

Graphic Design & Production for an iOS Game



Teaser



Demo

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Our Team

- ✕ Chad Towns
 - Appsomniacs.com
 - (design, programming, graphics)
- ✕ Hunter Mayer
 - CodeWorxStudios.com
 - (design, programming)
- ✕ Meredith Cook
 - MulchMedia.com
 - (graphics, marketing)



Creation Process: Based on Iteration (and a lot of it)

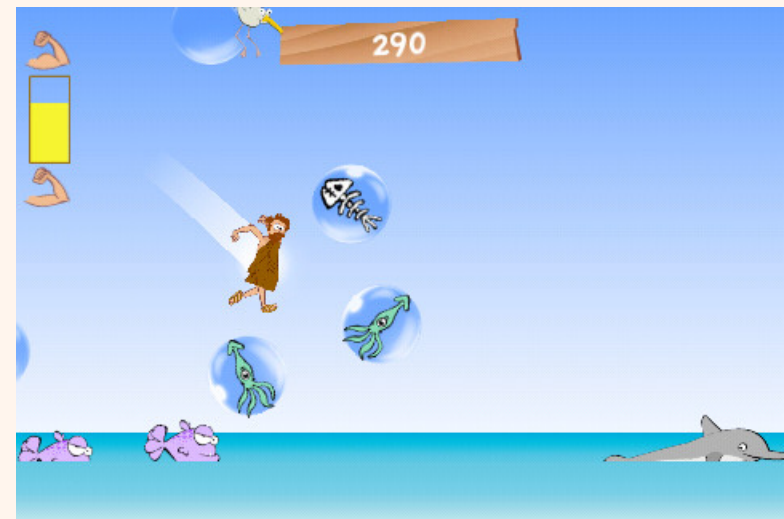
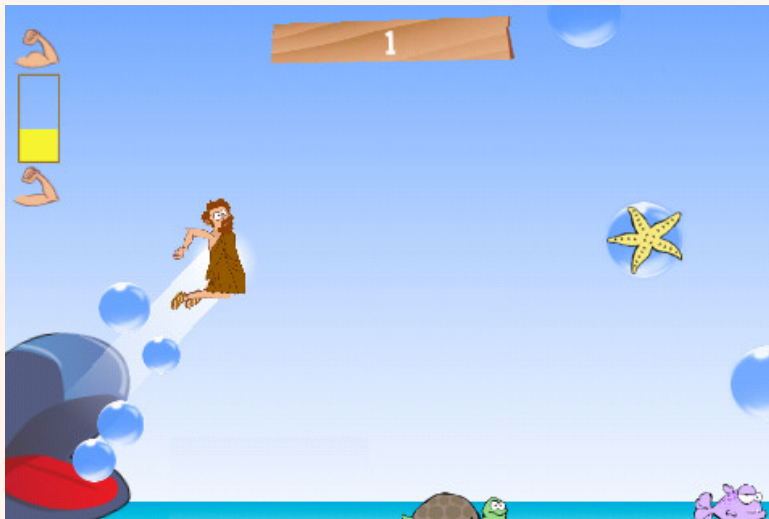
- (1) Start with a design idea
- (2) Rough in graphics with some programming
- (3) Refined after some testing
- (4) More testing & more refining



(1) Design Idea: Jonah & the Whale



- ✖ Took a game that was already made by Appsomniacs (we own the IP)
- ✖ Re-skinned it with a new graphic set
- ✖ Changed game play to fit the new theme and create new interest





(2) Rough in Graphics

- ✗ Replace existing graphics
- ✗ Created a new theme
- ✗ Refined to make it cohesive
- ✗ And there is still more to do!
(positive reinforcement, incentives, tutorial, levels)

Rev 0



Rev 1



Rev 2





(3) Testing & Refining

- ✗ Resolve game play issues (made the game too difficult or too easy)
- ✗ Add instructions (in the game, tips after the game, and help files)
- ✗ Some problems were not obvious until they were moving on the screen

Rev 1



Rev 2

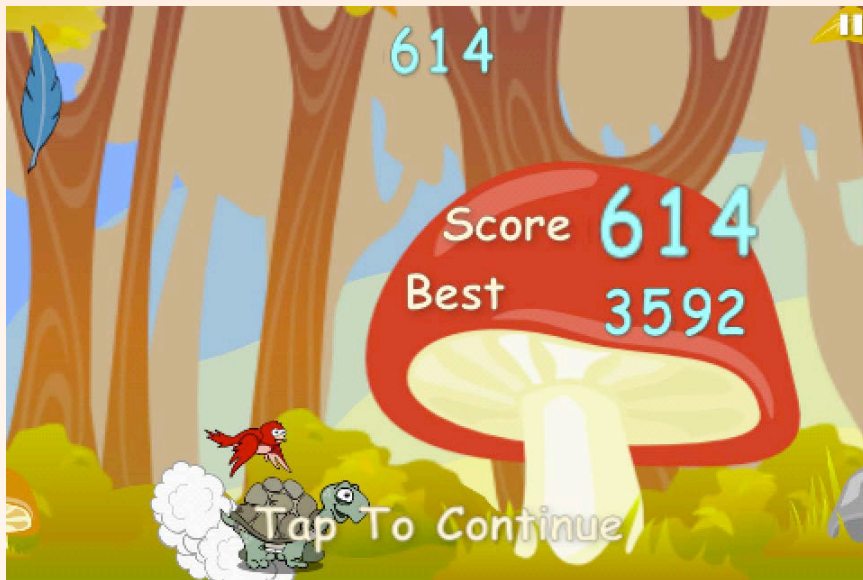




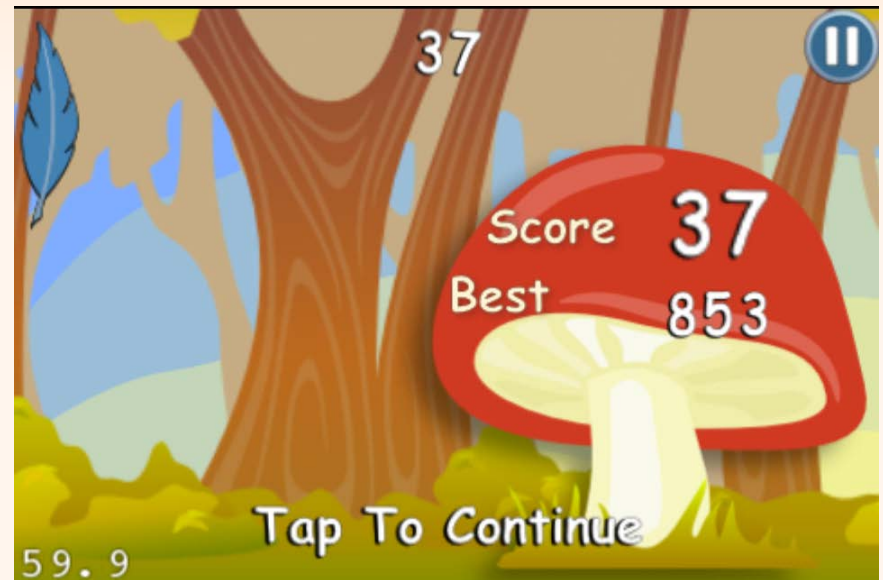
(4) More Testing & More Refining

- ✗ Created a cohesive look for easier use (HUD)
- ✗ Make some elements larger for easier use on a small device
- ✗ Add stronger contrast to make elements more visible

Rev 1



Rev 2





Tools We Used

- ✗ Inkscape (vector graphics), xcode, Texture packer (sprite sheets)
- ✗ All images were created as vector graphics and exported as .PNG file format
- ✗ Build designs based on size of the screens
 - + Each platform could have different size requirements (iOS, Android, Win8)
 - + Keep in mind the different aspect ratios (iPhone/iPod/iPad)
 - + Other platforms may prefer multiple scaled versions of the graphics for different screen sizes (Windows 8)



Texture Optimization: The Power of 2 Rule

- ✖ All graphics need to be a pixel size as a power of 2 (4, 8, 16, 32, 64, 128, 256, 512, 1024, 2048...)
- ✖ Computers manage and process data in chunks (powers of 2) for purposes of efficiency
- ✖ When the game engine processes an improperly sized graphic it spends extra resources filling in the missing data (interpolate). The system will enlarge the size of the graphic (but not the graphic itself) to be the next largest power of 2.
- ✖ This results in a possible slowing of game performance to process the errors and potential visual errors like pixelating or blurring.

