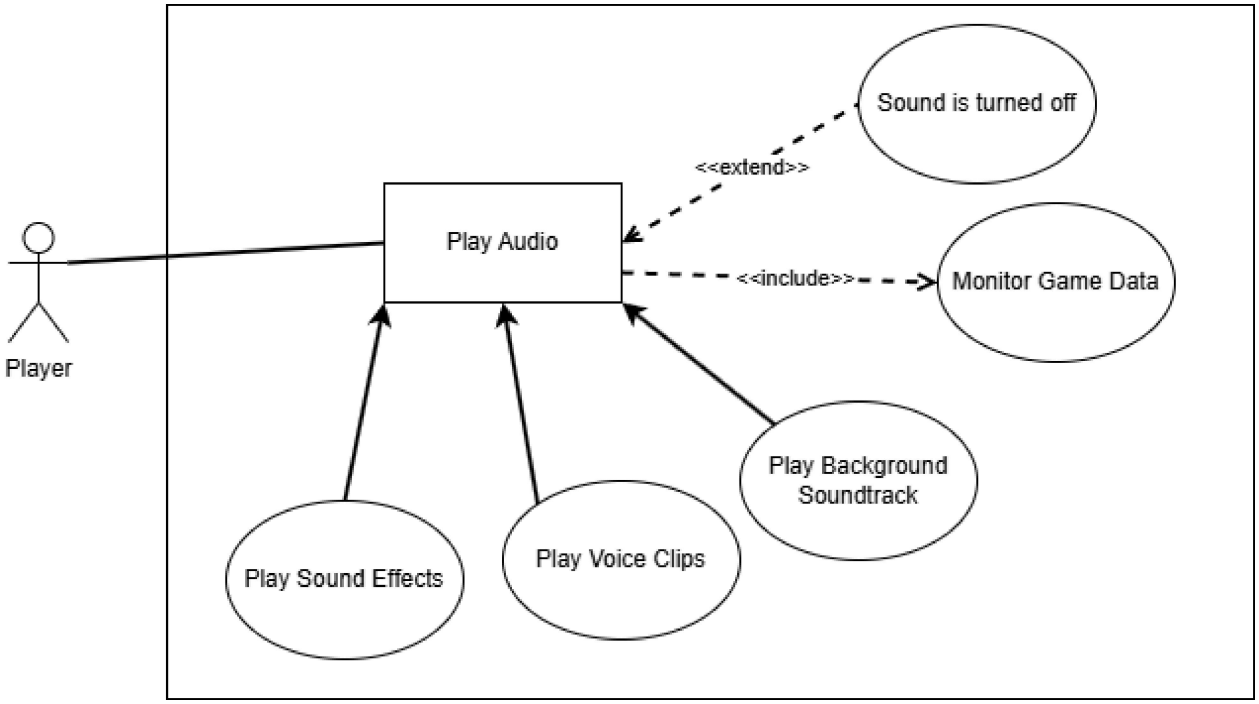
Name: Benjamin Randolph Mark _____/50

1. Brief introduction

I am creating the audio system. This manages all sound, such as sound effects, voice acting, and background music. It determines when they play, stop, and where the sound starts from (spatial sound).

2. Use case diagram with scenario

Use Case Diagram:



Scenarios:

Name: Play Sound Effects.
Summary: The player does something that has a sound effect and so the sound effect is played.
Actors: The player of the game.
Preconditions: The player interacts with something that has a sound effect.
Basic sequence:
Step 1: Play the sound effect.
Step 2: Stop playing the sound effect when it's done.
Exceptions:
Step 1: Sound is turned off in settings: Disable playing of audio.
Post conditions: The sound effect was played.
Priority: 2*
ID: P01

Name: Play Voice Clips.
Summary: The player interacts with a storekeeper which plays a recorded voice clip.
Actors: The player of the game.

Preconditions: The player interacts with a storekeeper.
Basic sequence:
Step 1: Start playing voice clip.
Step 2: Stop playing the voice clip when it's done.
Exceptions:
Step 1: Sound is turned off in settings: Disable playing of audio altogether.
Post conditions: Voice clip has been played.
Priority: 3*
ID: P02

Name: Play Background Music.
Summary: The player interacts with the game to play audio.
Actors: The player of the game.
Preconditions: The game has been started.
Basic sequence:
Step 1: Start playing background music.
Step 2: Change background music when previous track is finished.
Exceptions:
Step 1: Sound is turned off in settings: Disable playing of audio altogether.
Post conditions: Background music was played during the whole length of the game.
Priority: 3*
ID: P03

3. Data Flow diagram(s) from Level 0 to process description for your feature

Context Diagram:

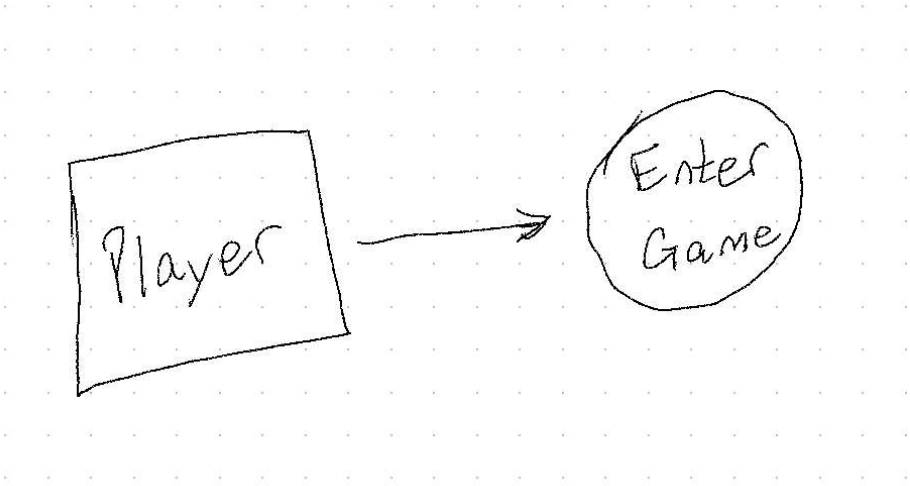
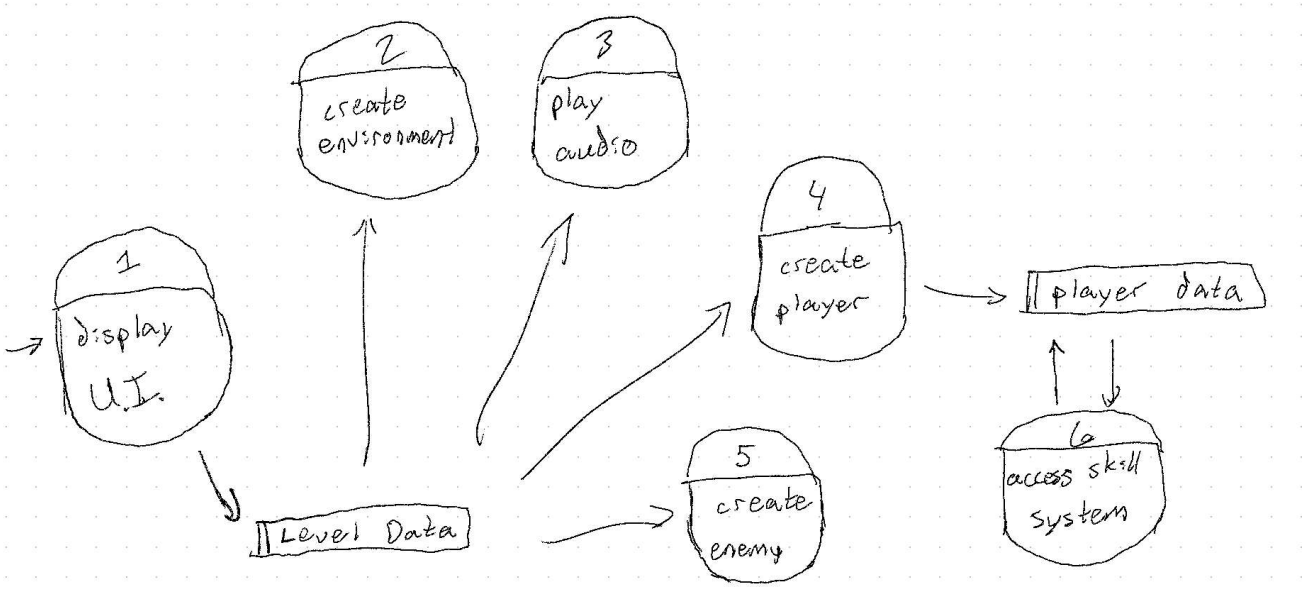
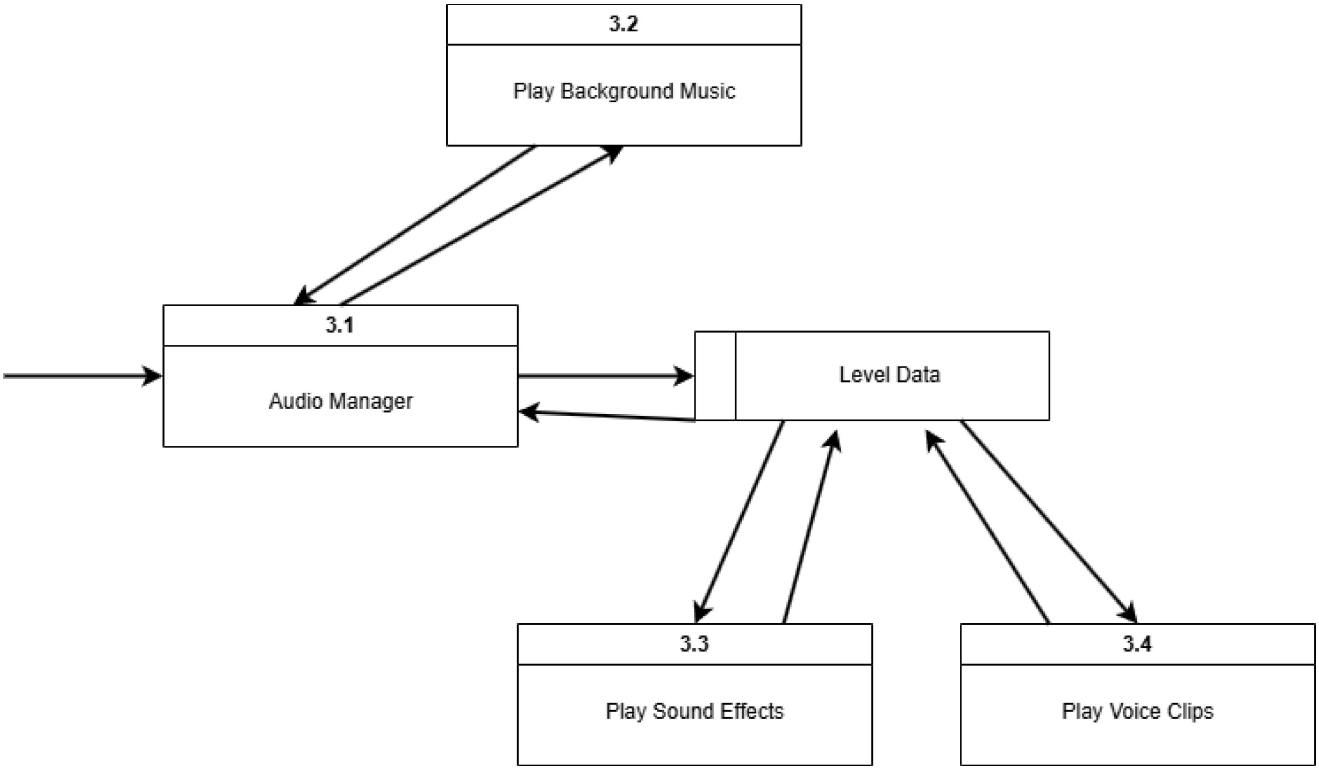


