

# Use Case Models and Use Case Descriptions

## Use Case Models

### Piano Keyboard Input

#### Use Case model:

 Piano Keyboard User Case Model

#### Use Case Descriptions:

##### Play Keyboard:

- Use Case ID: 1
- Relevant User Story IDs: 1,2
- Actors: User
- Preconditions: None
- Post-conditions: None
- Exceptions handled: None

##### Steps:

###### *User Actions*

###### *System Responses*

- User plays notes on the piano - System plays the corresponding sounds for the notes

##### View Note:

- Use Case ID: 2
- Relevant User Story IDs: 31
- Actors: User
- Preconditions: User Plays Piano
- Post-conditions: None
- Exceptions handled: None

##### Steps:

### ### User Actions

### ### System Responses

- User plays notes on the Piano - System plays the corresponding sounds for the notes
- User views notes as they play - System displays each note as it is played

#### **View Chord:**

- Use Case ID: 3
- Relevant User Story IDs: 1, 4
- Actors: User
- Preconditions: User Plays Piano, notes played form a valid chord
- Post-conditions: None
- Exceptions handled: If the notes aren't a chord, nothing is displayed

#### **Steps:**

### ### User Actions

### ### System Responses

- User plays notes on the Piano - System plays the corresponding sounds for the notes
- User views chords as they play - System displays the chord name

#### **View Chord Progression:**

- Use Case ID: 4
- Relevant User Story IDs: 28, 30
- Actors: User
- Preconditions: User Plays Piano, notes played form valid chord
- Post-conditions: None
- Exceptions handled: If the notes aren't a chord, nothing is displayed

#### **Steps:**

### ### User Actions

### ### System Responses

- User plays notes on the Piano - System plays the corresponding sounds for the notes
- User views notes as they play - System displays chord progression suggestion

#### **Change Synth Sound:**

- Use Case ID: 5
- Relevant User Story IDs: 9, 22
- Actors: User

- Preconditions: None
- Post-conditions: None
- Exceptions handled: None

**Steps:**

**### User Actions**

- User changes Synth sound selection

**### System Responses**

- System changes the sound profile that is played by piano

**Change octave:**

- Use Case ID: 6
- Relevant User Story IDs: 17
- Actors: User
- Preconditions: None
- Post-conditions: None
- Exceptions handled: None

**Steps:**

**### User Actions**

- User changes octave

**### System Responses**

- System changes the octave that is played by piano

**Change input method:**

- Change Input Method: 7
- Relevant User Story IDs: 7, 31
- Actors: User
- Preconditions: In order for the Midi input to be selected, a Midi device must be set up
- Post-conditions: None
- Exceptions handled: If no Midi device is set up, the system must prompt the user to set one up, or leave the input on 'keyboard'

**Steps:**

**### User Actions**

- User changes from Keyboard to MIDI or MIDI to keyboard input

**### System Responses**

- System accepts piano input only from the selected input

### **Choose Chord Progression Feel:**

- Change Input Method: 8
- Relevant User Story IDs: 16
- Actors: User
- Preconditions: None
- Post-conditions: None
- Exceptions handled: None

### **Steps:**

#### **### User Actions**

- User chooses desired chord progression feel

#### **### System Responses**

- System prioritizes the user's desired feel when suggesting chord progressions

### ***Setup Midi device:***

- Change Input Method: 9
- Relevant User Story IDs: 7, 31
- Actors: User
- Preconditions:
- Post-conditions: Input can be changed to Midi
- Exceptions handled: If no Midi device can be detected for setup, the system must present an error to the user

### **Steps:**

#### **### User Actions**

- User sets up Midi device

#### **### System Responses**

- System attempts to detect Midi device
  - System sets up detected Midi device
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## **Piano Keyboard**

### **Use Case model:**

<UML image>

### **Use Case Descriptions:**

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- Use Case ID:
- Relevant User Story IDs:
- Actors:
- Preconditions
- User/System steps :
  - Step 1:
- Post-conditions
- Exceptions handled: