

StudioBlueBox Developer's Manual



Environment Setup:

Unity 2019.3.3f1

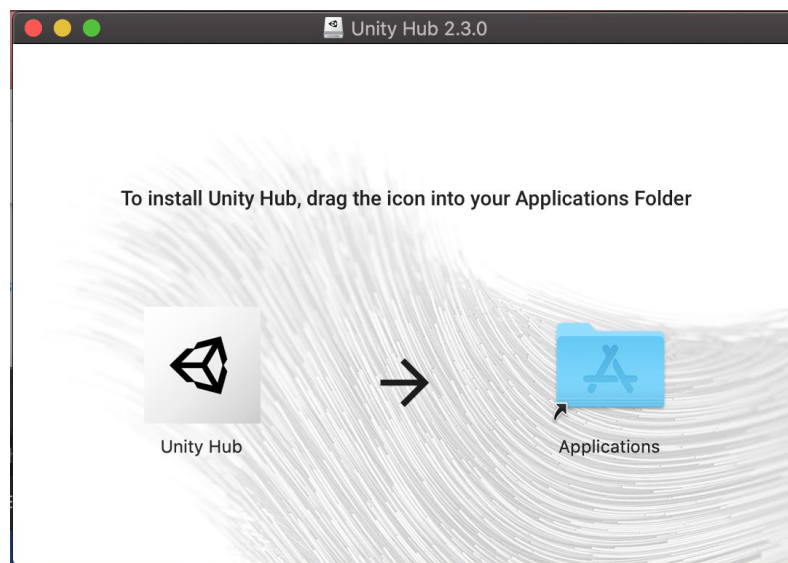
Updated: **Unity 2019.3.5f1** - there were some issues with Unity crashing while trying to open our game over break, so we updated to the newest version (at the time)

Unity Download Instructions:

<https://unity3d.com/get-unity/download>

Steps:

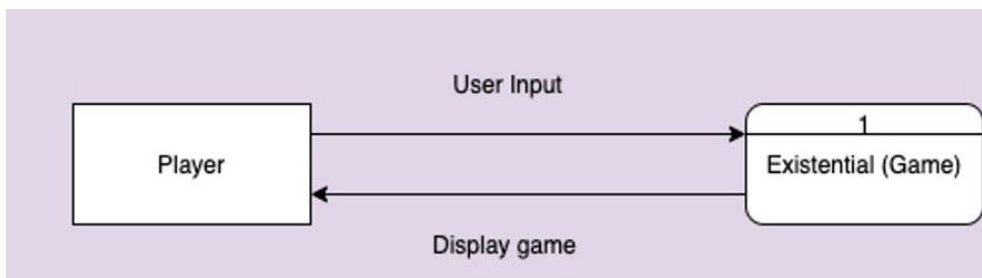
1. Choose your download: Unity Hub or Unity+
2. Choose to agree/disagree with the Terms of Service
3. For Mac, move Unity/Unity Hub into Apps folder and start installation process following wizard



4. Otherwise, click on the installation wizard and follow the prompts

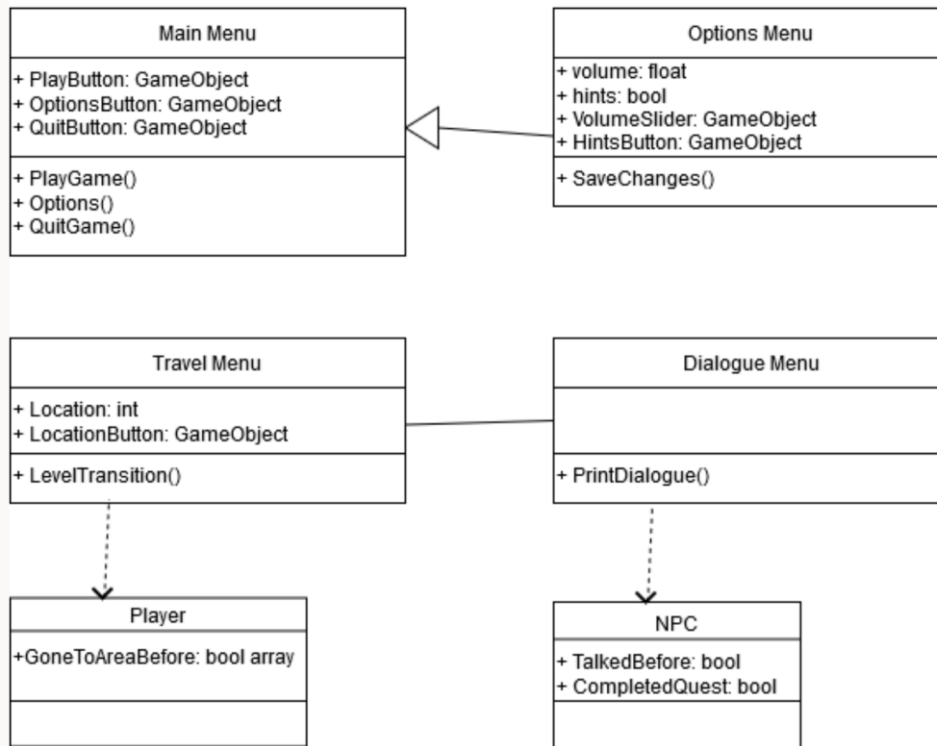
High Level View of Existing Code:

Context Diagram

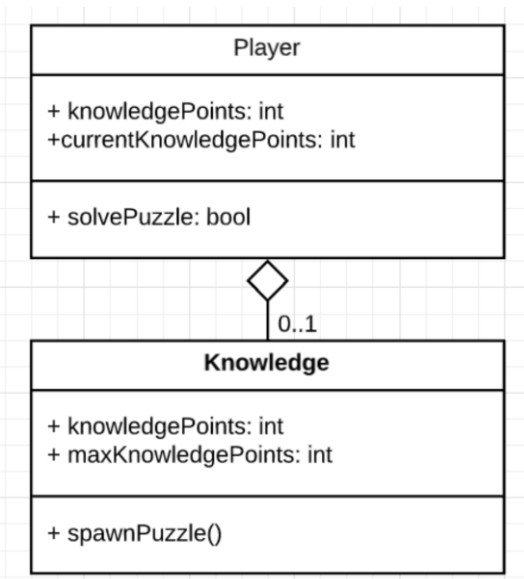


Class Diagrams

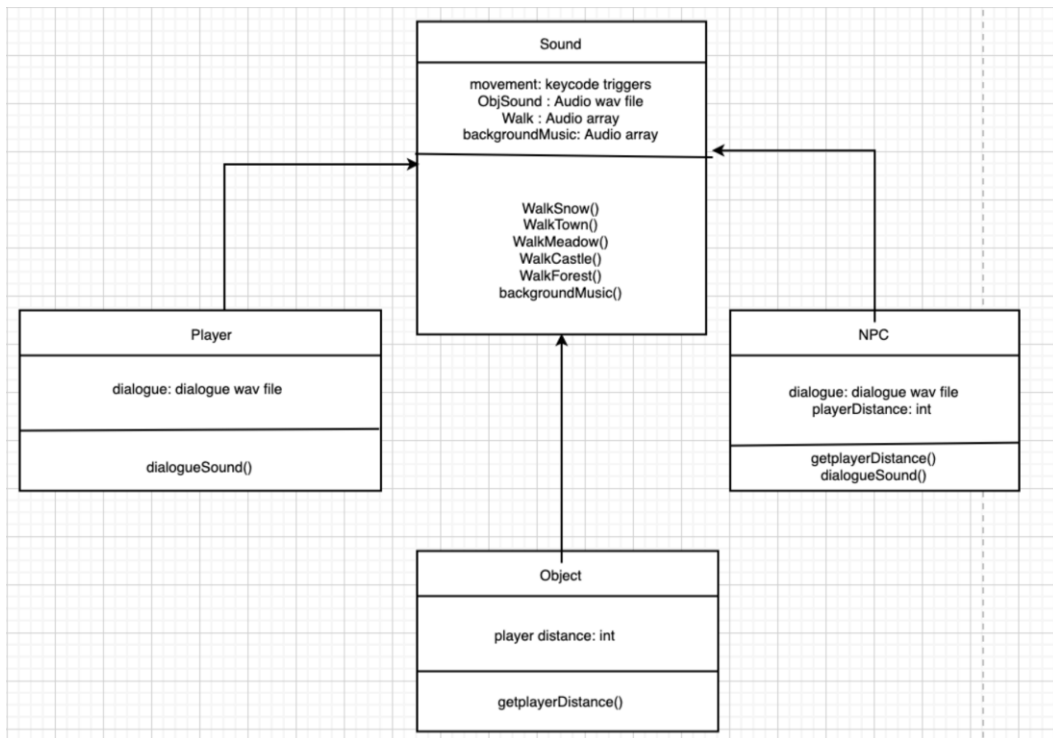
Sam:



