

# Vision Document

## Open Source Vector Drawing

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### 1. Introduction

#### 1.1 Purpose of the Vision Document

The purpose of this document is to collect and analyze the ideas that have come up for the future of this product. In this document we state what we hope to accomplish, and features we hope to see added to the product later which are not in the scope of this development. We shall predict and analyze how we hope this product will be used in order to gain a better understanding of the project, outline concepts that may be developed later, and document ideas that are being considered, but may be discarded as the product develops.

#### 1.2 Product Overview

The Inkscape vector drawing tool uses SVG graphic objects to create documents which can be modified either via the graphical Inkscape interface or directly through code. At the time this document was created, the most recent stable release of Inkscape was version 0.39 (available via the Inkscape website).

Our purpose is to create a way for two or more users of Inkscape at different terminals to share the “same” Inkscape document. While connected, each instances of Inkscape sharing the document will maintain independent copies of it as normal, but any changes made by any user will be automatically shown on all other users’ screens. In this way, many users of Inkscape could collaborate on the same design remotely.

Communication between different instances of Inkscape will be conducted via the Jabber messaging protocol, since it is the most prevalent standard protocol available.

#### 1.3 References

Inkscape website: <http://www.inkscape.org/>

Yahoo! Graffiti: <http://games.yahoo.com/>

Protocol definition: <http://www.xmpp.org/specs/>

## **2. User Description**

### **2.1 User/Market Demographics**

Inkscape has a large and growing number of users, many of whom might make use of the new features we intended to add. Users of Jabber instant messaging clients who do not currently use Inkscape may also be potential users, if they have need of a whiteboard tool. Additionally, users of other vector-based drawing tools may choose to migrate to Inkscape in order to take advantage of this feature.

Some of the primary users of Inkscape, and other vector-based drawing tools, are programmers, graphic designers, artistic hobbyists, and engineers. Engineers and graphic designers in particular often need to communicate their drawings to others, and therefore are likely to find this feature useful.

### **2.2 User Profiles**

The users will have a wide variety of expertise in SVG graphics and vector-based drawing tools in general, and will be using Inkscape for a wide variety of reasons. Those who have need of such features most likely already have some means of collaborating on their work. Those who have not particularly needed a real-time whiteboard application before are unlikely to begin doing so if it is overly difficult. As such, our users can be expected to demand a quick, simple method of remote collaboration, and to be highly intolerant of errors.

Inkscape is an open-source project, and will therefore probably draw many of its users from the open-source community. These users will be extremely knowledgeable of programming in general, and many of them knowledgeable about Inkscape itself. As such, we anticipate that some of these users may become involved in the development of this feature. They will know what they want, and many will have opinions and suggestions on what is being done “wrong” or “right”. Some may also be willing to actively help correct errors or imperfections, blurring the line between user and developer.

### **2.3 User Environment**

The working environment of the users will range over several current and future versions of Inkscape and our connectivity addition. Some users will prefer to use the graphical Inkscape interface, while others will prefer to use the command line or other programs to generate graphical objects through code.

We expect that a high percentage of users will run Inkscape through a Unix or Macintosh operating system, as these environments tend to be popular among the Open Source

development community and with artistic professionals. These users may connect directly to each other (potentially across different platforms) or connect to a large number of users via a chatroom.

## **2.4 Key User Needs**

The connectivity of Inkscape must be stable and unobtrusive. The user will want to connect to other users once, and then forget completely about the connection and concentrate on the development of the document. The user will expect new additions to the chat group to be automatically connected to the document that is being shared, and updates to be handled automatically. The user will most certainly not want to be harassed by pop-up windows.

It is also likely that the user will want some sort of undo or backtracking feature, the current implementation of Inkscape's undo system may make it unusable during real-time whiteboard communication. Implementing a suitable undo system, or changing the existing one, lies outside the scope of this project.

## **2.5 Alternatives and Competition**

Alternatives include other SVG editors and vector-drawing graphics tools. Users might also use Inkscape, but rely on email or some other means of collaboration instead of using our direct document sharing feature.

Alternatives, of course, also include non-vector graphics tools such as Microsoft Paint. Also available are more limited whiteboard applications, such as "Yahoo! Graffiti", which lets multiple users simultaneously share a real-time, but non-vector-based, drawing environment. It is unlikely, however, that someone would be willing to use one of these alternatives to share the sort of complex document Inkscape is capable of generating.

# **3. Product Overview**

## **3.1 Product Perspective**

<Provide a block diagram of the product or system and its interfaces to the external environment.>

*<Insert selections of the Use Case UML>*

## **3.2 Product Position Statement**

This feature is intended for current and future users of Inkscape who want to collaborate remotely, in real-time, with multiple parties on the same "drawing board." With the addition of this feature, Inkscape will better serve those users who are already working on shared projects, and will help enable others to begin cooperative endeavors in the future.

