**Overview - Setting**You are a magnet, floating through a forest, and your goal is to collect as many coins as you can before time runs out. The forest is full of coins that move and rotate randomly, and you must use your magnetic power to catch them! Controls: arrow keys to move the magnet.

**Game diagram:**

A magnet and coins with text

Description automatically generated

**Game States:**intro -> gamePlay -> pause -> gamePlay or Quit

**Intro**

Show title

Everything else hidden

**GamePlay**

Title hidden

btnReset hidden

btnQuit hidden

All sprites shown

Score and timer reset

**Pause**

Title hidden

Sprites hidden

btnQuit shown

btnReset shown

**Quit**

Game ends

**Sprites:**

Magnet

User-controlled character

Rotates on left and right arrow keys

Moves forward with the up arrow key (hover effect)

Wraps around the screen

When it hits a coin, the coin resets and adds a point

**Coin:**

Computer-controlled element

Moves forward a small amount every frame

Rotates randomly between -45 and 45 degrees

Wraps around the screen

When it hits the magnet, it resets itself

Resets (changes position and angle) randomly

There are 3 coins on the screen at any time

**UI Components:**

Background

Sky image

Should not distract from the visibility of the magnet or coins

Title

Basic instructions screen with multiple labels

When clicked, gameplay starts

**LblTimer:**

Starts at a prescribed time

Displays the remaining time left

When the timer reaches zero, the game ends

**LblScore:**

Displays the current score

Adds points for each coin collected by the magnet

**BtnReset:**

Appears in the pause state

When clicked, goes back to gameplay state

Hides buttons

Shows all sprites

Resets score and timer

**BtnQuit:**

Appears in the pause state

When clicked, exits the game

**Sound Effects:**

COINN.WAV

Played when the magnet collects a coin

Background music  
triple\_bubble\_music\_-\_world\_1\_forest.wav

Fun, creative commons music (lower priority)

**Milestones:**

Gather placeholder resources

Set up the basic game class for further development

Add Magnet class and test user control system

Add Coin class and test coin motion

Implement collision detection for magnet-coin interaction

Add multiple coins and test collision behavior

Implement scorekeeping and display score label

Implement timekeeping and display timer label

Add quit and reset buttons

Implement intro screen

Test gameplay functionality

**Game Tuning Parameters:**

Speed of the magnet

Turning rate of the magnet

Speed of the coins

Randomness of coin rotation

Number of coins on screen

**Stretch Goals:**

More time power-up

Add a coin power-up

Reverse polarity power-up (controls reversed)

Magnetron power-up (magnet pulls the magnet character towards it)

Stork coin (coins fly straight across the screen; if it hits the magnet, the game ends)