WikiGraph

Mark Jordan
Jeremy Lenz
Robert McClure
Austin Nakamura
Michael Rush
Khanh Tran
Thomas Van Doren

Software Requirements

Specification

Draft 1
January 21, 2011

CSE 403 - CSRocks Inc.

Version	Primary Author(s)	Description of Version	Date Completed

1	Rob McClure, Thomas Van Doren	Initial revision: description, features, scope.	2011-01-19
2	Mark Jordan, Jeremy Lenz, Michael Rush	Use cases	2011-01-19
3	Austin Nakamura, Khanh Tran	UI Prototypes	2011-01-20
4	Thomas Van Doren	Description and Feature updates to reflect changes to UI implementation (js -> flash)	2011-01-23
5	Thomas Van Doren	Update features to match SDS	2011-02-04

Description

WikiGraph is a graphical interface for visualizing the connections among Wikipedia articles via their links. This product will provide an easy to use search engine to target a specific article, which will become the central node. From the central node a directed graph will display how this article is connected to other Wikipedia articles.

The WikiGraph is ideal for Wikipedia enthusiasts. Enthusiasts are interested in digging deep into articles and their connections. WikiGraph provides a clean interface to visualize connections among Wikipedia articles. This could be useful for any Wikipedia user by showing article relations via a directed graph. However, this product will exist outside of Wikipedia, so enthusiasts will be the target audience.

There are no known alternatives to this product. There is a similar, possibly identical, product being created in parallel. It remains uncertain how WikiGraph will distinguish itself.

WikiGraph will employ an inductive user interface design. Users will be able to use their intuition to get started. There will be help tips throughout the product

to aide users in accomplishing advanced tasks. The inductive ui will rely on standard layouts to maximize user intuition. The goal is to make WikiGraph easy to learn and use.

WikiGraph is an extension for Wikipedia. It allows a specific relation among articles, specifically through in-article links, to be easily discovered via a graphical interface. It is easy to use and easy to learn.

Scope

WikiGraph will only be a method for visualizing the connections between Wikipedia articles. It will not be a replacement for Wikipedia, and as such, it will not allow users to edit or comment on articles.

WikiGraph is a web application. The front-end will be a modern web browser with Internet connection, JavaScript enabled, and Adobe Shockwave Flashplayer plugin installed and enabled. The back-end will be a web server with a MySQL database.

Browsers will be supported as listed below:

Absolutely Support

- Google Chrome 5.x (most users will have the newest version, though)

Hope to Support

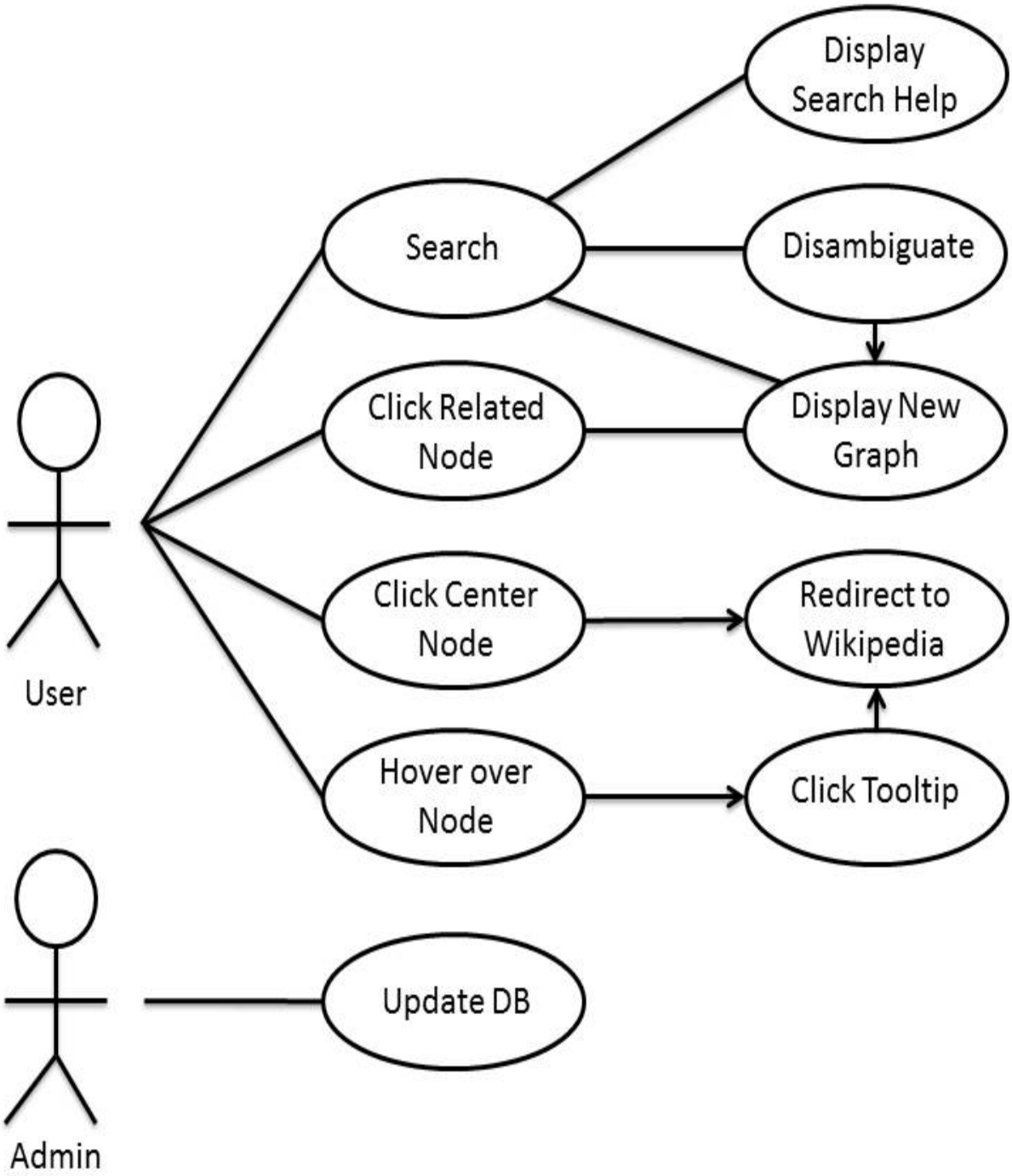
- IE 8
- Mozilla Firefox 3.5
- Internet Explorer 9 (beta)
- IE 7
- Apple Safari 4.x
- Opera 10.50

Not Supported

- Internet Explorer 6

There might be some performance issues with the Wikipedia database. It is extremely large and it is unknown to the developers how it will act under the stress of WikiGraph. It is not expected to be a limiting factor, but it currently unknown.

Use Case Diagram



User functions: Users may enter a search, which will result in a help page if no matches were found, a disambiguation page if many matches were found, or a new graph if an exact match was found. Users may enter a new search from any stage during this process. Users may also click on any node in the graph. Clicking on a related node (leaf) will center the graph on that node. Clicking on the center node will redirect the page to the Wikipedia article. Users may hover over any node to display a popup (including article title and abstract), which may be clicked to redirect to the article.

Admin functions: The admin may make any changes to the database, such as ensuring that the DB is up to date with the current version of Wikipedia.

Formal Use Case #1

Project Team	WikiGraph
Goal	To find a wiki article
Level	User Goal
Primary Actor	User
Precondition	User is at home/instruction page
Success end condition	User finds a desired article
Failure end condition	User does not find a desired article
Trigger	User wants to know more about some article
Main success scenario	1. User enters a string related to an article in the search query text field, clicks search. 2. WikiGraph finds a relevant article from the search query and displays the article found as a center root node with related articles around it as leaf nodes. 3. User hovers over some node, bringing a popup with extra information on the article. 4. User finds the article desirable and wants to know more, user decides to click ‘go-to wikipage’ link in popup which opens a new tab/ window of the related Wikipedia article.
Extensions	2. a. User submits a different search query (return to success scenario step 2. 3. a. same as 2.a. 4. a. same as 2.a. 2. b. WikiGraph finds several relevant articles to query, displays such relevant articles to user as leaf nodes connected to a center node which displays some disambiguation information saying that multiple articles to the search were found. 2. c. Many articles are found (related to search query, or of the search query) which brings up a 'different page' option where user can specify a page of nodes to display.

Variations	2. a. WikiGraph does not find a relevant article, displays such results to user and asks for another query (back to success scenario step 1). 3. a. User takes advantage of double-click feature on a node, which immediately opens a new tab/ window of the nodes related Wikipedia article 4. a. User clicks on 'center node' feature for some leaf node (might be in popup) node is centered, with related articles as leaf nodes (continue to success scenario step 3)

Formal Use Case #2

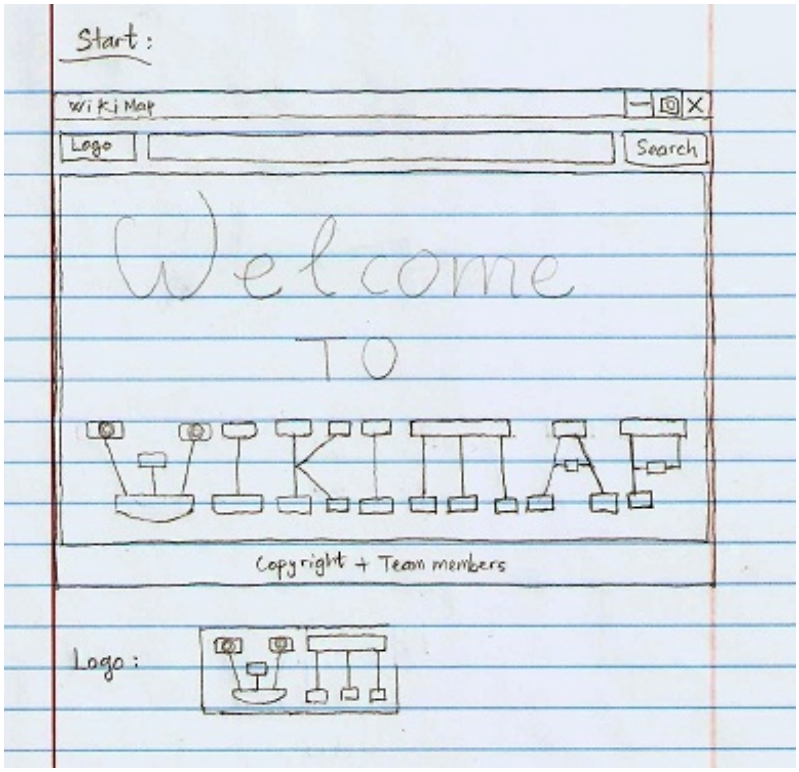
Project Team	WikiGraph
Goal	User wishes to explore connections between two chosen, seemingly random topics
Level	User goal
Primary Actor	User
Precondition	User is at our instructional homepage
Success end condition	User finds a connection using links between articles
Failure end condition	User gives up on finding a connection
Trigger	User queries for one of the two articles
Main success scenario	1. User enters an article name 2. User views related articles and chooses most similar to desired article 3. GUI redraws graph around chosen article 4. User goes back to 2. until article is found
Extensions	1. a. Article does not exist 1. a.1. User is shown similar articles 1. a.2. User can choose to use a random page
Variations	1. a. Article is ambiguous 1. a.1. User is shown disambiguation page 1. a.2. User picks a displayed node

Feature List

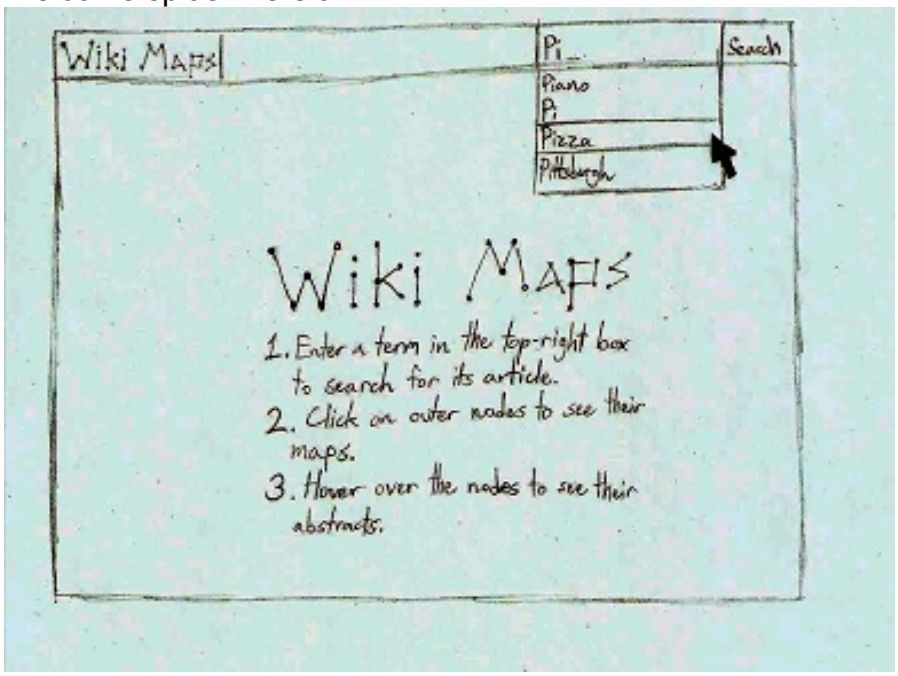
Feature	Target
Map outbound links for an article	Alpha
Search for an article	Beta
Display article title in node	Beta
Provide link to Wikipedia page for node	Beta
Display article abstract in tooltip	Beta
Limit number of links to display	Beta
Provide search disambiguation	Release
Provide search-not-found resolution	Release
Search history and navigation	Release
Direct links to specific node maps	Release
Autocomplete for search	Release
Ability to navigate and expand map	Release
Rank strength of links	Release
Map inbound links for an article	Stretch
Animation for map navigation	Stretch
Ability to cycle through/view all links for a node	Stretch
Allow users to change display settings	Stretch
Display multiple nodes with common connections	Stretch

UI Diagrams

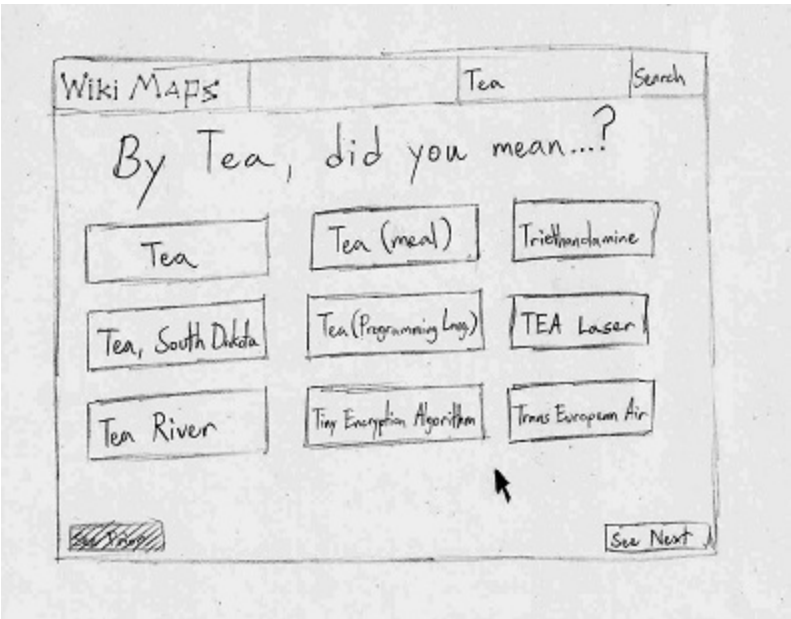
Welcome splash version #1:



Welcome splash version #2:

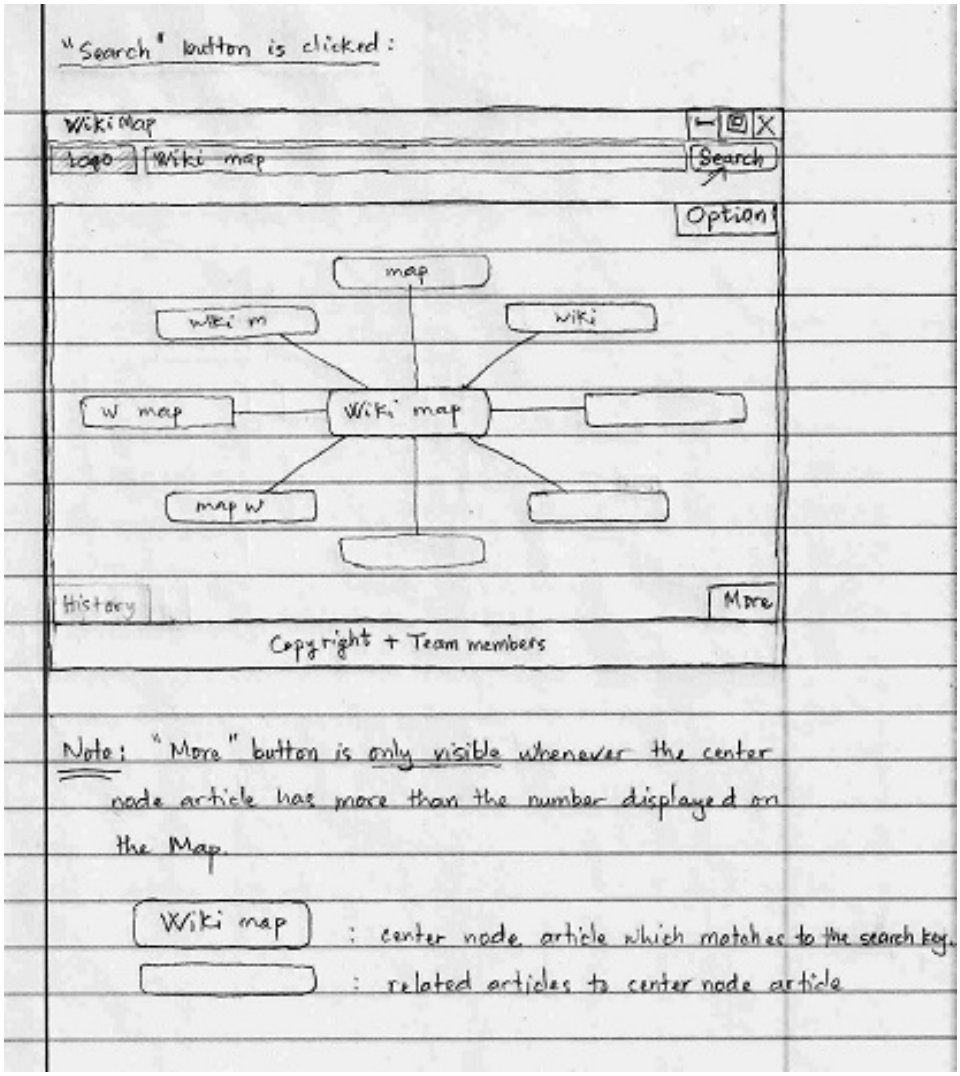


Search Result Not Found:



Search Result

Graph:


"Search" button is clicked:
Wiki Map
Logo
Wiki map
Search
Option
map
wiki m
wiki
w map
Wiki map
map w
History
More
Copyright + Team members
Note: "More" button is only visible whenever the center node article has more than the number displayed on the Map.
Wiki map : center node article which matches to the search key.
: related articles to center node article