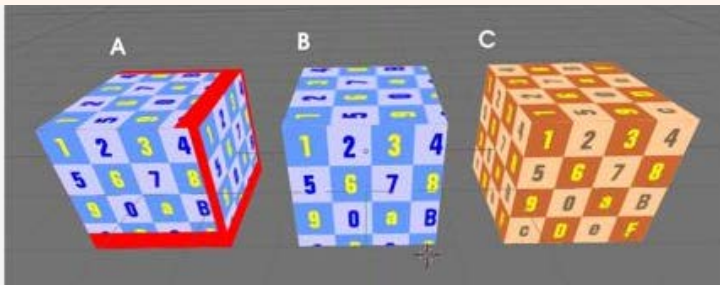
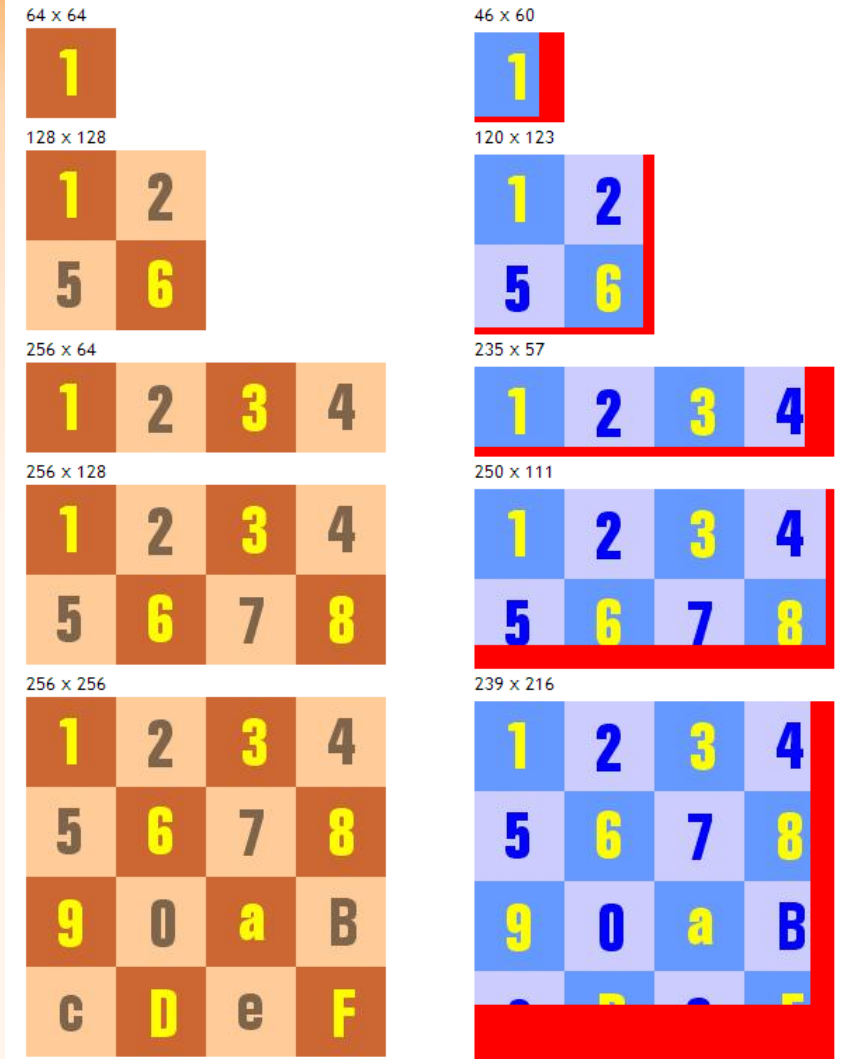


Image source: www.katsbits.com/tutorials/textures/make-better-textures-correct-size-and-power-of-two.php





Texture Optimization: Sprite Sheets

- ✗ Sprite sheets (or texture atlases) group a collection of graphics together into one .PNG file.
- ✗ Purpose is to improve performance
- ✗ Load graphics in the game faster and reduce memory usage
- ✗ Sprite sheet is loaded into the system memory and then the game draws each of the graphical components when needed.
- ✗ Sprite sheet size has platform limitations of 2048 x 2048 (older devices 1024 x 1024). This creates a limit on how big one graphic can be.



Sprite Sheet Examples

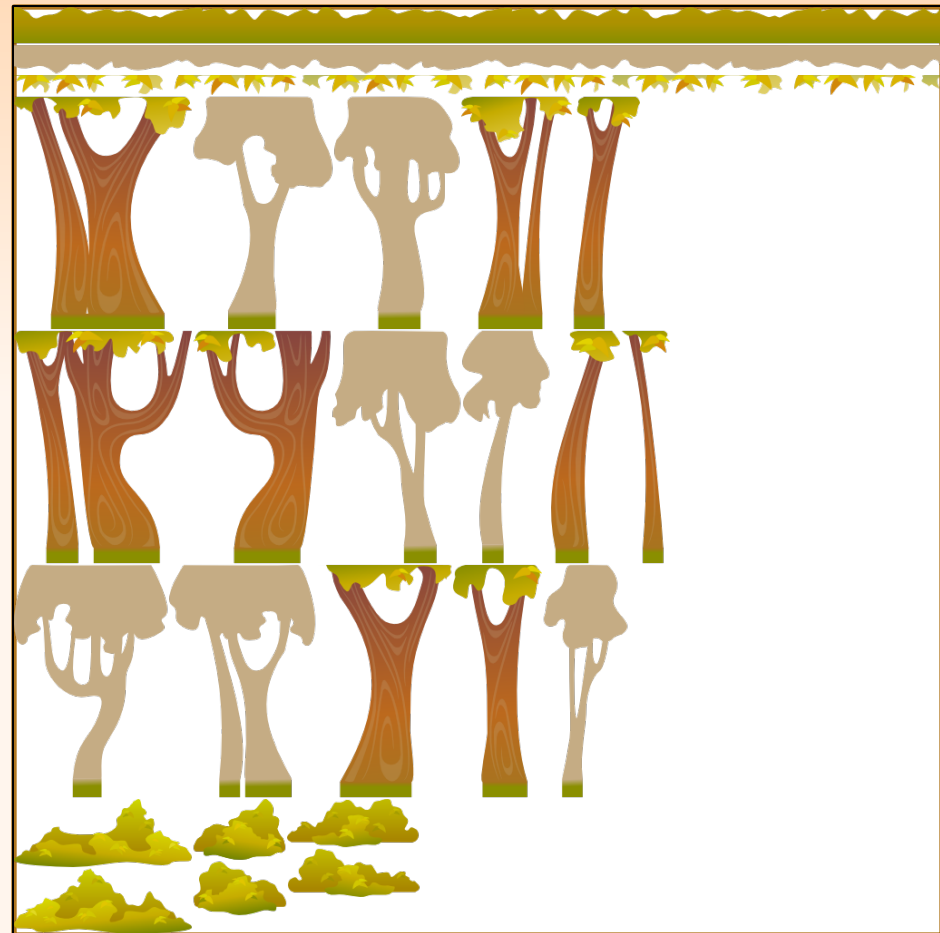


Background design example

Background in game



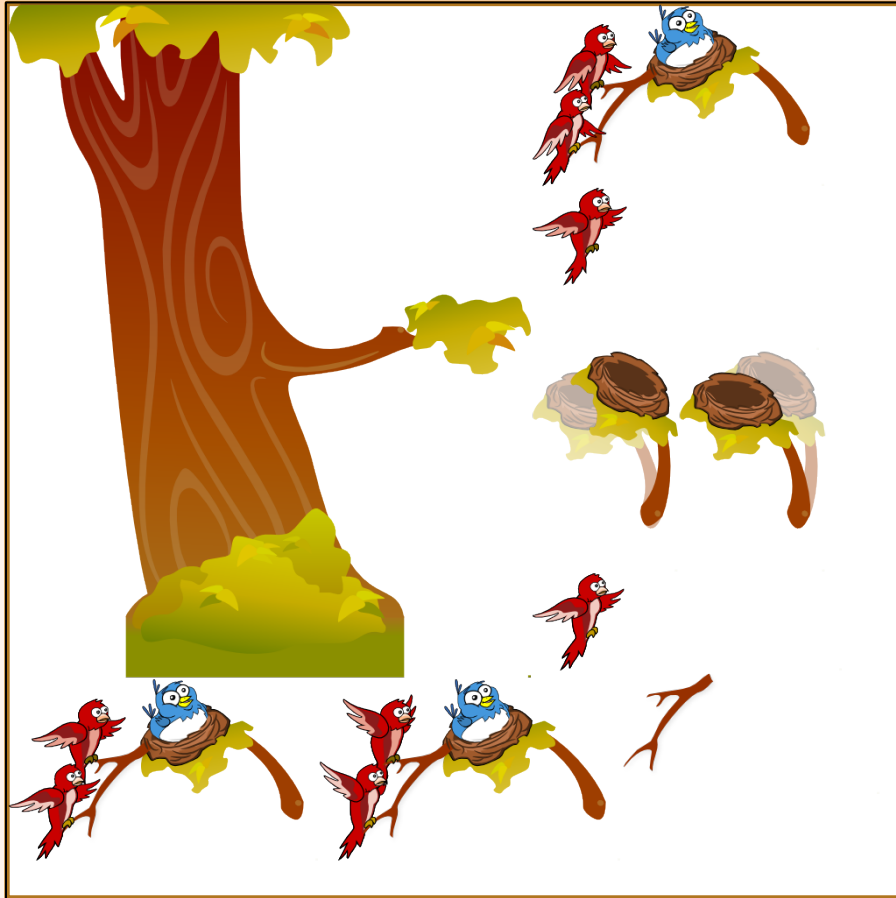
Background Sprite Sheet



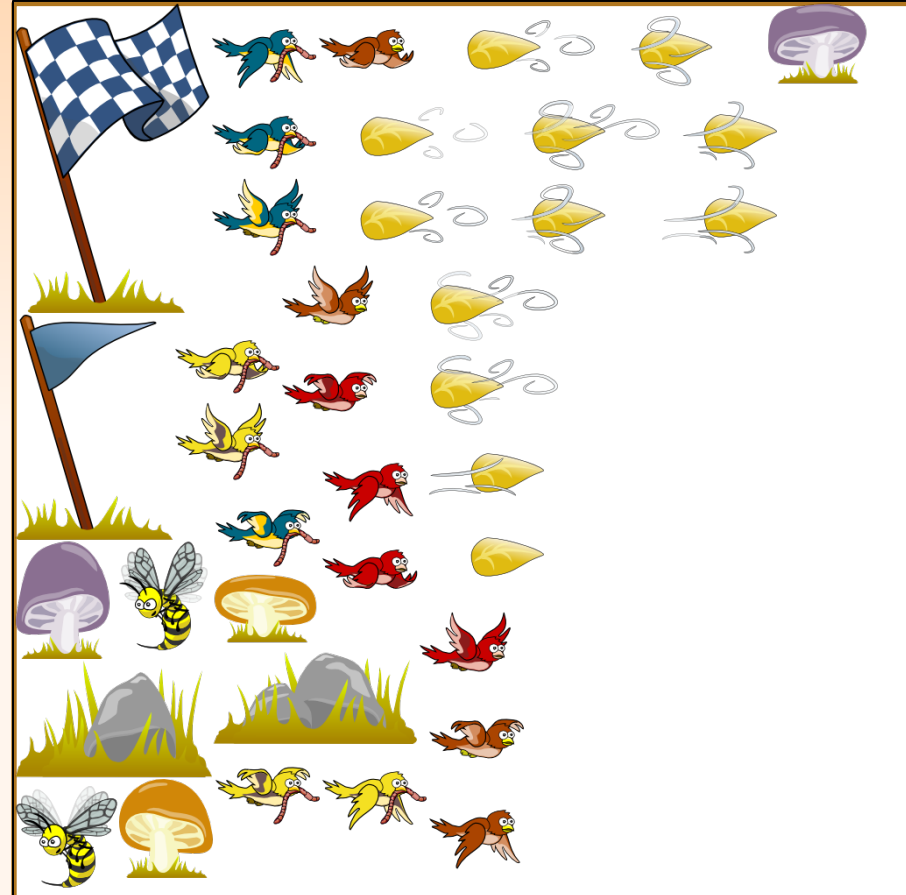


Sprite Sheet Examples

Home Tree Sprite Sheet



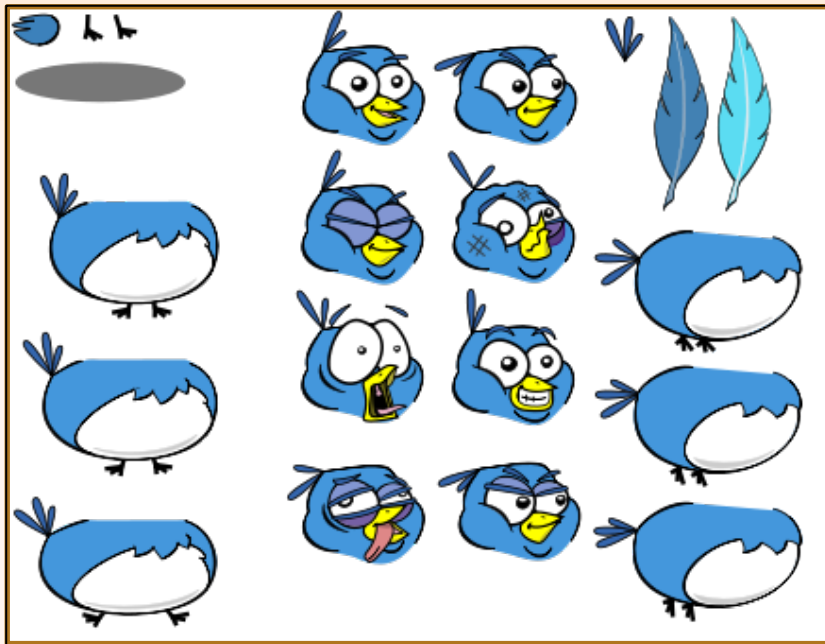
Other Game Elements Sprite Sheet



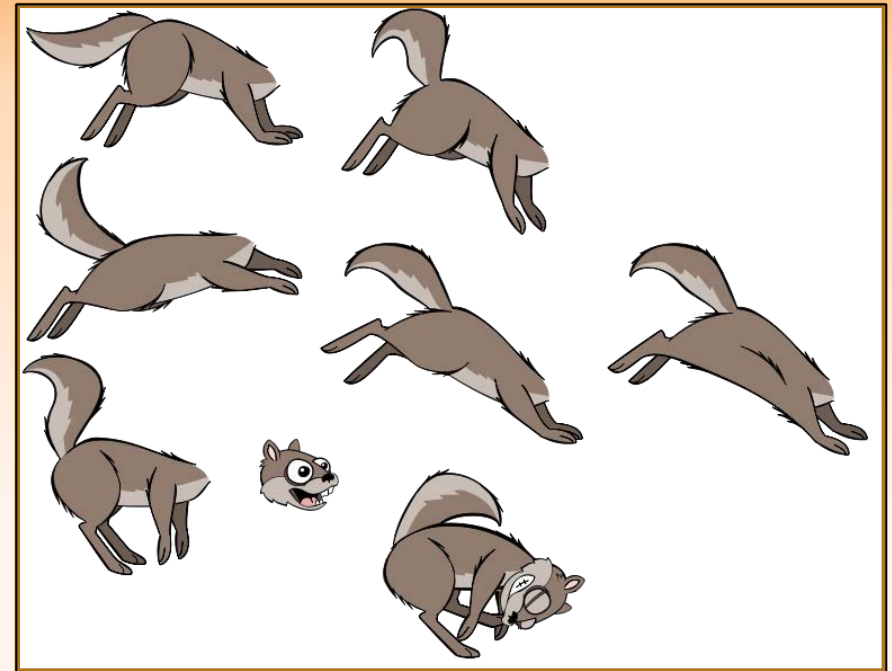


Animations - Programmatically

- ✖ Characters like Flip & Squirrel
- ✖ Each body part movement is defined by the programmer
- ✖ A dynamic method to animate characters