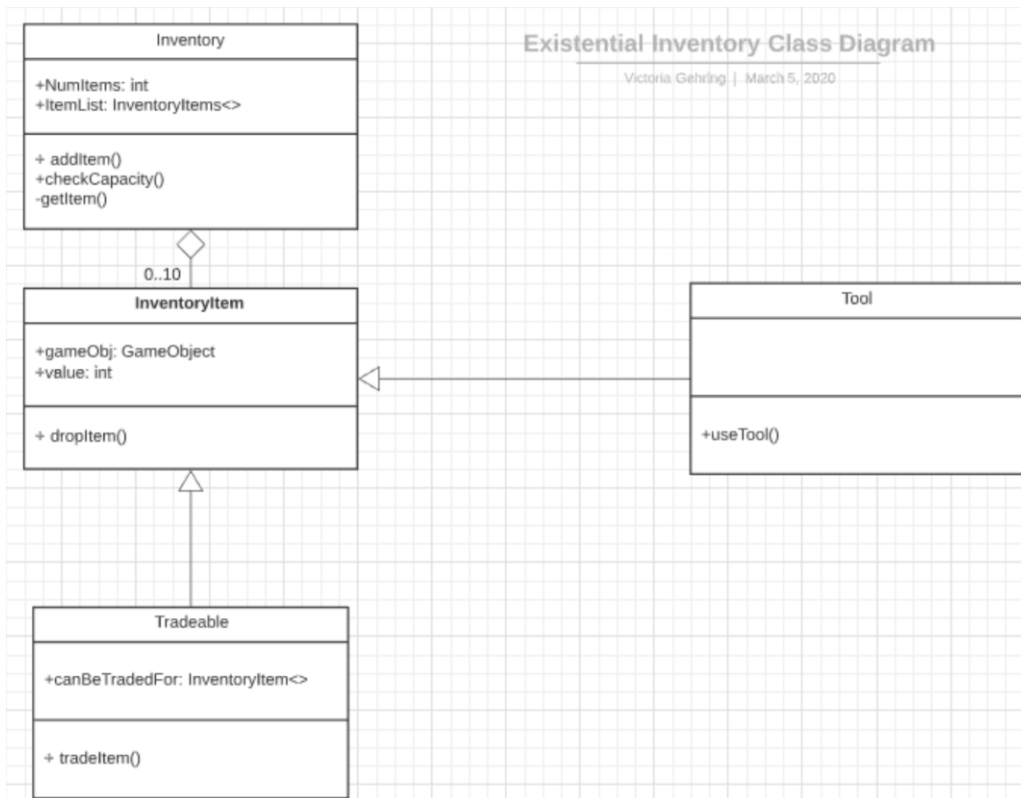
Isabel:



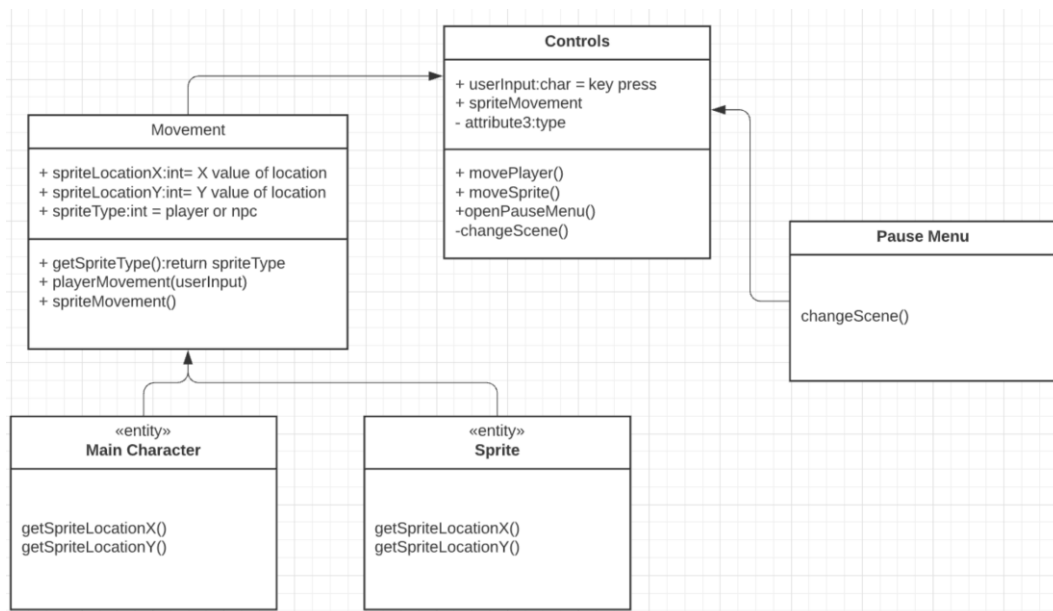
Taegan:



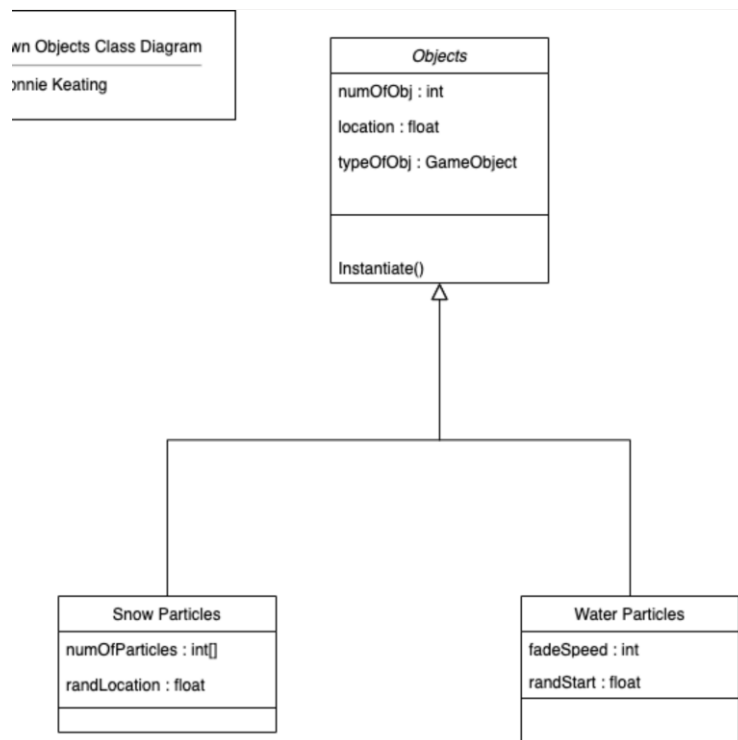
Tori:



Sydney:



Ronnie:

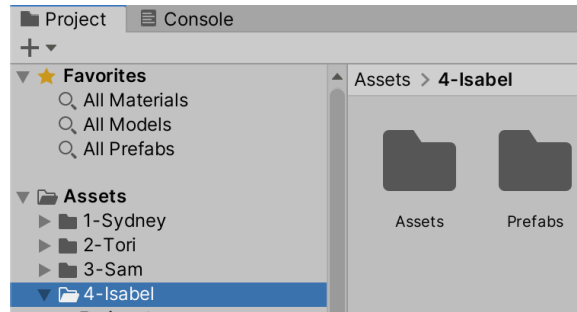


Oral Exam Topics:

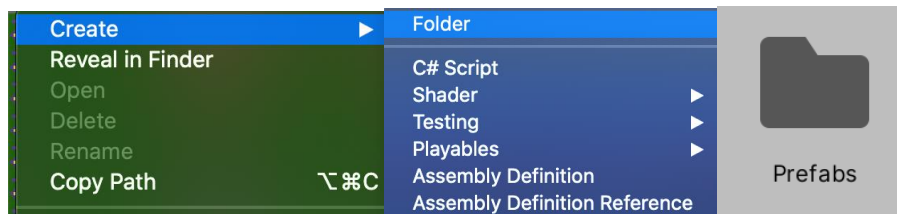
Oral Exam: April 21st & April 23rd

How to create a prefab in Unity

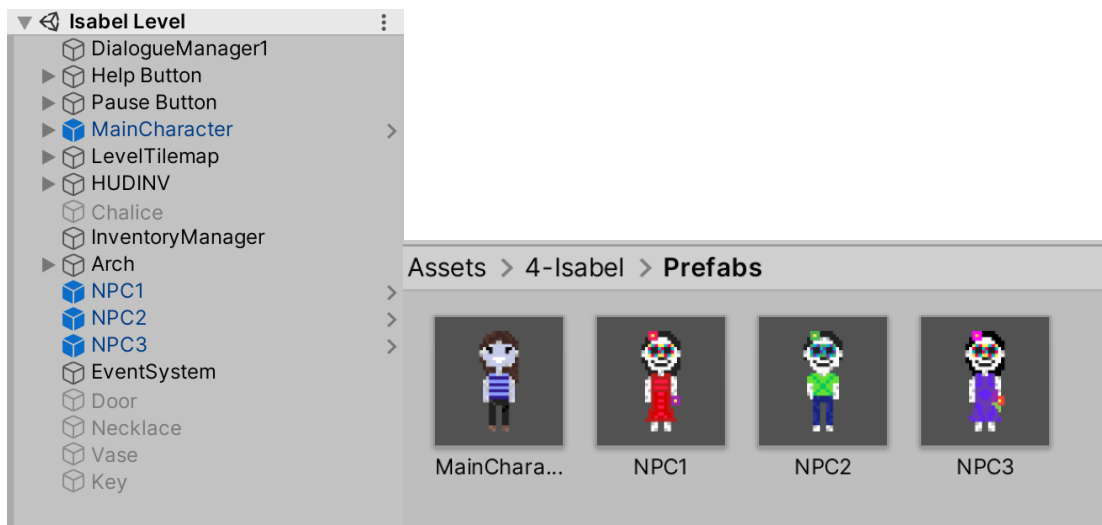
1. Make sure you are in your folder in the Project view



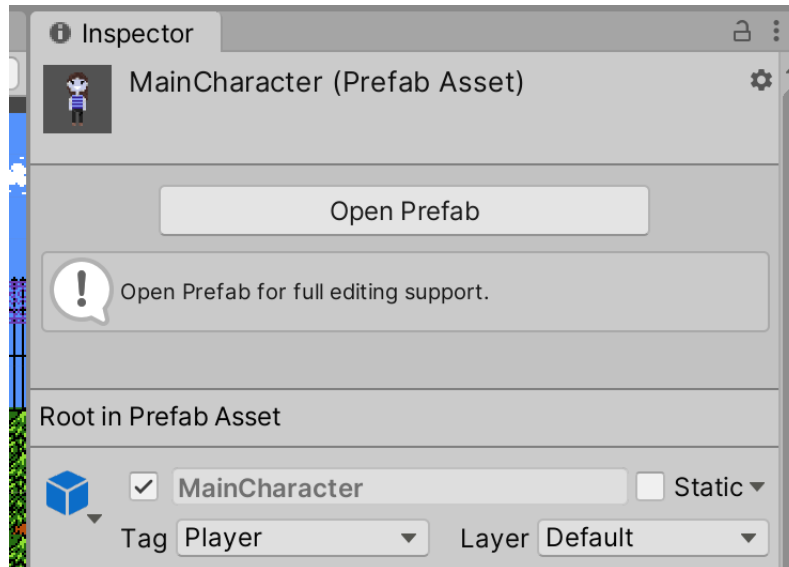
2. Right click inside your folder and create a new folder – name this folder “Prefabs” (Pictures 1-3)



3. Go into your scene hierarchy and choose one of the objects you have made – i.e. HUDINV, MainCharacter, etc.
4. Click and drag this object from the hierarchy into your prefabs folder – which should be in Project view (Pictures 4 and 5)
5. If you have done this correctly, the object in the hierarchy view will turn blue and you will see a prefab asset in your dedicated prefabs folder



6. You can click on an individual prefab and look at its inspector – you will see that the object is now categorized as a Prefab Asset and will now be accessible by all others with access to your folder.

