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Write up:
Project Link: https://github.com/Codey-Newton/immic

1. Players
   a. Recommended Specs:
      Aspect ratio: 16:9
      Resolution: 1920 x 1080 or higher.
      Screen: fullscreen
      Font size: 9pt on 1080p, 12pt on 4k
      OS: Windows: WSL with ubuntu
          Linux: any terminal
          MAC: terminal(experimental)
      Pictures:
          file type: PNG/JPEG
          Resolution: 255 X 255

   Note: every terminal setup is different, hence we provided a color checker in order to show you terminal text the way you want to.

   b. Flags:
      python3.10 game_engine.py -c: displays the colors available for your terminal form 0-255.
      python3.10 game_engine.py <filename.xml> -cc: launches the game engine straight into the character selection screen.
   c. How to create a character:
      If a save file is not present in the saves_immic folder. The game will launch into the character creation screen. Else, use the -cc flag to create a character.

      1. Write the name of your character and press enter.
      2. You have 5 available points under the P option to distribute to your character stats(A-E). You must empty the P option before you exit the character creation screen.
      3. You can also take points out of a stat and place them into another.
      4. A stat can have no less than 1 point and no greater than 10 points.

   d. How to save/load(press esc for pause and or home; move the arrow keys until save or load is highlighted and press enter)

2. Authors

a. **Writing an Adventure**

To begin writing an adventure, it is recommended that you first have access to some text editor with the functionality that allows you to replace all instances of one word with another (ie. Sublime Text, Notepad ++, etc.). Preferably use one that supports the xml format to help you with writing. Once access to such an editor is acquired, you may begin writing the story.

The system will index your story automatically, labeling the first scene in your file as scene 0. In order to keep your jumps as organized as possible, it is recommended that you label your scenes initially before replacing each scene name with the indexed number from 0 to whoever scenes you have to ensure your scene jumps land in the right place. An example of this will be provided.

Be careful while writing the story as to not go overboard with your indentations or new lines as they can crash the program. If you need to continue a scene that contains more text than what can be properly displayed, simply make a "Continue" option that takes you to a scene that resumes where you left off. Make sure to remove any extra indents from your "dialog" sections text until they are flush with the left side of your screen. Start any needed indentation from there.

Dialog limit: The limit is 148 characters wide and 29 characters long.

Make sure to type the exact same names as the proper scene you are referring to in your jump in order to make sure the word instance replacing goes as seamlessly as possible. Make sure each scene name has a 1, 2, 3, etc at the end of the word as to avoid accidentally replacing portions of unintended words and identifying it as a scene name for your text editor. (ie. Start1, DecisionResult1, DecisionResult2, etc.)

Always second check you have properly started and ended each tag on the outside of every section to avoid errors and headaches. See section b for more details on tags.

Pre-Indexed Format Example:

```
<adventure>

    <scene> <!-- Start1 -->
        <title>
        <title_pic_dir>./images/toastPng1.png</title_pic_dir>
        <save_name>A_Breakfest_adventure</save_name>
        <title_pic_color>215</title_pic_color>
        <menu_color>10</menu_color>
        </title>
        <dialog>
You awaken with a grumble of your stomach. You realize that you are quite hungry and decide that you want to get some
breakfast this morning. But wait.

Where have you actually woken up at.
        </dialog>
        <options> In your bed [InBed] </options>
        <options> In a tree {A 2 InTree1} [InTree2] </options>
    </scene>
    <scene> <!-- InTree1 -->
        <dialog>
You are... in a tree? You do your best to remember what happened last night, but you simply cannot. You seem to be in the
tree that resides right outside of your bedroom window. Looking at your surroundings, you attempt to discern the easiest
way down.

You carefully find different footholds and make your way down the tree until you rest safely on the ground below.

Well that was rather easy. Now, where to next?
        </dialog>
        <options> Head inside to the kitchen. [MakeFood] </options>
        <options> Go inside to get your keys. [GetFood] </options>
        <options> Walk down the street. [FoodTruck] </options>
    </scene>
```

Post-Indexed Format Example:

```
<adventure>

    <scene> <!-- 0 -->
        <title>
        <title_pic_dir>./images/toastPng1.png</title_pic_dir>
        <save_name>A_Breakfest_adventure</save_name>
        <title_pic_color>215</title_pic_color>
        <menu_color>10</menu_color>
        </title>
        <dialog>
You awaken with a grumble of your stomach. You realize that you are quite hungry and decide that you want to get some
breakfast this morning. But wait.

Where have you actually woken up at.
        </dialog>
        <options> In your bed [11] </options>
        <options> In a tree {A 2 1} [2] </options>
    </scene>
    <scene> <!-- 1 -->
        <dialog>
You are... in a tree? You do your best to remember what happened last night, but you simply cannot. You seem to be in the
tree that resides right outside of your bedroom window. Looking at your surroundings, you attempt to discern the easiest
way down.

You carefully find different footholds and make your way down the tree until you rest safely on the ground below.

Well that was rather easy. Now, where to next?
        </dialog>
        <options> Head inside to the kitchen. [37] </options>
        <options> Go inside to get your keys. [16] </options>
        <options> Walk down the street. [5] </options>
    </scene>
```

b. **Using Tags in Your Adventure File**

   The basic structure for a tag is this, begin the tag by typing <tag name> and end
   the tag by typing </tag name>.

The first tag in your file should be the <adventure> tag. All of the other tags will go between this tag. You should place your first <scene> tag. This will be your introductory scene. Within this first scene, you MUST place the <title> tag. Before ending this tag, place the <title_pic_dir>, <save_name>, <title_pic_color>, and <menu_color> tags inside of it. You can then place the <dialog> tag for this scene along with any <options> tags you may need. MAKE SURE to end each tag after its section has been completed and BEFORE you end the </scene> tag. You can also use any other descriptive tags you desire such as <color_dialog> before ending your scene.

Beginning of File Example:

```
<adventure>

    <scene> <!-- 0 -->
        <title>
        <title_pic_dir>./images/toastPng1.png</title_pic_dir>
        <save_name>A_Breakfest_adventure</save_name>
        <title_pic_color>215</title_pic_color>
        <menu_color>10</menu_color>
        </title>
        <dialog>
You awaken with a grumble of your stomach. You realize that you are quite hungry and decide that you want to get some
breakfast this morning. But wait.

Where have you actually woken up at.
        </dialog>
        <options> In your bed [11] </options>
        <options> In a tree {A 2 1} [2] </options>
    </scene>
```

Once you have properly made your introductory scene, you can continue adding the necessary scenes to continue your story in this format.

Basic Scene Structure:

```
    <scene> <!-- 5 -->
        <dialog>
Feeling a little spontaneous, you choose to start walking down the street of your neighborhood. You continue down the
sidewalk for quite some time. You're taking in the scenery of this beautiful morning when you do notice some strange
movement in the clouds... oh well, what's the worst it could be.

Where are you walking to?
        </dialog>
        <options> To your favorite cafe. [10] </options>
        <options> Just keep walking. [6] </options>
    </scene>
```

(you would place descriptive tags before the </scene> tag. Any tags within the <scene> and </scene> tags can be placed in any order.)

In order to create an ending scene, you will simply follow the previous structure shown. If you want your ending scene to have no options, you still MUST include a single <options> tag with nothing in between. It should look exactly like this: <options></options>. Otherwise, the system will crash. If you would like the ending scene to allow players to restart, simply jump back to scene 0 or any other scene you deem as a proper checkpoint for players.

End Scene Example:

```
    <scene> <!-- 50 -->
        <dialog>
Well, that wasn't very good. Sure, you did eat breakfast... but at what cost? How much of your humanity did you have to
sacrifice to achieve this goal? There are so many other ways you could have gotten a different breakfast, but here we
are. Maybe you can do better another time.

THE END
        </dialog>
        <color_dialog> 161 </color_dialog>
        <options></options>
    </scene>
```

(The <color_dialog> tag is completely optional. The empty <options> tag is not optional and MUST be included in ALL ending scenes unless you specifically jump back to an earlier scene instead..)

c. **Creating a Skill Check**
There are 5 stats you may check against. These are called Agile, Brain, Charm, Detect, and Endure. They are represented in a skill check by either A, B, C, D, or E respectively. Skill checks are placed exclusively between <options> tags. To check a player's stats before a scene jump, you need to abide by a specific format. The skill should be written between two curly braces { }. You need to provide 3 items. Firstly, it will begin with the letter that represents the skill you are checking against(A). Secondly, you will provide an integer between 1-9, this is the difficulty of the check(2). A 1 is the easiest while A 9 is the hardest. Thirdly, the final item provided will be the scene you want to jump to if the player PASSES the check(1). You must also provide the regular scene jump format AFTER this check within the <options> tag(2). This is the scene you will jump to if the player FAILS the check.

Skill Check Example:

```
    <options> In a tree {A 2 1} [2] </options>
```

(the skill check is highlighted in yellow, the normal scene jump is highlighted in green. You MUST place them in this exact format.)

d. **Creating a Scene Jump**
Jumping to scenes is how you progress your story. You will place a scene jump exclusively in between <options> tags. To perform this, you will simply put the scene number you want to jump to between two square brackets. It must look like this: [2]. That example will jump to scene 2.

e. **Using Pictures**
To use pictures in your story, you will place the directory path of the image between a <picture> tag. Make sure the picture has no background, or has a transparent background in other words, and is not too large. If the ASCII version

exceeds 150 characters wide for the title or 55 for a scene, it may cause a crash.The preferred resolution for a png or jpeg file is 255 X 255.

3. <u>Tags</u>

tag	description	hierarchy
<adventure></adventure>	Contains all components of the story including scenes, options graphics, etc	Highest: everything else goes between this tag. Place it at the top and bottom of your file.
<scene></scene>	Contains the dialog, text colors, pictures, and scene id.	Middle: every other option goes between this tag. This is what the <dialog> and <options> tags go in between. Any desired descriptive tags such as <color> and <picture> will be placed between this tag as well. These other tags may be placed in any order.
<title></title>	Contains the title of the story. <u>It must go in scene 0!!!</u>	Lowest: goes between a scene tag, specifically your first scene in the file. This tag does not have to be placed in any particular order within the initial scene.
<title_pic_dir></title_pic_dir>	Displays the title image for your story.	Lowest: goes between a scene tag, specifically your first scene in the file. This tag must also be placed inside of your <title> tag.
<title_pic_color></title_pic_color>	Dictates the color of your title image. Use it by placing a value from range 0-255 representing a color. ex. <tag_name> 30 </tag_name>	Lowest: goes between a scene tag, specifically your first scene in the file. This tag must also be placed inside of your <title> tag.
<menu_color></menu_color>	Dictates the color of the title/pause menu. Use it by placing a value from range 0-255 representing a color.	Lowest: goes between a scene tag, specifically your first scene in the file. This tag must also be placed inside of your <title> tag.

	ex. <tag_name> 30 </tag_name>	
<save_name></save_name>	Contains the name of the save file>. It must go in scene 0!!!	Lowest: goes between a scene tag, specifically your first scene in the file. This tag must also be placed inside of your <title> tag.
<!--comment text-->	This is the format for a comment within your file. Use it to label your scenes and make any notes. It's for author reference only, it will not be read into the system or displayed.	Recommended to be placed directly next to the <scene> tag it represents, but can be placed anywhere you desire.
<dialog></dialog>	Displays text to the user.	Lowest: goes between a scene tag. Between this tag is where you will write all of your dialog text that you want to be displayed to the user. It does not have to be placed in a specific order but to maintain cleanliness, we recommend placing it first within the scene.
<options></options>	Displays option text to the user and is where scene jumps and skill checks must be placed.	Lowest: goes between a scene tag. Place your options between this tag. Every option requires its own tag. You are only allowed 4 options per scene. If there is only one option, make sure its text to be displayed is at least 2 characters long.
<picture></picture>	Displays a image for your story.	Lowest: goes between a scene tag.This tag does not have to be placed in any particular order.
<color_dialog></color_dialog>	Dictates the color of your dialog text. Use it by placing a value from range 0-255 representing a color. ex.	Lowest: goes between a scene tag. This tag does not have to be placed in any particular order.

	<tag_name> 30 </tag_name>	
<color_options></color_options>	Dictates the color of your options text. Use it by placing a value from range 0-255 representing a color. ex. <tag_name> 30 </tag_name>	Lowest: goes between a scene tag. This tag does not have to be placed in any particular order.
<color_boarder></color_boarder>	Dictates the color of the terminal's border. Use it by placing a value from range 0-255 representing a color. ex. <tag_name> 30 </tag_name>	Lowest: goes between a scene tag. This tag does not have to be placed in any particular order.
<picColor></picColor>	Dictates the color of any picture provided in your scene. Use it by placing a value from range 0-255 representing a color. ex. <tag_name> 30 </tag_name>	Lowest: goes between a scene tag. This tag does not have to be placed in any particular order.