Circuit Warfare Design Document v1.1

1. Overview

Circuit Warfare is a multiplayer card game in which players use a variety of *Circuit Cards* and *Magic Cards* to compete with each other. (Single-player mode potentially supported – AI scripting needed)

The goal of this design is to explore a kind of casual games that appeals to both casual players and hardcore players.

2. Players

Originally, this game is based on a 2-player rule on a 5x5-grid Field. However, when utilizing a larger Field (7x7 grid), a maximum of 4 players can actually play at the same time. When played by 2 players, it is a 1-on-1 duel, and 3 players a scrimmage. In the 4-player case, it can be either a 4-people scrimmage or a 2-on-2 team match.

3. Objective

The objective of this game is to turn as many cards on the Field as possible into the player's color. A match ends when the Field is all covered by cards or one of the players runs out of cards.

4. Terms

Field: The game takes place on a 5x5 grid board displayed on the screen, which is called the *Field*.

Card Deck: Each player should respectively customize a *Card Deck* of 30 cards. These cards may include both *Circuit Cards* and *Magic Cards*. Though there is no general restriction on the number of each kind of cards, one should contemplate very carefully to maintain a good balance of the deck in order to win his/her battles. Up to 5 Card Decks can be preset and chosen from.

Graveyard: The area where all the discarded Cards go to.

Action Points (AP): Each player gets 3 *Action Points* before a match starts (and 2 more for each following turn). In order to perform an action, such as placing a Circuit Card on the Field, perform a Chain or using a Magic Card, a certain amount of AP will be consumed.

Circuit & Chain: A *Circuit* is multiple Circuit Cards of the same color connected in an order. When two cards are "plugged" onto the two ends of a circuit of a different color, a new circuit of the different color is formed. This action is called "*Chain*". To perform a Chain, 1 AP is required.

Card Points (CP): By taking matches, players can earn *Card Points*, which can be used to buy cards (randomly) in *Card Mall* inside the game.

5. Set-up (2-player match for example)

Choose Color: Each player chooses a color out of red, yellow, blue and green as his/her color, and all the cards in his/her deck will be of this color.

Draw Cards: Before the match starts, each player draws 5 cards from the top of his/her deck after shuffling.

Get AP: Before the match starts, each player gets 3 AP respectively.

Decide the order: Who makes the first movement is decided randomly by the system.

6. Procedures (2-player match for example)

This game is a turn-based game, in which players make movements in turn. As long as there are enough AP, one can perform in his/her turn any action based on the cards in hand. *All movement in a turn must be finished within 1 minute (or less, TBD).*

Game Start: When the first turn begins, each player has 3 AP and 5 cards in hand drawn randomly from their decks. In each of the following turns, a player can get 2 AP and draw 1 card from his/her deck. If the number of cards in hand exceeds 6, the player should discard card(s) to keep the amount of his/her cards in hand within 6. In a turn, a player can place Circuit Card(s) onto the Field or implement the special effects of Magic Cards, both of which consume certain amounts of AP. Or instead, one can does nothing and skip his/her turn.

Chain: When a Circuit Card is placed on the field, the Chain detection will be triggered. If the detection results in "true", the system will ask the player if he/she wants to perform a Chain (cost 1AP). After confirmation, the player will need to draw a line (a Circuit) on the screen, which goes from the Circuit Card he/she just placed, through card(s) of the opponent's color, to another Circuit Card of the player's color (the Circuit can't intersect with itself). Then the opponent's cards in the Circuit are flipped into the player's color, and a new Circuit is formed.

Retrieve AP: When a Chain is performed and a new circuit is formed, the player who lost cards on the Field will retrieve certain amount of AP, the number of which is half the number of the cards lost, e.g. 1 AP when 1 or 2 card(s) are flipped, 2 AP when 3 or 4 cards are flipped, etc. This means that the player actually gets some extra AP, thus has more chance to perform an effective counterstrike.

Match End: The match continues until every grid of the Field is covered by a Circuit Card or one of the players runs out of Card (i.e. the deck is drawn up and there is no

cards in hand). According to the result, a certain amount of *Card Points* (CP) is then added respectively to each player's account.

7. Game Flow

See the end of this document.

8. Card System

There are two kinds of cards in this game: *Circuit Cards* and *Magic Cards*. The former are to be placed on the Field and connected to form Circuits, while the latter are to be used to implement special effects. Besides, just like in some other Card games, cards in this game also have the setting of *Rarity* (ranging from 0~3 stars), which means how rare a card is.

Number limit of Cards: Based on the rarity of a card, there is a certain number limit of the same cards in a deck. Below are the number limits for each rarity level:

Rarity-0 cards: no limit

Rarity-1 cards: 3 (i.e. only 3 copies of the same cards are allowed in a deck)

Rarity-2 cards: 2

Rarity-3 cards: 1

Circuit Cards: A Circuit Cards has a certain type of wires painted on it. According to the types of wires, there are three kinds of Circuit Cards: 2-way, 3-way and 4-way. When multiple Circuit Cards are placed with the wires on them forming a long wire, they are *connected.* To place a Circuit Card, 1 AP is needed. When a Circuit Card on the Field is lost (turned into another color or discarded), 1/2 AP can be retrieved to the owner (round up, becomes 1AP). *Each Circuit Card has two opposite directions.*

Card Name	Rarity	Painting(s) on the Card(s)
2-way Circuit	1	
3-way Circuit	1	
4-way Circuit	0	
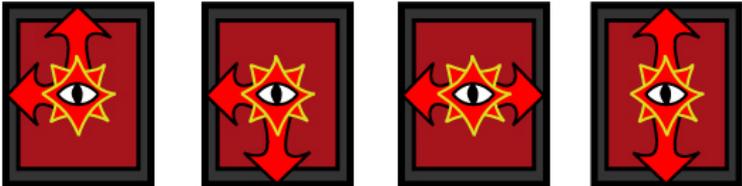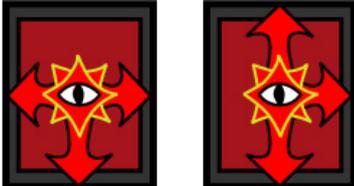
Magic Cards: There are a variety of Magic Cards in this game, which provides the

matches with a great deal of possibility. Magic Cards can't affect any Closed Circuit, and are to be "discarded" (be sent to the *Graveyard*) after using. In a deck, multiple instances of any specific Magic Card that is of 6 stars or higher is not allowed. (i.e. you can have only copy of each specific Magic Card that is of 6 stars or 7 stars in your deck)

Below are some typical Magic Cards.

Card Name	Rarity	Function	AP needed for Implementing
Vortex	1	Designate one Circuit Card on the Field and rotate it 180 degree.	2
Killer Queen	1	Designate a card on the field. If a new Chain is performed based on it, the new Circuit will be flipped into the opposite color. The effect lasts one turn.	3
Crystal Wall	2	Designate one Circuit Card on the Field and protect it from any effect by Magic Cards. The effect lasts one turn.	2
Heaven's Door	2	Change one Circuit Card of the card user's on the Field with one Circuit Card in hand. This action will not trigger Chain detection.	2
Hanged Man	2	Designate one player and make half of his\her AP disappear.	2
God's Hand	2	Pan all the cards on the field 1grid in one of the 4 directions. Card(s) on the row/column that move out of the border will be discarded. The effect will be nullified if a card under the effect of Crystal Wall is to move out of the border.	3
Dusky Wind	2	Discard 1 card in hand and draw 2 cards from the deck	3
Rebirth	3	Designate one card on the Graveyard and put it back into the card hand.	5
The Kiss	3	Designate one Circuit Card on the Field and turn it into the opposite color temporarily (won't trigger Chain detection). The effect lasts one turn.	5
King Crimson	3	All players discard the cards in hand and draw 5 cards from their decks.	6

9. User Interface

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                         ┌─────────────────┐
                         │   Game Start    │
                         └────────┬────────┘
                                  │
┌─────────────┐         ┌─────────▼────────┐
│ Shopping in │         │   Mode Select    │◄──────────────┐
│  Card Mall  │◄───────►│     &Option      │               │
│  using CP   │         └─────────┬────────┘               │
└─────────────┘                   │                        │
                         ┌────────▼────────┐               │
                         │  Match Start;   │               │
                         │     Set-up      │               │
                         └────────┬────────┘               │
                                  │                        │
                         ┌────────▼──────────┐             │
               ┌────────►│ Next Player'sTurn;│◄──────┐     │
               │         │   Get AP&Cards;   │       │     │
               │         │  Start countdown  │       │     │
               │         └────────┬──────────┘       │     │
               │                  │                  │     │
               │         ┌────────▼────────┐   No    │     │
               │     ┌──►│  Enough Time    ├─────────┼─────┤
               │     │   │     Left?       │         │     │
               │     │   └────────┬────────┘         │     │
               │     │            │ Yes              │     │
               │     │   ┌────────▼────────┐  No     │     │
               │     │   │  Player Input?  ├────►─────┤     │
               │     │   └────────┬────────┘         │     │
               │     │            │ Yes              │     │
               │     │      ┌─────┴──────┐           │     │
               │     │  ┌───▼────┐  ┌────▼─────┐     │     │
               │     │  │  Use   │  │ End Turn ├─────┘     │
               │     │  │ Cards  │  └──────────┘           │
               │     │  └───┬────┘                         │
               │     │      │                              │
               │  No ┌──────▼────┐                         │
               │ ◄───┤ Enough AP?│                         │
               │     └──────┬────┘                         │
               │            │ Yes                          │
               │     ┌──────▼────────┐                     │
               │     │Update the Field│                    │
               │     │&other parameters;                   │
               │     │ Detect outcome │                    │
               │     └──────┬────────┘                     │
               │            │                              │
               │   No ┌─────▼──────────┐                   │
               └──────┤ The Field full of│                 │
                      │ Cards? \ Any player               │
                      │ run out of Cards? │                │
                      └─────────┬────────┘                 │
                                │ Yes                      │
                      ┌─────────▼────────┐                 │
                      │   Match End;     ├─────────────────┘
                      │    Score CP      │
                      └──────────────────┘
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