Create a Playable Game

LEARNING GOAL & SCALE: Standard	
4	Student will be successful in level 3 and: Create a final game with advanced features such as a working inventory system, customizable characters, and multiple player choices.
3	Student will: Design and create a playable game. (standard 17.0) ✓ Use a number of computer tools to enhance and ease game programming and artistry. ✓ Use a game engine to create a playable game. ✓ Use animated objects. ✓ Integrate sound and music to enhance the game experience. ✓ Test and debug to game completion.
2	Student will: Define storyboard, test case, architecture chart. Understand the basic requirements involved throughout the game design process.
1	With help from the teacher, the student has partial success with the current content.
0	Even with help, the student has no success with the current content.

Work Scenario: You have been hired by an indie studio to create a game. The company is giving you flexibility as long as it meets some basic requirements which are on the following page.
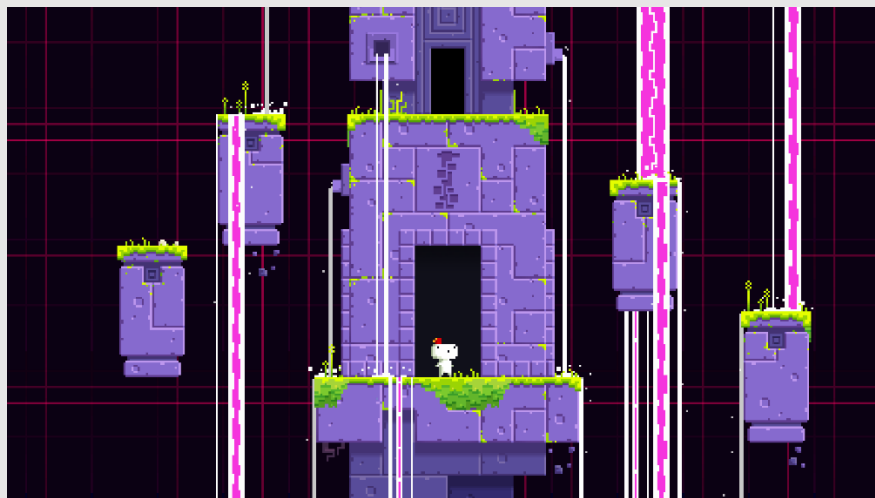
Requirements for your new job:

- Title screen, at least 2 functional levels, and a credit screen citing all image and sound sources
- Use GameMaker, Unity, or Unreal Engine (use GameMaker unless you have begun to work in Unity or Unreal on your own or you will run out of time).
    - Prefer you also use other tools in addition to your game engine like Photoshop, Toon Boom Harmony for animations, etc. Find tutorials as needed.
- Cohesive design with a central theme that is clearly recognized
- **NO** white backgrounds on assets, unedited assets, basic blocks as characters, overly simplistic assets, etc. Use your judgement here and make it look good.
- At least two animated objects- your choice what those are
- Scrolling background and/or camera follow (camera follows player)
- Sound (background music or sounds based on events happening in the game)
- At least one asset that was created by you- completely original
- Working game with no major bugs or fatal errors
- MUST BE EXE SINGLE RUNTIME FILE- INSTRUCTIONS ON NEXT PAGE!
- ****You cannot use drag and drop coding for main game mechanics- only for basic buttons, transitioning between rooms, etc.****

Resources

[Dr. Kirk's Dropbox](#) * [Open Game Art Assets](#) * [Sound FX](#) *[Free Sound](#)

*You can also find your own resources. Dr. Kirk's Dropbox includes some basic tutorials as well as assets but you can find your own tutorials if you wish.

