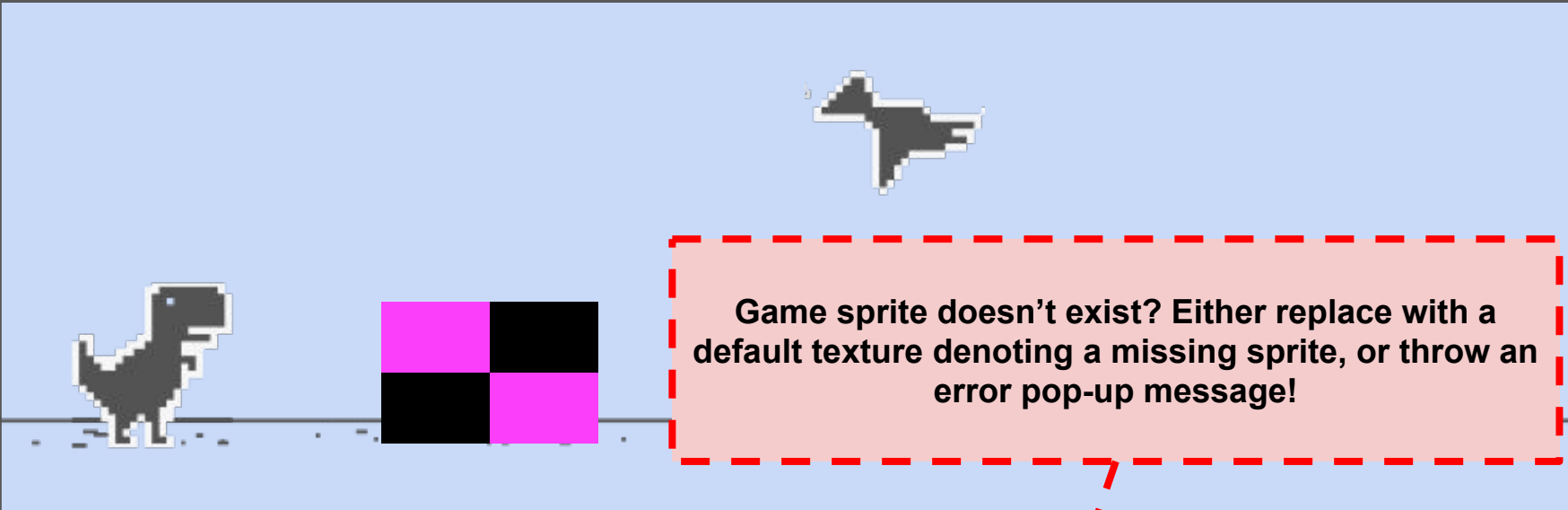
**Erroneous Case: Load a game sprite that
doesn't exist
Assigned: Billy**

File

Background

Foreground

Game Editor





A pixel art game scene with a light blue sky and a grey ground line. On the left, a black dinosaur with a white outline stands. In the center, a 2x2 grid of squares has a magenta top-left, black top-right, black bottom-left, and magenta bottom-right. On the right, a black bird-like sprite with a white outline is flying. A red dashed box with a pointer to the bottom-right magenta square contains the text: "Game sprite doesn't exist? Either replace with a default texture denoting a missing sprite, or throw an error pop-up message!"

Obstacles


Aesthetics

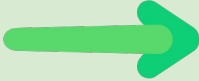
Clear


Previous



A pixel art game scene with a light green background. On the left, a black dinosaur with a white outline stands. In the center, a 2x2 grid of squares has a magenta top-left, black top-right, black bottom-left, and magenta bottom-right. A red dashed line with a dot at the bottom-right magenta square points to the text box in the main preview area.




Next

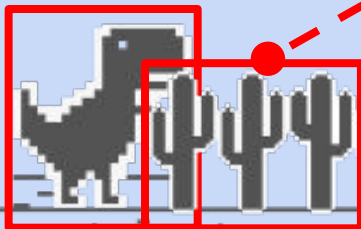
**Erroneous Case: Object doesn't
break/disappear on collision
Assigned: Alana**

Game Engine

HIGH SCORE
234



If the player crashes into an obstacle, this should trigger the end of the game. If, for some reason, it doesn't, we need to handle an exception.