Flip's Sprite Sheet



Squirrel's Sprite Sheet





Animations - Frames

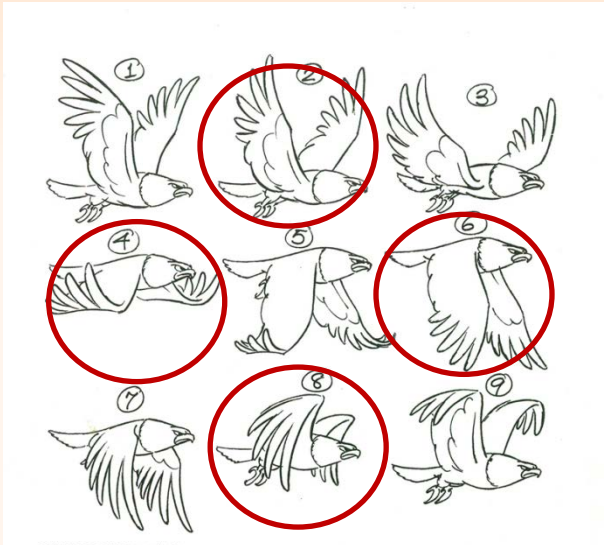
- Graphics: Crow, birds, wasp, gust of wind, mushrooms
- A graphic is created for each animation cell
- Cells need to be the same size for every frame (use a blank bounding box around each graphic)

0

1

2

3



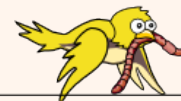
0



1



2



3

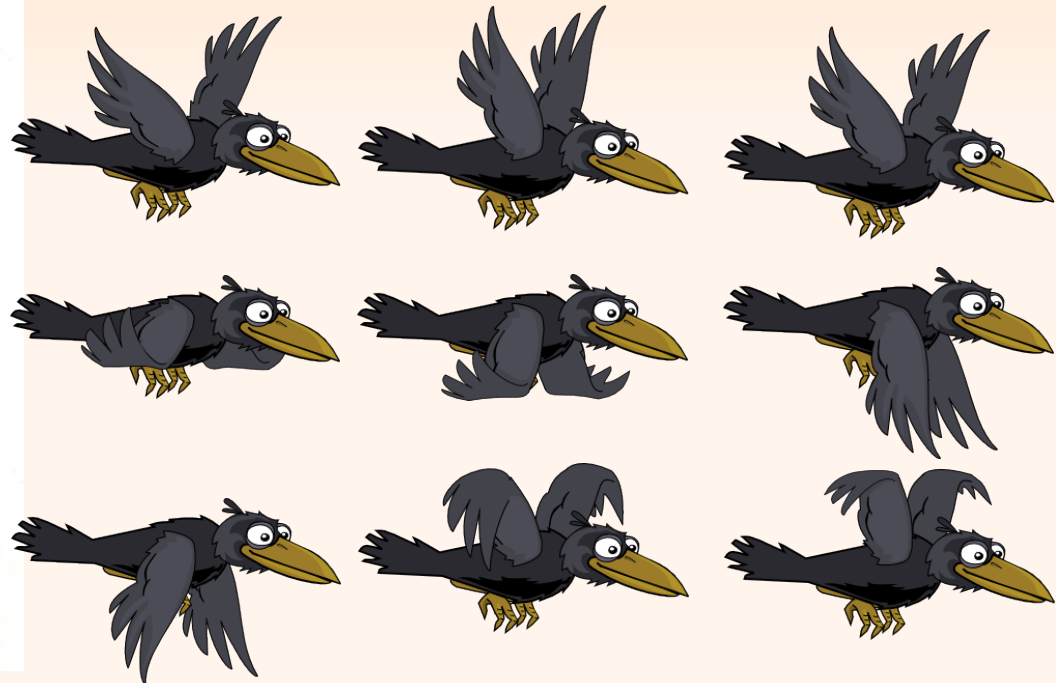
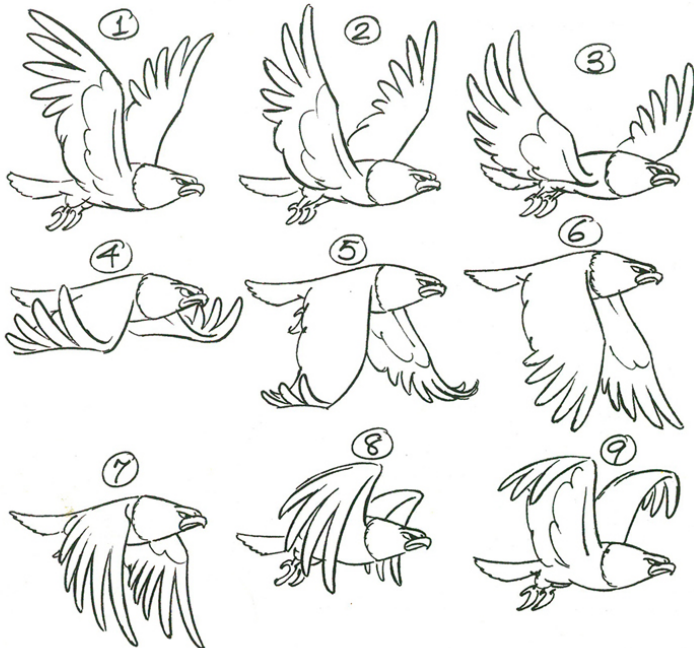
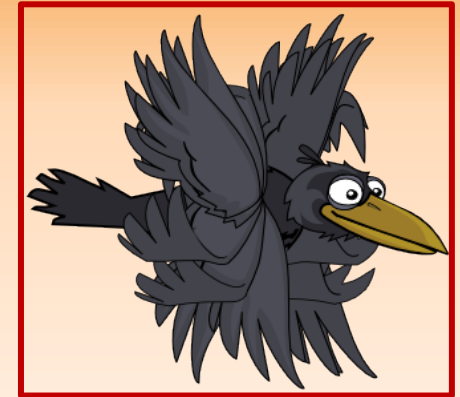




