

Project #1A: User Interface - Character Generator

Due Date: See Canvas Website

Points: 200

Late Policy: 10% Deduction for Each Full Day

Background: Professor Price made you roll a character by hand, on paper. Show him that you can do better by using Unity to make a character generator! Create a game with a user interface that will be used to select a character for a player of your future games. Using Unity 2020.3.###LTS and the Canvas system, make a game to satisfy the following requirements.

Requirements:

1. Use the Unity Canvas system to create a user interface.
 - a. The UI should be a scene named Scene_Roll_Character, When your game starts up this scene will load.
 - b. The UI should implement a D&D 5th edition character generator which saves the following game properties (in a data structure) to a JSON formatted string (must pass validation) displayed in a selectable (input) text box. All the following elements should be in the output (saved data structure):
 - i. Character Name - String
 - ii. Abilities - floats—Ability_Strenght, Ability_Dexterity, Ability_Constitution, Ability_Intelligence, Ability_Wisdon, Ability_Charisma
 - iii. Race - String See Below
 - iv. Class - String See Below
 - v. Alignment - String
 - vi. Experience Points (Current and Max) - XP - Integer
 - vii. Hit Points (Current and Max) - HP - Integer
 - viii. Armor Class - Integer
 - ix. Speeds (Walking, Running, and Jump Height) - Integer
 - x. Item List - List<String> (Leave list empty for this Assignment)
 - c. The Abilities portion of your UI should implement a dice simulator. Players must roll 3d8 and add the three highest rolls to compute each of the six Abilities (one at a time). Note make all modifiers default to +2. See below for list of Abilities.
 - d. The Race and Class elements should be implemented as a Drop Down menu UI element.
 - e. The speeds should be implemented as a slider UI element.
 - f. The armor class element should only accept user input that is a positive integer between 1 and 100.
 - g. Once all abilities have been calculated, the json output shall be displayed in the output section.
 - h. The project should implement an Exit Button that will exit the game in both Editor Mode and Run Mode.
2. You must build and code this UI all by yourself. No additional assets (Free or paid for (Especially the Unity Tutorials)) may be used.
3. You may not use external APIs to generate your character.
4. Must be coded in C# using Unity3d 2020.4.# (LTS)
5. Documented original art will result in a higher score than downloaded or unattributed works. In general all your projects should include a list of attributions in the form of a bibliography.txt.
6. The assignment will be turned in on the class gitlab server at <https://rijeka.sdsu.edu/> . Your repo and unity project must be named F21_Proj_01A_LastName_FirstName . Instructions on registering for an account on rijeka will be given in class and in a prior assignment.

How this assignment will be turned in, will be discussed in a future lecture.

Data References:

Abilities

Strength, measuring physical power
Dexterity, measuring agility
Constitution, measuring endurance
Intelligence, measuring reasoning and memory
Wisdom, measuring perception and insight
Charisma, measuring force of personality

Races

Name	Summary
Dragonborn	Your draconic heritage manifests in a variety of traits you share with other dragonborn.
Dwarf	Your dwarf character has an assortment of in abilities, part and parcel of dwarven nature.
Elf	Your elf character has a variety of natural abilities, the result of thousands of years of elven refinement.
Gnome	Your gnome character has certain characteristics in common with all other gnomes.
Half-Elf	Your half-elf character has some qualities in common with elves and some that are unique to half-elves.
Half-Orc	Your half-orc character has certain traits deriving from your orc ancestry.
Halfling	Your halfling character has a number of traits in common with all other halflings.
Human	It's hard to make generalizations about humans, but your human character has these traits.
Tiefling	Tieflings share certain racial traits as a result of their infernal descent.

Classes

Name	CollapseSummary
Barbarian	In battle, you fight with primal ferocity. For some barbarians, rage is a means to an end—that end being violence.
Bard	Whether singing folk ballads in taverns or elaborate compositions in royal courts, bards use their gifts to hold audiences spellbound.
Cleric	Clerics act as conduits of divine power.
Druid	Druids venerate the forces of nature themselves. Druids holds certain plants and animals to be sacred, and most druids are devoted to one of the many nature deities.
Fighter	Different fighters choose different approaches to perfecting their fighting prowess, but they all end up perfecting it.
Monk	Coming from monasteries, monks are masters of martial arts combat and meditators with the ki living forces.
Paladin	Paladins are the ideal of the knight in shining armor; they uphold ideals of justice, virtue, and order and use righteous might to meet their ends.
Ranger	Acting as a bulwark between civilization and the terrors of the wilderness, rangers study, track, and hunt their favored enemies.
Rogue	Rogues have many features in common, including their emphasis on perfecting their skills, their precise and deadly approach to combat, and their increasingly quick reflexes.
Sorcerer	An event in your past, or in the life of a parent or ancestor, left an indelible mark on you, infusing you with arcane magic. As a sorcerer the power of your magic relies on your ability to project your will into the world.
Warlock	You struck a bargain with an otherworldly being of your choice: the Archfey, the Fiend, or the Great Old One who has imbued you with mystical powers, granted you knowledge of occult lore, bestowed arcane research and magic on you and thus has given you facility with spells.
Wizard	The study of wizardry is ancient, stretching back to the earliest mortal discoveries of magic. As a student of arcane magic, you have a spellbook containing spells that show glimmerings of your true power which is a catalyst for your mastery over certain spells.