GameMaker Size Reminders:

Backgrounds if you use the standards size are **1024x768** (can adjust but then room size must be adjusted- if smaller it could be hard to see if not zoomed)

Main characters are usually **32x32**

All other assets sized according to how big they should be relative to the player

GRADES WILL BE BASED ON MEETING ALL REQUIREMENTS, DESIGN/STYLE, FUNCTIONALITY, AND ENTERTAINMENT VALUE SO MAKE IT INTERESTING! I DON'T WANT ANY GENERIC PLATFORMERS THAT ARE NOT FUN TO PLAY. IF YOU CHOOSE TO USE THE SAME PLAYER MOVEMENT AS FIRST GAME I EXPECT A LOT OF EXTRA FEATURES TO BE ADDED TO MAKE UP FOR THE TIME SAVED BY REUSING CODE

How to Make a GameMaker Application (EXE) File in GameMaker
- Go to File(top left)
- Click "Create Application"
- Choose your Removable Drive/Flash Drive (it will not save an exe to your H/R2D2 drive)
- Rename the file name to your name and what the game title is (Example: KirkPlatformer)
- Change the second box (Save as type) to **"Single runtime executable (*exe)"**
- Click "Save"
- Upload the .exe file to OneDrive

How Do I Begin?
- Start by thinking of a genre you want to build & overall design/theme ideas
- Make an "asset list" based on the requirements- Find all assets and resize based on this list. Don't forget backgrounds!
- Make a "code list" based on the requirements- Find tutorials for each item on your code list
- Create all your sprites and backgrounds off the assets found
- Create your objects off your sprites
- Create your rooms and add your backgrounds
- Complete all tutorials to add code and meet all requirements
- Test, test, test and debug!
- Turn into EXE and upload

Overall design is a part of this grade! See examples of good and bad design on the next page…

Tips on design!

- **More isn't always better- a plain & less cluttered background often looks better unless it really goes with the overall theme of the game. Be careful using backgrounds that involve a ground & sky because then you can only place walls/platforms or the ground or it won't make sense.**
- **Backgrounds that aren't sized properly can tile and ruin a games look.**
- **Characters, enemies, rewards, and game world objects should all relate to a central theme.**
- **Removing white backgrounds/boxes around assets makes a big difference in the overall look. Use the GameMaker "erase a color" in sprite editor or the magic wand in Photoshop to remove them.**

Bad Design:
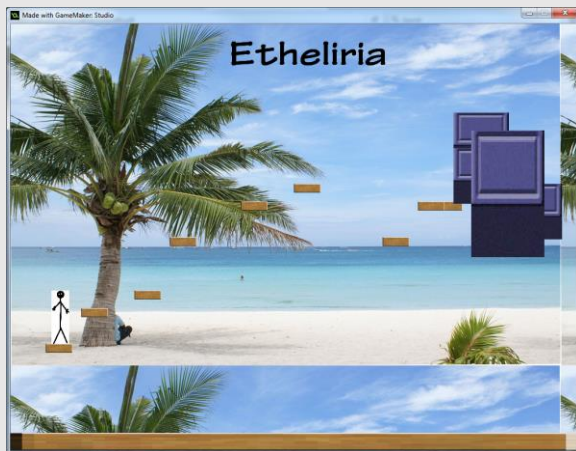
Why is it bad design? White box around player, tiled background rather than being sized properly, platforms floating in air randomly, random boxes on right side.

Good Design:
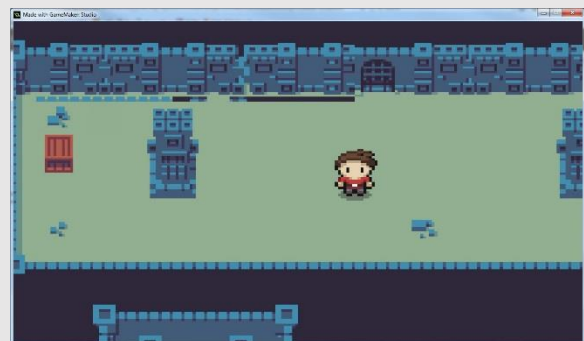
Why is it good design? Camera zoom/follow on character to make level longer to get through. Central theme of a castle is followed- player is in a hallway in a castle, walls all relate to that by being stone, central color scheme, etc.