Diagram 0:



Play Audio:



Process Descriptions:

```
AudioManager(){ //Process description 3.1
        if( current track is finished playing or no track is playing ){
                if( current track id nullable is null ){
                        PlayBackgroundMusic( 0 );
                }else{
                        PlayBackgroundMusic( current track id );
                }
```

```
        }
        if( LevelData denotes one or more changes in state that has a sound effect for it ){
                foreach( int thingThatChangedStateID in thingsThatChangedStateArray ){
                        if( thingThatChangedStateID has sound effect ){
                                PlaySoundEffect( thingThatChangedStateID );
                        }
                }
        }
        if( LevelData denotes interaction with shopkeeper ){
                PlayVoiceClip( the shopkeepers id );
        }
}

PlayBackgroundMusic( last track played nullable ){ //Process description 3.2
        PlayTrack( arrayOfTracks[last track played] );
}

PlaySoundEffects( thing that changed state id ){ //Process description 3.3
        PlaySoundEffectFor( thing that changed state id );
}

PlayVoiceClip( shopkeeperID ){ //Process description 3.4
        PlayRandomVoiceClipFor( shopkeeperID );
}
```

4. Acceptance Tests _____9

For Voice clips, the inputs will be the “e” key being pressed while looking at a shopkeeper. This is repeated 50 times. The output should be a voice clip being played.

For Sound effects, the inputs should be shooting. The output should be the sound effect for the gun firing playing. This should be repeated 50 times.

For Background music, the input should be starting the game. The output should be the background music playing on start. This should be repeated 20 times.

Example for Testing the Success of Audio Playing:

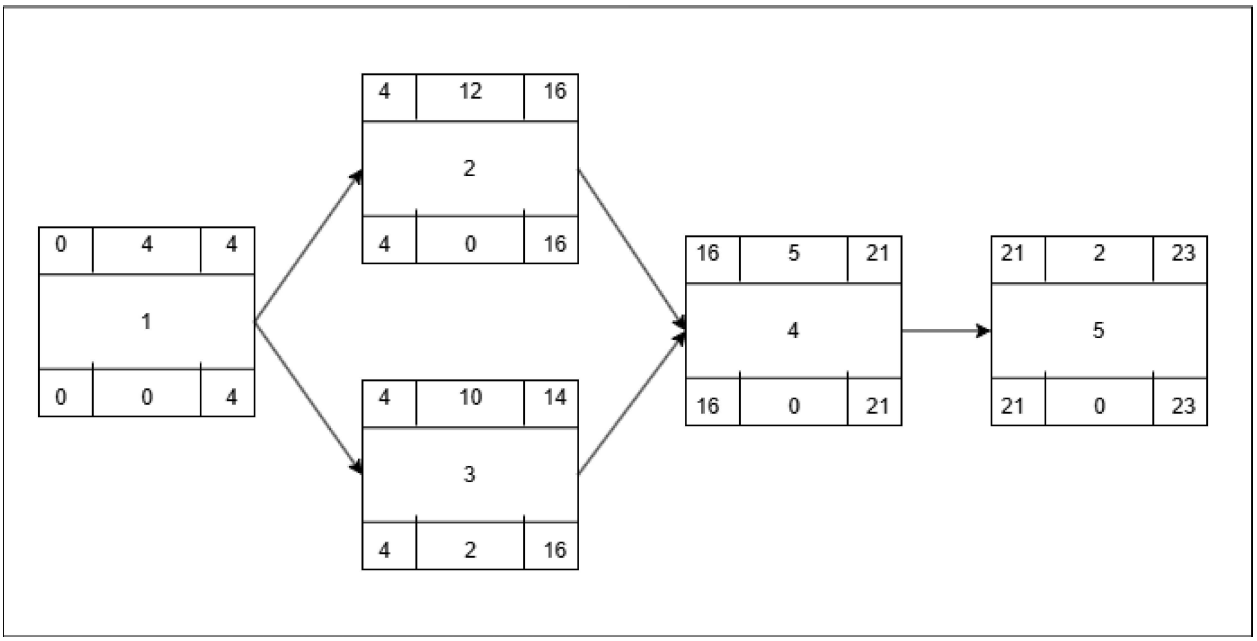
Audio Type	**Success Count**	**Fail Count**	**Percentage Success**
Voice clips	49	1	98%
Sound effects	48	2	96%
Background music	20	0	100%

5. Timeline _____/10

Work items:

Task	Duration (Hours of Work)	Predecessor Task(s)
1. Requirement Collection	4	-
2. Audio Collection	12	1
3. Programming	10	1
4. Testing	5	2, 3
5. Installation	2	4

Pert diagram:



Gantt timeline: