Scryptic Game Design Document

Version 1.7 – 28 September 2010

Players build competing *crosswords* on a board that represents a landscape with forests, mountains and rivers. The goal is to defeat your opponent by attacking and destroying their crossword, ultimately capturing their city.

[Provisional ideas subject to consensus are highlighted in red. *Terms appearing in the Glossary are italicized for their first occurrence.*]

Core Gameplay:

Play proceeds in turns, with each player adding one or more words to their own crossword. The crossword of each player is independent and it is thus not possible to build on or connect with an opponent's crossword. In fact, when crosswords come into close proximity this constitutes an attack.

A player's first word must have one of its letters placed on the starting city *cell*. Thereafter, new words must connect to this crossword. Should a part of the crossword become *disconnected* (cf. combat) so that it is not possible to trace a path along the player's word back to the source city, then this section of the crossword cannot be built upon until it has been reconnected.

Each player has a *rack*, which stores letters before they are placed on the board. The rack has a limit of *12* letters. Initially, a player starts with a rack of *7* letters. Each turn thereafter they receive *3* additional letters. Should their rack limit be exceeded at any time they must choose a sufficient number of letters to discard in order to bring their available letters within the rack limit.

Words on the board can be lifted by the player (*redeployment*), with the letters being placed in the player's rack for use elsewhere on the board. In a given round a player can only lift a single word and in doing so they must leave their crossword in a valid state (not disconnected or with invalid words). Also, the standard rules and procedures for rack size-limits apply. The lifted letters can be reused immediately in the same turn.

Letters are drawn from a *pool* of unseen letters, which in the standard game provides a limited supply according to Scrabble frequencies of letter occurrence. Each letter has an associated value, which contributes to the strength of a word in relation to other words. Values of letters are limited to *1*, *2*, or *3* (denoted by the number of dots on the corresponding letter token) depending on rarity of use in the English language, as follows:
A = 1, B = 2, C = 2, D = 1, E = 1, F = 3, G = 1, H = 3, I = 1, J = 3, K = 3, L = 1, M = 2, N = 1, O = 1, P = 2, Q = 3, R = 1, S = 1, T = 1, U = 1, V = 3, W = 3, X = 3, Y = 3, Z = 3

Word strength is the sum of the values of the letters constituting the word and is potentially modified by the terrain that the word occupies and its semantic meaning. This strength has a decisive role in determining the outcome of combat between opposing crosswords.

Each turn proceeds as follows:

1. The player places a collection of letters (which he or she believes constitutes a valid word)
2. The player touches "commit". If it is a valid word then it is linked into the player's crossword, otherwise an error is signaled and play returns to step 1. Should the committed word be adjacent to or overlap the opponents crossword then a combat phase begins (*cf*. combat)
3. The player may optionally touch "redeploy" and then choose a word to be lifted back onto their rack. This can only be done once in a turn.

- The turn is ended at any point when the player touches "end turn". If there are uncommitted letters on the board then these are lifted back into the player's rack. The next player's turn begins

Terrain:

There are a variety of terrain types (plains, forest, water, mountains and ice) possible for cells, each with different implications for the game mechanics:

Terrain Type	**Placement Effect**	**Combat Effect**
Plains	None	None
Forest	Each cell of forest has a density value of *2*, which contributes to the overall score that a word must exceed in order to cut through the forest (at which point the occupied forest cells are converted to plains). Note that each letter does not have to exceed the forest density. Cutting, carving or fire-based words get a multiplier (X 1.5) to overcome forest density.	None
Water	A word can cross water but both of its end letters must be on solid land for it to be valid.	Any word that crosses water receives a penalty multiplier (X0.6) to both attack and defense.
Mountains	None	Mountains provide a multiplier to both attack and defense. The score of each letter lying on a mountain tile is doubled in calculating the word strength.
Ice	Each cell of ice has a thickness value of *1*, which determines the maximum letter value allowed for that cell. If this value is exceeded then all ice cells under the word are converted to water and the word is destroyed.	The determination of whether ice cracks only takes place after attacks have been resolved. It is thus possible to attack with a word that is too strong for the ice, have it defeat defenders and then be destroyed in turn as the ice gives way.
City	None	A word that has one of its letters in a city cell receives a defensive bonus (X 1.5).

Word strength modifiers:

In addition to terrain there are a number of other potential modifiers of a word's strength. Note that these only apply to a word's value for combat purposes and not to its contribution to overall score (which is purely based on the face value of the letters). Fractional word strengths are rounded down and multipliers from different effects are combined.

- Broken Supply Lines (X 0.6) – Should a word be part of a disconnected crossword then its defensive strength is decreased. It cannot have an offensive strength because it is not possible to add a word onto a disconnected crossword, unless this serves to reconnect it.
- Attacking Words (X 1.5) – Words with an aggressive meaning (e.g., sword, attack, destroy, etc.) receive a multiplier to their strength when attacking.
- Defending Words (X 1.5) – Words with a protective meaning (e.g., shield, defense, protect, etc.) receive a multiplier to their strength when defending.
- Sneaking Words (X1.5) – Words with connotations of subterfuge (e.g., spy, hide, sneak) receive a multiplier to their strength both when attacking and defending.

In general words can be in a number of states (some of which are not mutually exclusive):

- Valid – a correct English word, with a direct path via connected words back to a city owned by the player,
- Isolated – a word with no direct path back to a player's city,
- Invalid – a collection of letters that do not form a correct English word,
- Uncommitted – letters that the player has placed but which have not yet been committed to the crossword.

It is thus possible for a word to be both invalid and isolated. All other states are mutually exclusive.

Combat:

Combat takes place if a word (designated the attacking word) is placed so that it overlaps or lies adjacent in a 4-connected sense to one or more of an opponent's words (designated as defending words). Combat is resolved once the attacking player presses "commit word" and the attacking word passes the validity check. Multiple attacks may thus take place in a single turn.

Combat then proceeds as follows: the strength of the attacking word and each individual defending word are calculated with consideration of appropriate modifiers. Each defending word is then attacked in turn (in an order determined by the defending player) until either no more defending words exist or the attacking word is defeated. In individual combat between an attacking word and a defending word the strengths of the two words are compared. If the attacker has a higher strength then the defender is removed and the attacker's strength is reduced by the strength of the defender (which is also added to the attacking

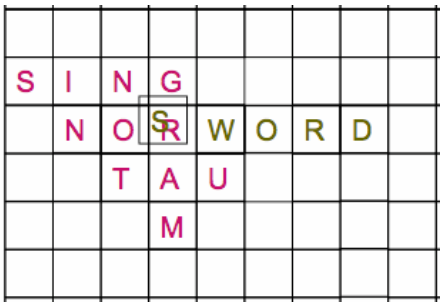
player's total score), and the combat proceeds to the next defending word. A defending word is removed by discarding all letters that are not shared by other words in the defender's crossword. Note that in certain rare circumstances this may result in no letters being removed. If the attacking word is defeated then it is removed.

An attack may leave the defender's crossword in an invalid state. It is the responsibility of the defender to fix their crossword, either by laying down new words or by redeployment of letters in the invalid words. However, they are not required to do so. Invalid words are marked in the interface and cannot:

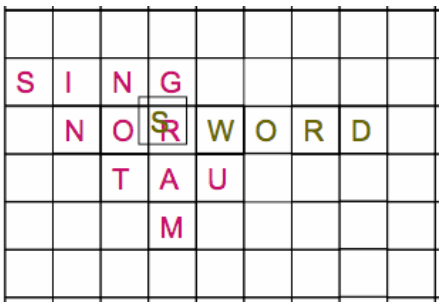
- Contribute to defending the crossword,
- Add to the players score,
- Be built upon, unless in so doing the player restores the word's validity.

Combat Example:

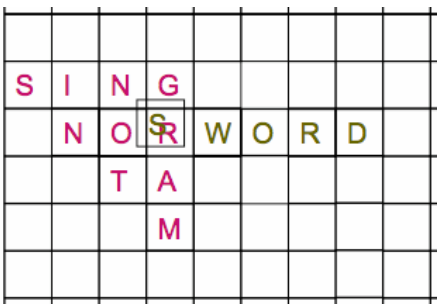
1. The word *sword* (strength = 7 (score) * 1.5 (for attacking semantic) = 10 (rounded down)) is placed so that it overlaps or is adjacent to *sing* (4), *nor* (3), *gram* (5), *tau* (3), and *not* (3). Combat begins, with the defender choosing a defensive order of *nor*, *tau*, *not*, *gram*, *sing*.



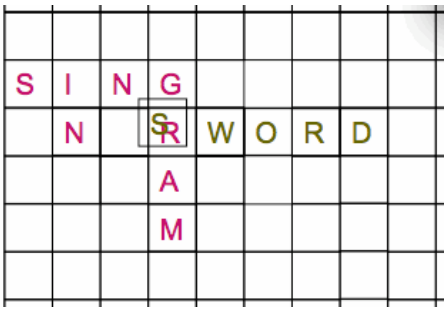
2. *sword* (10) defeats *nor* (3). However, no letters are removed because the letters of *nor* are shared by *in*, *not* and *gram*. Final *sword* str = 10 – 3 = 7.



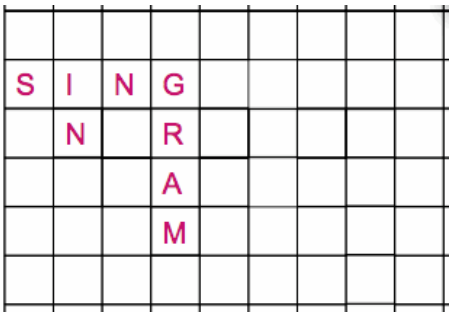
3. *sword* (7) defeats *tau* (3). The "u" of *tau* is removed because it is not shared by any other undefeated words. Final *sword* str = 7 – 3 = 4.



4. *sword* (4) defeats *not* (3). The "o" and "t" are removed because although they are shared by other words, namely *ta* and *nor*, both of these have already been defeated. Final *sword* str = 4 – 3 = 1.



5. *sword* (1) is defeated by *gram* (7). *sword* is removed. Note that if the defender had chosen to use *gram* before *not*, he would not have lost as many letters. The attackers score is increased by 3 (for the "u", "o" and "t") but then decreased by 9 (for the loss of *sword*). The defenders score is reduced by 9 and the crossword is left in a valid state but this might not always be the case.



Even though invalid words may remain on the board, it is not possible for a successful attacking word to be barred from placement. It will always remove all coincident and 4-way adjacent letters. This can be tested by creating a fully connected grid of words and testing an attack against this structure.

Winning Conditions and Score:

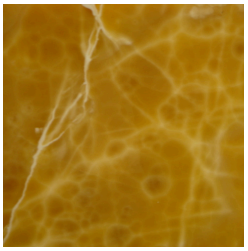
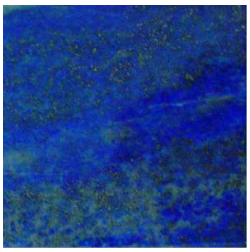
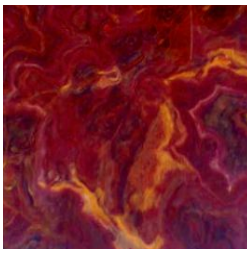
The game finishes once either of the players has emptied both their pool and rack OR if a player owns no cities. In the former case, the player with the highest score wins. In the latter case, the player who owns all cities wins by conquest (even if that players score happens to be lower). The game also ends if the letter pools are empty and both players pass (without committing a word) for two turns in a row. Note that it is possible for players to delay the end of the game using redeployment to ensure that tiles remain in their rack.

Alternative winning conditions are possible and should be configurable from the top-level interface or be defined by the campaign. Such alternative possibilities include an infinite pot of letters with the first player to reach a certain score being declared the winner, or the game only ending with total city control.

Score for a player is calculated as the sum of the value of their words on the board and the value of opponent's letters that they have defeated during the game. This differs from Scrabble in that simply extending a word (by, for example, adding an 'S') does not allow the word to be counted twice. When an opponent's city is captured a bonus of 40 points is added to the player's score. This may occur multiple times if a city is contested between players.

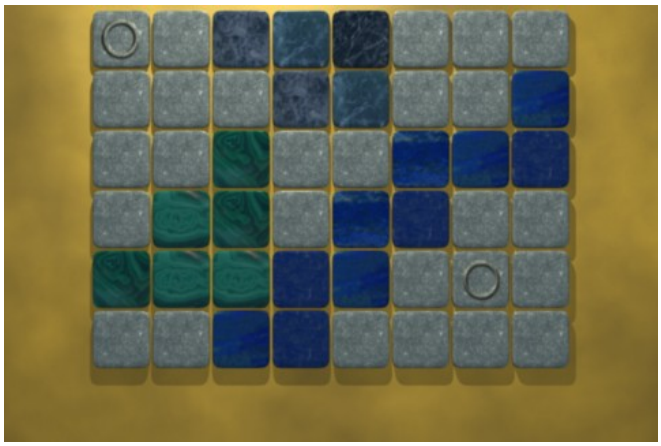
Graphic Design:

After some consideration of graphic design alternatives, including steampunk, stained glass, and ancient map aesthetics, it was decided that the interface should be styled to look like a medieval board game ("the alchemists game") with semi-precious tiles set in an antique brass surround and old coins in silver and gold to represent the letters of opposing sides. The different terrain types will be represented by semi-precious stones that have a distinctive texture:

Terrain Type	Stone	Image
Plains	Honey Onyx	
Mountains	Tiger's Eye	
Ice	White Marble	
Water	Lapis Lazuli	
Forest	Malachite	
Fire/Lava	Red Onyx	

It is crucial that there be a large number of tiles of each type to avoid a repetitive design.

An initial rough mock-up of a zoomed-in view of the board appears below. Note that this does not include the icons or rack design. Also the plains texture is a repetitive procedural texture that needs replacing and the mountain texture uses black marble rather than tiger's eye.

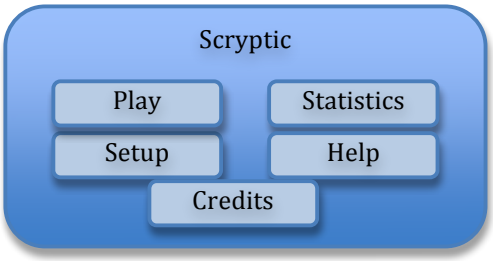


Unlike in the design above, cities will be represented by a solid metal tile of gold (representing player1), silver (representing player2) or pewter (an unaligned city, yet to be conquered).

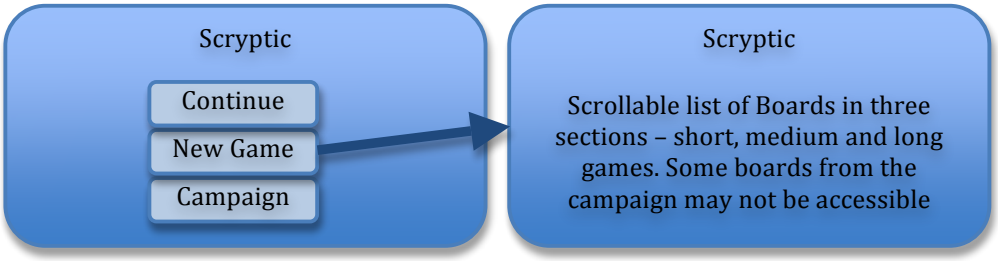
Menu Design:

Mockups of the menu system appear below. This menu will be accessible from startup and through a menu button during the game.

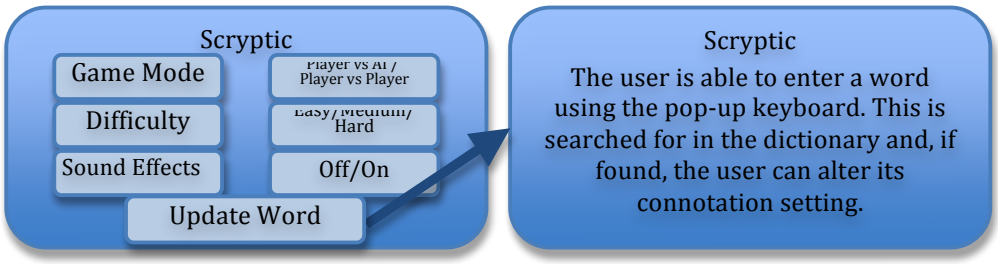
Main Menu



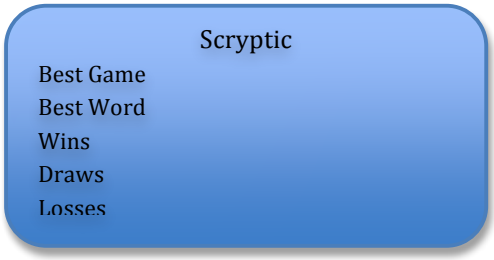
Play Menu



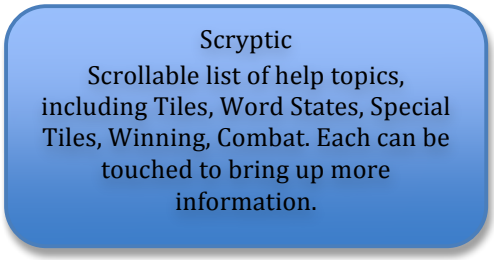
Setup Menu



Statistics Screen



Help Menu



Credits Screen

Glossary:

- *Cell* – a discrete location on the board capable of holding a single letter, with an assigned terrain type.
- *Crossword* – a network of connected words arranged in a horizontal and vertical pattern, where each line of words in the horizontal and vertical is a valid English word.
- *Disconnected Crossword* – A network of words which cannot be traversed by following connected words to find a city cell.
- *Pool* – the remaining letters available for play but not yet drawn. Each player has a separate pool of letters.
- *Rack* – the letters available and visible to a player for placement on the board. Each player has a separate rack of letters.
- *Redeployment* – lifting letters from the board and into a player's rack for the purpose of playing them elsewhere at a later stage.
- *Validity* – A sequence of letters is valid if it spells out a word in English, otherwise it is invalid. At the end of their turn, all the words in a players crossword must be valid.
- *Word score* – the sum of the score of the individual letters constituting a word with no multipliers.
- *Word strength* – the word score with various modifiers for terrain and semantics applied. This is principally relevant for determining the outcome of combat.