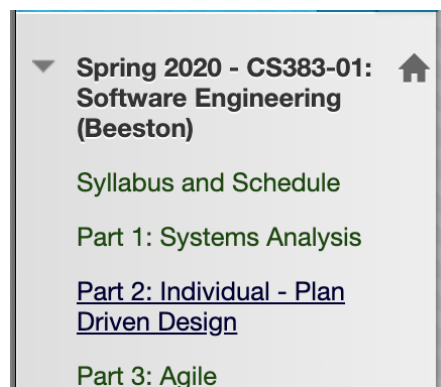


Note: Be sure to have at least one Prefab to talk about during the oral exam – and make sure it is documented well. Below is a link to Unity prefabs and their documentation, but BC wants our documentation to be better!

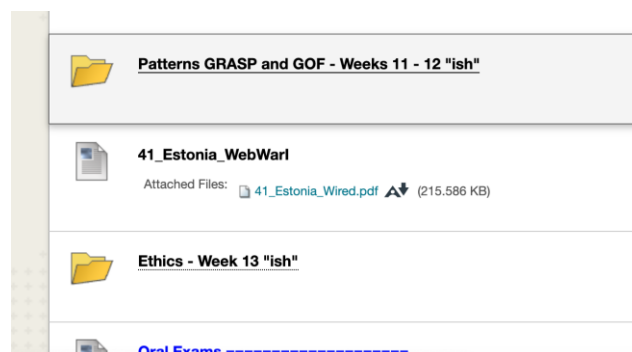
<https://assetstore.unity.com/>

Where to find patterns on BBLearn:

1. Go into the CS 383 BBlearn page and click on Part 2: Individual – Plan Driven Design




2. Scroll down a ways until you find a yellow folder labelled "Patterns GRASP and GOF"



3. Open the folder to find a link to a website that explains each pattern, or




Patterns GRASP and GOF - Weeks 11 - 12 "ish"




**Patterns**
A list and description of most GOF patterns. For the pattern(s) you are using for your oral exam, know the things listed on this web site:




- Intent
- Problem
- Discussion - know why it was a good idea to use the pattern in your code and when it would be a bad idea to use it.
- Structure - know how to make a class diagram of it
- Rules of thumb




https://sourcemaking.com/design_patterns




4. Dr. BC has slide decks describing each pattern in detail

**20_TOC.pdf**
Attached Files:  [20_TOC.pdf](#)  (314.188 KB)

**21_singleton.pdf**
Attached Files:  [18_singleton.pdf](#)  (1.012 MB)

**22_decorator.pdf**
Attached Files:  [19_decorator.pdf](#)  (718.126 KB)

**23_observer.pdf**
Attached Files:  [23_observer.pdf](#)  (393.128 KB)

**24_adapter.pdf**
Attached Files:  [24_adapter.pdf](#)  (462.532 KB)

How to choose a pattern for your game:

Coming soon - will be updated after future lectures

Questions for patterns:

- What pattern is this?
- Why did you choose this pattern?
- Would a different pattern have worked better?

Resources for Diagrams/other in Oral Exam:

Class Diagrams

Class diagrams can be found by navigating the BBlearn page Part 1 -> 08_UML

Part 1: Systems Analysis



08_UML

Attached Files:  08_UML.pdf  (1.391 MB)

- Question from oral exam: Draw a complete class diagram of your final code

Sequence Diagrams

Sequence diagrams can also be found in the same slide deck as class diagrams ^

- Question from oral exam: Draw a sequence diagram of an interaction that involves at least 3 classes from your final code

Static and Dynamic Binding

Static and Dynamic Binding can be found by navigating the BBlearn page Part 2 -> 10_StaticAndDynamicTypes

Part 2: Individual - Plan Driven Design



10_StaticAndDynamicTypes

Attached Files:  10_StaticAndDynamicTypes.pdf  (184.742 KB)
 10_staticDynamic.cpp (2.437 KB)

- Question from oral exam: Copy the portion from the class diagram where you have done static and dynamic binding – copy the corresponding code

Helpful Notes for Oral Exam:

- Be sure to understand your portion of the **Gantt chart** and how much your contribution mattered to the game as a whole
- Be sure to understand your **tests** and what would make them pass/fail as well as why your tests are important
- Be sure to know where **reuse** is in your code/assets and demonstrate what you did to upgrade this portion. Be sure to understand the licensing aspect of your reuse feature as well as the legal implications if you were to monetize the game including your reuse.
 - Resources for reuse: coming soon
 - For us, we used tilemaps made from <https://opengameart.org/> and they state that they'd like credit in the end scenes for any work you've taken