Engineering Unity C# Test

Please complete the following task:

Task A: Level Interaction Framework

Scenario:
You are tasked to create a generic level interaction system for a game. The style/genre of game is up to your preference.
The requirement for this framework is to execute specific **actions** when certain **events** happen and being able to define them within the level in the editor.

These **events** can be things such as (but not limited to):

- Player getting to a specific point/area
- Player pressing a specific button when looking at an object

And the resulting **actions** can be things such as:

- Moving / Rotating an object around (i.e. A sliding door, a platform extending, etc.)
- Playing a sound
- Execute visual effects
- Spawn other gameplay entities (such as AI)
- Trigger dialogue
- Adding / Removing HP, or other player statistics
….

Concrete examples for an interaction would be:

Event: Player 1 approaches a door and presses E after being prompted to
Action: The door opens.

Or

Event: Player 1 approaches a fire effect
Action 1: Player 1 loses 10 health while staying inside the fire effect
Action 2: Player 1 plays a "hurt" sound

Requirements:

1) Implement the framework in a scalable and extendable way, with at least the **two listed events** and at least **four different actions** of your choosing. You are free and encouraged to implement different kinds of events or actions in addition to the required amount.

2) Expose a way for game designers to set up interactions on an interactable object from the editor.

3) Include a playable example level with interactions setup.

Optional Bonus Tasks:

4) Implement saving and restoring interaction states after hitting a checkpoint or saving the game

5) Support changing the interaction setup of any given interactable object at playtime

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All pieces of code must be written by yourself, and you cannot use third party plugins for this task. Third party art or sound assets are allowed at your discretion.

Please deliver the test as a runnable executable and the Unity project itself and clearly state which Unity version you have used for this task. You have **7 days** to work on this task from the time you receive this test.

You will be evaluated on your ability to implement the task as well as the quality of your implementation. Quality of visuals, sound, or game design will not be taken into consideration as this is primarily a test for your coding capabilities.

Please, please ask questions if something is unclear. Contact "l.nguyen@play-magic.net" or "hr@play-magic.net".