Animations - Frames

Key Learnings:

- Use layers!
- Create a bounding box for the whole animation





Graphics Needed to Publish

✕ Icons



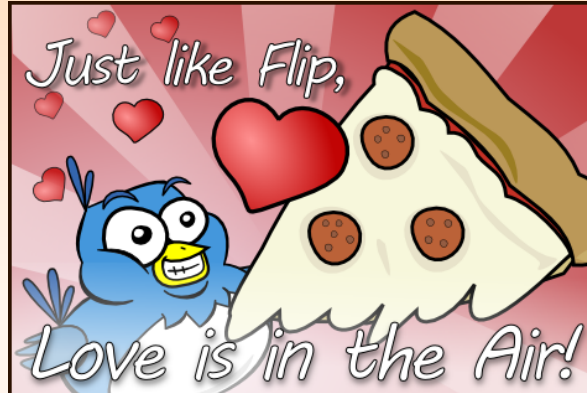
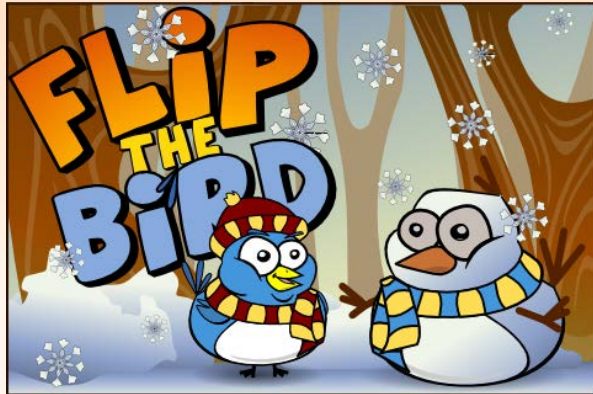
✕ Screen Shots





Graphics Good to Have

✕ Promo Images/Social Media





Graphics Good to Have

✕ Ads

✕ youtube Videos

(<http://www.youtube.com/user/codeworxstudios>)



Flip the Bird (tm) - Game Play
Teaser 01

<http://youtu.be/gYa700J2uQc>

Flip the Bird (tm) - Story

http://youtu.be/_-INjHs1UmE





Questions?

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