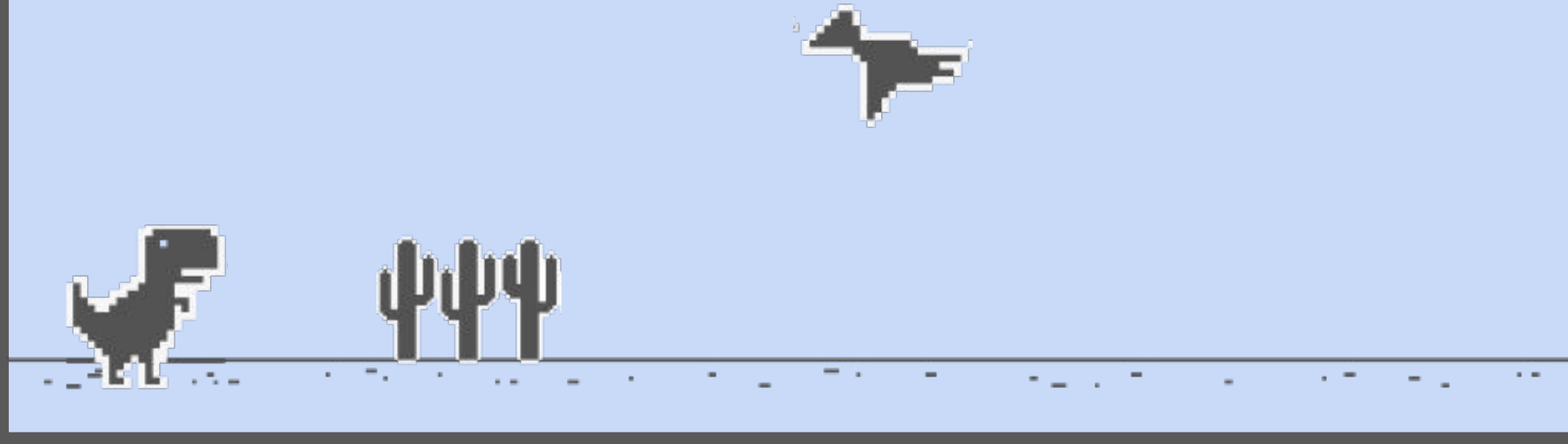


**Erroneous Case: Integer overflow for
game score
Assigned: Aksel**

Game Engine

Make sure to prevent integer overflows when storing high scores, whether it be the 32-bit integer limit or even something smaller, like 9999.

HIGH SCORE
2,147,483,647



Game Engine

For example, we shouldn't see $(2^{**}31-1)$ become $-2^{**}31$ for no reason.

HIGH SCORE
-2,147,483,648



**Erroneous Case: Parse a level that is not
properly formatted
Assigned: Tatum**

OOGASalad (Splash Screen)

OOGASalad



Select Simulation Type

Start Game Editor

Start Game Engine

Help/Credits

Once again, let's try to select a simulation type, but one of the XML files has a poorly formatted map that we can't parse.

OOGASalad (Splash Screen)

OOGASalad



OOGASalad - Error!



Failed to parse
simulation config file:
{insert exception msg}

The pop-up should provide a message notifying this error.

**Erroneous Case: Update entity position to
an invalid position (e.g., out of bounds)
Assigned: Gage**

File

Background

Foreground

Game Editor

The pterodactyl is flying out of bounds. Don't let the user save this configuration.



Obstacles

Aesthetics

Clear



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File

Background

Foreground

Game Editor



OOGASalad - Error!



The entity
{PTERODACTYL} is
out-of-bounds.

Obstacles

Aesthetics

Clear



Previous



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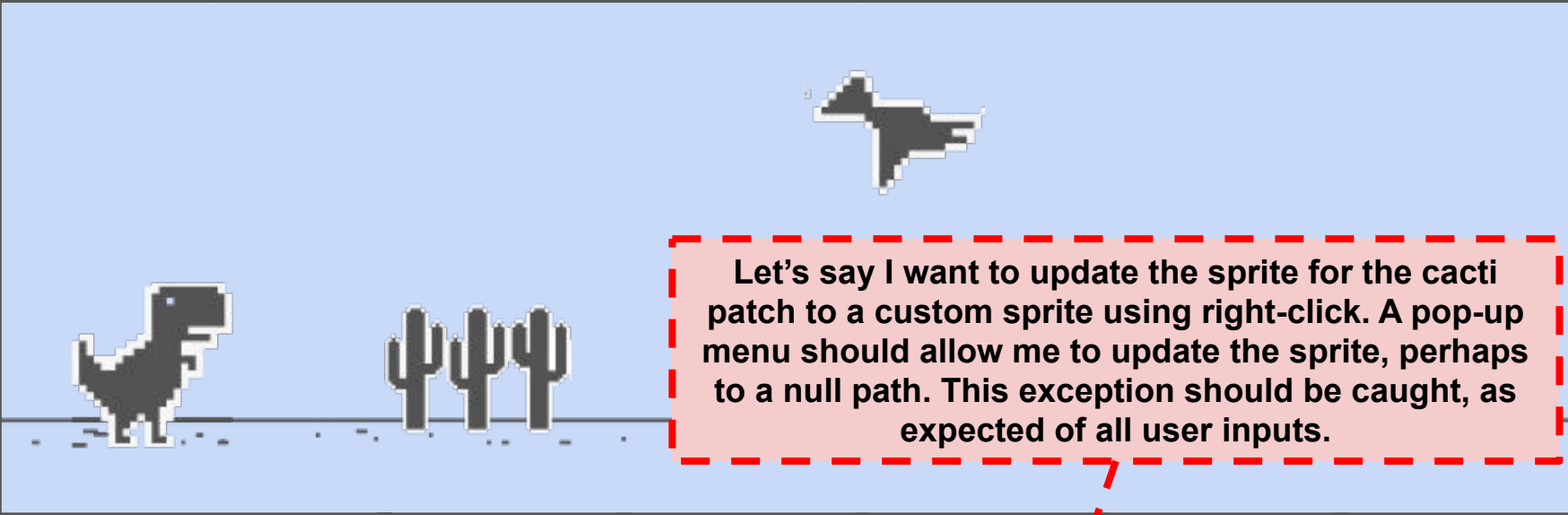
**Erroneous Case: Update front end game
sprite to a null value (and catch the
exception)
Assigned: Luke**

File

Background

Foreground

Game Editor




Let's say I want to update the sprite for the cacti patch to a custom sprite using right-click. A pop-up menu should allow me to update the sprite, perhaps to a null path. This exception should be caught, as expected of all user inputs.


Obstacles


Aesthetics


Clear




Previous









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