### 3.3 Summary of Capabilities

Our addition to the existing Inkscape application will have the following features:

It will allow multiple Inkscape users to collaborate remotely on a single document via a Jabber connection

It will provide a fluid user experience. (It will be unobtrusive, cause few errors, and require as little user intervention as possible.)

It will be extensible, as is necessary for an open-source project. (Future developers will be able to modify and adapt it.)

### 3.4 Assumptions and Dependencies

We will be acting upon the assumption that the Jabber protocol can be easily adapted or extended to transmit our information, and that Jabber servers will accept and transfer our information. We also assume that the users who want to use this feature will already have, or will be willing to obtain a Jabber ID.

These assumptions make our project dependant on nature of the Jabber protocol and Jabber servers. We will also depend on the Inkscape project not to become suddenly unstable, or change its structure in a manner that would compromise our implementation of this feature.

### 3.5 Cost and Pricing

N/A

## 4. Feature Attributes

N/A. This project is itself adding a feature to a pre-existing product. The attributes of this feature include extensibility, unobtrusiveness, but these cannot be assigned to a specific member of the project.

## 5. Product Features

Connect to a Jabber Server
Initiate User-to-User Document Sharing
Initiate User-to-Chatroom Document Sharing
Receive a Shared Document from a User-to-User Connection
Receive a Shared Document from a User-to-Chatroom Connection
Add an Object to a Shared Document
Modify an Object in a Shared Document
Delete an Object in a Shared Document

Disconnect from a Shared Document
Disconnect from a Jabber Server

## 6. Exemplary Use Cases

Item	Value
Use-case name	Basic User to User Share Setup
Brief description	The user shares one Inkscape document with a single Jabber user
Actor(s) involved	User 1 (The user sharing the document) User 2 (The user receiving the document)
Basic flow of events	<ol style="list-style-type: none"> <li>1. User 1 opens Inkscape</li> <li>2. User 1 opens or creates an Inkscape Document</li> <li>3. User 1 clicks the File-&gt;Connect Whiteboard menu option</li> <li>4. User 1 is presented with a Jabber login screen</li> <li>5. User 1 logs on to a Jabber server</li> <li>6. User 1 is presented with an Inkscape sharing menu (this may include existing server-side contact lists)</li> <li>7. User 1 enters or selects the Jabber username of User 2 and chooses to share the document</li> <li>8. User 2 is presented with a share request from User 1</li> <li>9. User 2 accepts the shared document</li> <li>10. User 1 is informed that User 2 is now sharing the current document</li> <li>11. The document being shared by User 1 appears on the screen of User 2 in a new Inkscape window</li> </ol>
Alternate flow(s) of events	<p>User 1 Fails to Log in to Jabber Server</p> <ol style="list-style-type: none"> <li>1. User 1 opens Inkscape</li> <li>2. User 1 opens or creates an Inkscape Document</li> <li>3. User 1 clicks the File-&gt;Connect Whiteboard menu option</li> <li>4. User 1 is presented with a Jabber login screen</li> <li>5. User 1 attempts to log on to a Jabber server, but fails</li> <li>6. User 1 is presented with a Jabber login screen</li> </ol> <p>User 2 does not accept the document (refuses the document, is not logged in, is not running Inkscape, etc.)</p> <ol style="list-style-type: none"> <li>1. User 1 opens Inkscape</li> <li>2. User 1 opens or creates an Inkscape Document</li> <li>3. User 1 clicks the File-&gt;Connect Whiteboard menu option</li> <li>4. User 1 is presented with a Jabber login screen</li> <li>5. User 1 logs on to a Jabber server</li> <li>6. User 1 is presented with an Inkscape sharing window</li> <li>7. User 1 enters or selects the Jabber username of User 2 and</li> </ol>

	chooses to share the current document 8. User 1 is informed that sharing with User 2 is not possible
Pre-conditions to use case	1. User 1 and User 2 are both running instances of Inkscape 2. User 2 is connected to a Jabber server and has set up Inkscape to receive shared documents 3. User 1 can log in to a Jabber server that can communicate with User 2's server 4. User 2 accepts the document shared by User 1
Post-conditions of use case	1. Both users should see the shared image in an Inkscape window
Special requirements	None

