

UNO Flip Game - User Manual

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1.0 Getting Started

Need Java Runtime Environment (JRE) 8 or higher installed to run the game

How to run the game?

1. Located the UnoFlip.jar file on your computer
2. Double click the JAR file to launch the game
 - a. If double clicking doesn't work: Open terminal/command prompt in the folder containing the JAR file and type

```
java -jar UnoFlip.jar
```

3. The game window will open showing the player setup on screen

2.0 Game Setup

When the game is first launch, it take you to the player configuration screen where you can do the following steps

Step 1: Choose Player Types

For each of the 4 player slots, select from the dropdown menu:

- Human: A player controlled by you or someone at the computer
- AI: Computer-controlled player with strategic decision-making
- None: Leave this slot empty

Step 2: Enter player Names

- Click the test field next to each active player
- Type a custom name (ex: Alice, Lucas, "AI Bot")
- If you leave the field empty default names will be used:
 - "Player1" or "Player2" etc for humans
 - "AI1" or "AI2" etc for AI players

Step 3(Optional): Enabling Turn Timer

1. Check the box labeled "Enable Turn Timer"
2. When checked, choose a time limit

Step 4: Click Start Game

3.0 Basic Gameplay

The main game screen is divided into different panels. Here is a description of the panels and their contents:

| Panel | Content |
|--------|---|
| Top | <ul style="list-style-type: none">● Side: Shows whether you're playing on LIGHT or DARK side● Current Player: Displays whose turn it is (highlighted in yellow for humans, cyan for AI)● Active Card: Shows the current card value on the discard pile● Match Color: The color that must be matched● Deck: Number of cards remaining in the draw pile● Timer (if enabled): Remaining time for current turn |
| Center | <ul style="list-style-type: none">● Top Card Display: Shows the current card on the discard pile with its color and value● Your Hand: Displays all cards in the current player's hand as clickable buttons |
| Bottom | <ul style="list-style-type: none">● Draw Card: Draw one card from the deck● Next Turn: Pass the turn to the next player● New Round: Start a new round (appears after round ends)● New Game: Return to setup screen (appears after round/game ends)● Undo: Reverse the last action● Redo: Reapply an undone action● Save Game: Save current game to a file● Load Game: Load a previously saved game |
| Right | <ul style="list-style-type: none">● Scores: Shows cumulative scores for all players● Cards in Hand: Shows how many cards each player currently holds● Action Log: Running history of game events and player actions● Choose Color: Color selection buttons (appears when wild card is played) |

The next following sections will describe use cases for this game.

3.1 Human Player Turns

3.1.1 Play A Card

1. Examine your hand in the center panel
2. Click on a card that matches either:
 - The color of the active card, OR
 - The value (number or action) of the active card, OR
 - Any Wild card (always playable)
3. If the play is valid:
 - The card moves to the discard pile
 - The action log updates
 - Special card effects activate (if applicable)
4. If the card cannot be played:
 - An error message appears
 - Try a different card or draw from the deck

3.1.2 Draw A Card

1. If you have no playable cards, click "Draw Card"
2. One card is added to your hand from the draw pile
3. You may now play the drawn card if it's valid, or click "Next Turn" to pass

3.1.3 Pass Your Turn

1. After playing a card or drawing, click "Next Turn"
2. The turn advances to the next player in the current play direction
3. If the next player is AI, their turn will begin after you click "Next Turn"

3.1.4 Play A Wild Card

1. Click on a Wild card in your hand (these can always be played)
2. The "Choose Color" panel appears on the right side
3. Click one of the color buttons:
 - Light Side: RED, BLUE, GREEN, YELLOW
 - Dark Side: TEAL, PURPLE, PINK, ORANGE
4. The color is set and any additional effects (like drawing cards) are processed
5. Click "Next Turn" when ready

3.2 AI Player Turns

3.1.1 Initiate AI Turn

- When it's an AI player's turn, you'll see their name with "(AI)" next to it in cyan
- Click "Next Turn" to allow the AI to play
- The AI will automatically:
 - Analyze their hand and the current game state
 - Play a valid card if available, or draw if not
 - Choose colors for wild cards strategically
 - Complete their turn

3.1.2 AI Play

- A brief delay (1 second) occurs for readability
- The action log shows what the AI did
- If multiple AI players are in sequence, each requires a "Next Turn" click
- All control buttons are disabled
- Wait for the AI to complete their turn

4.0 Game Features

4.1 Action Log

Location in the right panel below the scores, automatically scrolls to show the most recent action. Shows the following:

- Cards played by each player
- Cards drawn
- Color selection for wild cards
- Round and game end notifications
- Undo/redo confirmations

4.2 Score Tracking

Current round: Shows cards remaining in each players hand

Cumulative scores: Total points earned across all rounds

Winning Score: First player to reach 500 points wins the game

4.3 Card Display

Each card button shows: the cards' colour (as background colour), the cards value (number or action text)

Cards are color coded to match UNO colors:

- Light side: Red, Blue, Green, Yellow

- Dark side: Teal, Purple, Pink Orange
- Wild cards: Gary/Black background

5.0 Special Cards

Here is a table summarizing all the potential cards a player may be able to play and their uses in gameplay:

Assume all cards can be played any time if it is a player's turn and they have the card in their hand. For more explanation on the "light" and "dark" side of cards, please refer to section 4.3.

| Card Type | Instruction | Effect | Points |
|----------------------|--|---|--------------------------|
| Regular - Light side | These cards will have lighter colors in the deck and will have numbers 0-9. These cards have to be played so that they match the color or number of the active card. | None | Dependent on card number |
| Regular - Dark side | Similar to light regular cards but the colors are darker. | None | Dependent on card number |
| Reverse | Use this to change direction of gameplay | 2 players -> equivalent to a skip card 2+ players -> changes direction of gameplay | 20 |
| Skip | Can be played anytime if player has card and it is their turn | Next player loses turn | 20 |
| Draw One | Can be played anytime if player has card and it is their turn | Next player has to draw one card and loses their turn | 10 |
| Wild | Player gets to choose the color of the next active card. | Change next color to be matched | 40 |
| Wild Draw Two | Player gets to choose color of next active card | Next player draws 2 cards and loses their turn | 50 |
| Flip | Can be played anytime if player has card and it is their turn | Flips all cards in players hands and active cards. If the card deck was light, it is now dark and vice versa. | 20 |

6.0 Advanced Features

6.1 Save Game

Save your progress during active play.

| | |
|--|--|
| <p>How to save games?</p> <ul style="list-style-type: none">• Click the "Save Game" button in the bottom panel• A file browser window will appear• Choose a location on your computer• Enter a filename• Click "Save"• A confirmation message appears if successful | <p>What Gets Saved:</p> <ul style="list-style-type: none">• All player hands (exact cards)• All player scores (current and cumulative)• Current turn and play direction• Active card and match color• Complete deck state (draw and discard piles)• Light/Dark side status• Any pending color selections• Timer settings (if enabled) |
|--|--|

6.2 Load Game

Resume a previously saved game

| | |
|--|---|
| <p>How to Load:</p> <ul style="list-style-type: none">• Click the "Load Game" button• A confirmation dialog appears warning that the current game will be discarded• Click "Yes" to proceed or "No" to cancel• A file browser window appears• Navigate to and select your saved game file (.dat file)• Click "Open"• The game state is restored and a confirmation message appears | <p>After Loading:</p> <ul style="list-style-type: none">• The game board updates to show the loaded state• All player hands are restored• Scores reflect the saved game• It's the saved player's turn• If it's an AI player's turn, click "Next Turn" to continue |
|--|---|

6.3 Undo Game

Reverse a move done (drawing a card, choosing a wrong color, choosing a wrong card etc)

| | |
|---|--|
| <p>How to Undo:</p> <ul style="list-style-type: none">• Click the "Undo" button in the bottom panel• The last action is reversed | <p>What Can Be Undone:</p> <ul style="list-style-type: none">• Playing cards• Drawing cards• Passing turns |
|---|--|

| | |
|--|--|
| <ul style="list-style-type: none"> • A brief status message appears: "Undone" • The game returns to the state before that action | <ul style="list-style-type: none"> • Choosing wild card colors • Up to 50 previous actions can be undone in sequence |
|--|--|

6.4 Redo Game

Reapply an action undid by mistake.

| | |
|--|---|
| <p>How to Redo:</p> <ul style="list-style-type: none"> • Click the "Redo" button in the bottom panel • The most recently undone action is reapplied • A brief status message appears: "Redone" • The game moves forward one step | <p>What Can Be Redone:</p> <ul style="list-style-type: none"> • Any action that was undone in the current session • Multiple redos can be performed in sequence |
|--|---|

7.0 Winning the Game

7.1 Round End

How does a round end?

- A round ending when any player plays their last card
- Their hand is now empty - 0 cards

Scoring:

- The player who emptied their hands scores points to the total value of all remaining cards in all other players' hands
- Card points values are calculated based on their current side(light or dark)
- Points are added to the winner's cumulative score

After round end:

- A notification appears showing who won the round
- The "New round" button becomes visible
- The "New game" button also becomes visible
- Undo/Redo buttons are disabled

7.2 Starting a New Round

1. Click "New round" to continue playing
2. All player hands are cleared
3. A new deck is created and shuffled
4. Each payer is dealt new cards
5. A new game card is placed
6. The game returns to light side

7. Scores from previous rounds are preserved

7.3 Game Over

The game ends when any player reaches 500 points or more. A popup message announces the winner. Then the “New round” and “New game” button becomes visible.

7.4 Starting a New Game

1. Click “New Game”
2. Returns to the player configuration screen
3. All scores are reset to 0
4. You can configure players and settings
5. Click “Start Game” to begin fresh

Thank you for playing UNO Flip! Enjoy the Game!

Version: Milestone 4 & 5