

Angry Birds by Codesmashers

Actors:

1. **Player:** The primary user who interacts with the game, controlling the gameplay, birds, and other elements.
 2. **Game System:** The internal system that manages game physics, bird trajectories, structure impacts, and game logic.
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Use Cases:

1. Start Game

- **Description:** The player starts a new game session.
- **Actor:** Player
- **Precondition:** The game must be installed and running.
- **Postcondition:** The game shows the starting screen with available levels or the main menu.

2. Select Level

- **Description:** The player selects a specific level to play.
- **Actor:** Player
- **Precondition:** The game must be in the main menu or level selection mode.
- **Postcondition:** The chosen level loads, showing the birds, pigs, and structures.

3. Aim and Shoot

- **Description:** The player uses the catapult to aim and launch a bird towards the structure.
- **Actor:** Player
- **Precondition:** The player has control of the catapult and birds.
- **Postcondition:** A bird is launched, and the game calculates its trajectory using the game physics engine.

4. Use Special Ability

- **Description:** The player triggers a special ability for a specific bird type during flight.
- **Actor:** Player
- **Precondition:** The player must have launched a bird with a special ability.
- **Postcondition:** The special ability is activated, causing additional damage or unique effects.

5. View Score

- **Description:** The player views their score at the end of the level based on how many pigs were destroyed and how many birds were used.
- **Actor:** Player
- **Precondition:** The level must be completed.
- **Postcondition:** The score is displayed, and the player can either replay the level or proceed to the next one.

6. End Game

- **Description:** The player can choose to end the game or the game automatically ends after all levels are completed.
 - **Actor:** Player
 - **Precondition:** The player completes the final level or manually exits.
 - **Postcondition:** The game ends, showing the final score or game completion screen.
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Relationships:

- **Player** → **Start Game:** A player can start the game.
 - **Player** → **Select Level:** A player can choose a level to play.
 - **Player** → **Aim and Shoot:** A player can aim and launch a bird using the catapult.
 - **Player** → **Use Special Ability:** A player can trigger a bird's special ability after launching.
 - **Player** → **View Score:** A player can view the score at the end of each level.
 - **Player** → **End Game:** A player can end the game either manually or by completing all levels.
 - **Game System** → **Use Special Ability:** The system manages the mechanics of special abilities for each bird.
 - **Game System** → **Calculate Physics:** The game system calculates bird trajectory and impact using physics.
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Diagram Multiplicities:

- 1 Player → 1 Game System
- 1 Player → 1 Start Game
- 1 Player → 1 Select Level
- 1 Player → 1..* Aim and Shoot
- 1 Game System → 1..* Use Special Ability
- 1 Game System → 1..* Calculate Physics