Item	Value
Use-case name	Basic User to User Shared Document Reception Setup
Brief description	The user logs in to a Jabber server, is presented with an Inkboard share request, and accepts the shared document
Actor(s) involved	User 1 (The user receiving the document) User 2 (The user sharing the document)
Basic flow of events	1. User 1 opens Inkscape 2. User 1 opens or creates an Inkscape Document 3. User 1 clicks the File->Connect Whiteboard menu option 4. User 1 is presented with a Jabber login screen 5. User 1 logs on to a Jabber server 6. User 1 is presented with an Inkscape sharing menu (this may include existing server-side contact lists) 7. User 2 attempts to share a document with User 1 (See Case: Basic User to User Share Setup) 8. User 1 sees the new share request in the sharing menu 9. User 1 accepts the request 10. User 1 sees the document being shared by User 2 in a new Inkscape window
Alternate flow(s) of events	User 1 Fails to Log in to Jabber Server 1. User 1 opens Inkscape 2. User 1 opens or creates an Inkscape Document 3. User 1 clicks the File->Connect Whiteboard menu option 4. User 1 is presented with a Jabber login screen 5. User 1 attempts to log on to a Jabber server, but fails 6. User 1 is presented with a Jabber login screen  User 1 rejects the share request 1. User 1 opens Inkscape 2. User 1 opens or creates an Inkscape Document 3. User 1 clicks the File->Connect Whiteboard menu option 4. User 1 is presented with a Jabber login screen

	<ol style="list-style-type: none"> <li>5. User 1 logs on to a Jabber server</li> <li>6. User 1 is presented with an Inkscape sharing menu (this may include existing server-side contact lists)</li> <li>7. User 2 attempts to share a document with User 1 (See Case: Basic User to User Share Setup)</li> <li>8. User 1 sees the new share request in the sharing menu</li> <li>9. User 1 rejects the request</li> <li>10. User 2 sees a connection failure message (See Alternate Flows of Case: Basic User to User Share Setup)</li> </ol>
Pre-conditions to use case	<ol style="list-style-type: none"> <li>1. User 1 and User 2 are both running instances of Inkscape</li> <li>2. User 2 has connected Inkscape to a Jabber server</li> <li>3. User 1 can log in to a Jabber server that can communicate with the server being used by User 2</li> <li>4. User 1 accepts the document shared by User 2</li> </ol>
Post-conditions of use case	<ol style="list-style-type: none"> <li>1. User 1 should see User 2's shared document in a new Inkscape window</li> </ol>
Special requirements	None

Item	Value
Use-case name	Adding a Shared Document Object
Brief description	One user adds a new object to the shared document and any user with whom it is being shared sees the new object
Actor(s) involved	User 1 (The user changing the document) User 2 (Another user sharing the document)
Basic flow of events	<ol style="list-style-type: none"> <li>1. User 1 adds the new object to the shared document</li> <li>2. User 2 sees the new object added by User 1</li> </ol>
Alternate flow(s) of events	<p>Either user ceases sharing the document before the change is received (disconnected, logged off, or disabled sharing)</p> <ol style="list-style-type: none"> <li>1. User 1 adds the new object to the shared document</li> <li>2. User 2 continues to see the document as it existed previous to (1)</li> </ol>
Pre-conditions to use case	<ol style="list-style-type: none"> <li>1. User 1 and User 2 are both running instances of Inkscape</li> <li>2. User 1 and User 2 are sharing the same document</li> <li>3. User 1 and User 2 continue to share the document until the change has been received by User 2</li> </ol>
Post-conditions of use case	<ol style="list-style-type: none"> <li>1. Both users should see new object on the shared Inkscape document</li> </ol>
Special requirements	None

## 7. Other Product Requirements

### 7.1 Applicable Standards

The Jabber protocol we use must comply with the following specifications:  
<http://www.xmpp.org/specs/>

The code must be clearly written and documented.

## **7.2 System Requirements**

The new feature should not compromise Inkscape's ability to compile and run correctly on Unix, Macintosh, and Windows (98 or later) operating systems.

## **7.3 Licensing, Security, and Installation**

<Describe any licensing, security or installation requirements that also affect the development effort or that create the need for separate installation software.>

## **7.4 Performance Requirements**

The user must be able to run Inkscape and have access to the internet while attempting to connect to other users.

# **8. Documentation Requirements**

## **8.1 User Manual**

The manual will be an addition to the Inkscape documentation. It will describe how to connect, how we connect, our protocol, and the abilities/limitations of the current version of our project.

## **8.2 Online Help**

The user may contact other users via Inkscape mailing list for help.

## **8.3 Installation Guides, Configuration, and Read Me Files**

N/A

## **8.4 Labeling and Packaging**

Our project will be labeled as a part of Inkscape and packaged with future releases.

# **9. Glossary**



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## To Do List

#	Who	Due	What
1			
2			

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## Revision History

Date	Who	Revision
10/01/2004	Brandi	Created
10/20/2004	Jason Segal	Updated – Reworded, added Use Cases, added tentative Product Features list, and added System Requirements

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