

Cardscape - A web based development and publishing tool for collecting card games

The WTactics Team

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1. Introduction

Over the last two decades there have been several success stories on collaboration over the internet. Beginning with the development of the Linux kernel and not ending with collaborative efforts like Wikipedia, the internet has brought a new way of sharing and crafting to human kind.

The World Wide Web is the most used service on the internet today. It once started out as a service to distribute static HTML files and has been further developed to become the “Web 2.0 which uses dynamically generated content.

The fundamental part of the “Web 2.0 is collaboration. People from all over the world can create content and improve or extend existing content.

Cardscape is another one of these Web 2.0 tools. It allows the users to create concepts for their favorite collecting card games. These concepts may be further discussed by the game’s community and finally be approved by the gamemakers.

1.1. Installation

Cardscape requires PHP 5 and MySQL 5. To install Cardscape edit the `config.php` file. All configuration directives will be explained in section [A.1](#). CardScape comes with a `Card.php` file that is optimized for the WTactics card game. If you do not want to work with WTactics cards, you need to replace this file with something more appropriate.

Once you have made all the necessary adjustments, execute the `install.php` using your browser. This will set up the database and if everything works, the installation is complete.

2. Using Cardscape

Cardscape offers a variety of actions it can perform. These actions will be presented in the following sections:

2.1. Cards and their properties

Each card has several variables associated with it. The most apparent properties are the card's name and its rule text. Depending on what kind of game Cardscape is used for, there may be further game-specific properties. However, there are also properties that are used internally by cardscape to keep track of cards and their relationships.

Cardscape distinguishes between official cards and cards that are in the so-called *Drafting Area*. A card in the Drafting Area may later become an official card. So in fact, the official cards are a subset of all cards in the Drafting Area. But despite this redundancy, Cardscape associates different information with cards in both areas. The differences between these two areas will be discussed in the following sections.

2.1.1. Drafting Area

Most of the cards in the Drafting Area are not official cards. The Drafting Area is used to develop and discuss new cards. Another feature of the Drafting area is also the possibility to trace the ancestry of cards. You can start with a card and see which other cards are based on this card and you can also see if there is another card which is the predecessor of this card.

During the development process, a card may have one of the following statuses:

Concept: This is not a real card. It is used to propose a general concept that (other) users may take to create a card. If someone has a new idea for a new ability, he may create a concept and derive several cards as examples for this new ability from it.

Draft: This card is new and there haven't been any comments on this card yet (comments from the card's creator do not count). Cards in this state may be changed by the author to any extent.

Discussed: This card has at least one comment associated with it. Only minor edits will be possible (e.g. spelling errors) by the author. For greater changes a new draft must be made.

Playtested: The gamemaker crew has tested the card. It will sooner or later become accepted or rejected.

2. Using Cardscape

Accepted: The card is now an official card in the game. A link to the official version of the card is provided.

Rejected: The card has not been accepted as an official part of the game. The reasons for the rejection should be written down in the discussion thread for the card.

Superseded: A newer card replaces this formerly official card.

2.1.2. Official cards Area

The official cards area contains only cards that are legal and well balanced. However, there is always a link to the same card in the Drafting Area if you are interested in the card's development history.

Each official card has a numerical ID. This ID is unique to this card as long as it's official. If another card supersedes this card, the new card will take this ID and the old card vanishes from the official cards area.

By looking at the highest ID you can also tell how many official cards a game does have.

In addition to the ID, an official card has a revision number counter telling how many times the ID of the card needed to be passed on to a newer (better) card. A high number signifies a rather problematic card that needed several adjustments to become balanced.

The revision number of a card is displayed directly after the card's ID, separated by a dot.

2.2. Roles in Cardscape

While the creation of new cards is a community driven process, there need to be some users with special privileges and competence to finally decide upon the acceptance of a card in the official set. Because of this, Cardscape uses the following roles to distinguish what a user can do:

Guest: Someone who is not logged in.

User: Someone who has registered with the system.

Moderator: Someone who has greater privileges to fight vandalism in the system.

Gamemaker: Someone who is allowed to change a card's status manually.

Admin: Keeps the site running and manages user roles.

2.3. Searching for cards

The user can search for cards using several criteria like the card's name but also numerical ranges like the cost of a card. These criteria may be combined with **AND** and **OR** clauses. Criteria may be inverted with the **NOT** clause.

Special searches like “all cards by the following author are also possible.

Each search query can be saved as a bookmark in the browser since parameters are passed by HTTP GET.

There are different search options available for the Drafting Area and the official cards.

2.4. Discussing Drafts

There is a discussion thread for each card in the drafting area. There you can comment on new cards and tell others if you think this card is worthy adoption into the official set. If not, you can criticise and suggest further improvements to the card so that it becomes more balanced and/or interesting.

You can also use the discussions to post additional information on the card. For example, if you like to add epic background information to a card, the discussion thread is the right place for it.

The discussion thread serves as documentation for cards and their development process. Any player who wants to have more background information for a card can read the discussion thread of the card itself or its predecessors.

Besides written comments there is also the possibility to rate a card with 1 to 5 stars.

2.5. Commenting on official cards

There is also the possibility to leave comments on cards in the official card area. But these comments should reflect the player’s experiences with the card and should also be about combinations with other cards. It is also OK to leave comments on the imbalanced state of a card, but these comments should be rare.

Each official card may be rated for its popularity with 1 to 5 stars.

2.6. Creating new card drafts

There are two possibilities to create a new card draft: Use an existing card as inspiration/predecessor or start with a completely new card. If you choose the former, there will always be a link from your card to the inspiring/preceding card which can be interesting for other users.

The difference between a predecessor and an inspiration is the following: A predecessor will get replaced in the official set by its successor if the successor has the same name. An inspiration is just a variant of an existing card.

When creating a card, you cannot choose the name of an existing official card unless you explicitly use the card with the existing name as predecessor.

If you choose to use an existing card (no matter if official or not), you will see a form field where you can write your thoughts for the variant of the card down. These thoughts will be used as the first post in the discussion thread of the card.

Whenever a new card is created, its author and the date are recorded.

2. Using Cardscape

2.7. Making cards official

After a card has been playtested and discussed enough, any gamemaker may declare a card as official. As a matter of politeness, the gamemaker should not make any card official, if no other gamemakers have expressed their agreement for a card in the card's discussion thread.

Therefore the act of making a card official is by votes. But one doesn't need to wait for every gamemaker to approve. A few approval are sufficient.

2.8. Using the messaging system

There is the possibility to send messages between registered users of the system. This system should be used to recruit more moderators and gamemakers if necessary.

3. Technical Details

Technical stuff ahead!

3.1. Third Party services

Cardscape uses the following third party components to enhance user experience:

3.1.1. Gravatar

Gravatar is used to display avatars in the discussion threads.

3.1.2. reCaptcha

reCaptcha is used to prevent spam. The service is currently not available (HTTP 301) for unknown reasons.

3.2. Coding Conventions

Make beautiful code, not war. Code is documented with useful Doxygen-compatible comments.

3.3. Card generation

This is a very tricky part. There are individual modules for each card game because the layout between games may differ drastically. The code for rendering cards is located in the `Card.php` file. This file is optimized for the WTactics game. You need to replace this file if you want to use Cardscape with another game.

The approach for generating cards in WTactics is explained in the following subsection.

3.3.1. WTactics

Cards in the Drafting Area may have either a text as description of the image or an URL leading to an image that is already uploaded to the WTactics servers. In contrast all official cards must have an image associated with them.

Each image may overlap with the physical left and right borders of the card. There is also an extended border at the bottom that may be used for overlaps.

3. Technical Details

The card painting algorithm takes the associated image and aligns it with the right physical border and the non-overlapping border at the bottom (The non-overlapping border is used to display the card's ID and revision number).

The image itself should only consist of any numbers of items/figures in the foreground and a transparent background. If the artist does not want his image to overlap with a specific border, he must leave a transparent border of equal size on the image.

The image painting algorithm will not resize cards. One reason for this is that if the artist leaves a transparent margin, the placement of the card will look bad in some cases.

If a card appears to have too much empty space on it, the user should increase the font size or write a longer flavour text.

Flavor text will be in italic.

When an image is chosen for a card, the user will write the rule- and flavortext directly onto the card using JavaScript. Whenever the text comes too close to the image, the user needs to insert a line break. If padding on the left side is required, the user may use space characters.

After the text is written on the card, the user will be able to preview the final card with the text drawn by PHP. Ideally JavaScript and PHP should behave identically but to make sure everything is laid out correctly, this preview is necessary.

We still need to discuss how unit/creature cards should be laid out.

Card art should be referenceable from the image gallery (to be installed by snowdrop). That also means that the technical and legal difficulties with uploading images is not a concern of Cardscape. Reminder: The gallery should also allow uploads through external URLs.

But in any case there must be a link to the image gallery upload form from Cardscape.

3.4. Login System

Cardscape uses salted passwords and PHP Sessions. reCaptcha is used to prevent bots from registering.

3.5. Config file

Configuration will be done in a PHP file (`config.php`). It will include a big associative array.

3.5.1. Card object

Because each card game is different, each will need its own version of the `Card.php`. The `Card.php` should define two card classes: One for the cards in the Drafting Area and one for official cards.

With an class for cards, it is very convenient to cast an MySQL result to an object. Both classes should have a `show()` method to render the data to HTML with one line of

code. There will be more methods to allow the creation of a completely new card and to edit an existing card.

Upon installation this file will be introspected to determine the required database layout.

3.6. Ancestry tracking

Each card in the drafts table has an id (which is also the primary key). Each card has also a foreign key which is identical to its ancestor's id. This way it is easy to find the ancestor and the successors of a card.

3.7. Card translations

Only official cards will support translations into other languages. It is too much work to translate draft cards. The translated versions of the cards will only differ from the English one by their rule- and flavortext and by the card's name.

A. Reference

A.1. Configuration Directives in config.php

Level values correspond to the role a user has. The following levels exist:

- 0** Guest
- 1** Guest who has identified himself as a human by using reCaptcha
- 2** Registered user
- 3** Moderator
- 4** Gamemaker
- 5** Admin

accept (true|false)- set to **true** if you accept Cardscape's license and have finished the configuration.

Database host Name of the database host

user Username for the database

pass Password for the database

database The database Cardscape should use

auth salt The salt used for the user's passwords in the database (md5 hash).

newdraft Level - What kind of users should be allowed to create new drafts?

ratecard Level - What kind of users should be allowed to rate a card?

commentcard Level - What kind of users should be allowed to comment on a card?

registration (true|false)- enable registration of new users

B. Symbols

B.1. WTactics

The following symbols are used for WTactics.

- Mark symbol
- faction logos
- gold symbol
- Threshold symbols for each fraction

These symbols should be referenced in the `Card.php` file.

C. Version 1.1 Features

- Deck creation
- Statistics for decks
- Real player profiles
- Export of decks to other formats
- Admin frontend