FOSSology and Ninka

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# Project Charter

The purpose of this project is to develop a tool to generate SPDX documents that combine the outputs of FOSSology and Ninka. The tool will sequentially scan a piece of software, whether it is a file or package, using FOSSology and Ninka. The tool will collect the output given by both programs and compare and combine the output into one SPDX document. The result will give end users the licensing information that they need to determine how the scanned software may be used.

FOSSology and Ninka are both scanning tools used to find licenses associated with a given software file or package. Due to the methods they use each scanning tool can recognize particular licenses better than the other. The tool that we are creating intends to combine the output of both of these scanning tools into one cohesive document. Refer to the documentation of FOSSology (LINK) and Ninka (LINK) for more information.

This project is one piece in a larger meta-project. The meta-project consists of a command line SPDX generator called do\_spdx that is currently part of the Yocto project (refer to Yocto documentation for futher details), an SPDX database, and a dashboard for SPDX usage. In relationship to this larger project, our software will serve as a sub-process for do\_spdx. If do\_spdx does not find the given SPDX document in the database, it will call our product to create one from the two scanning tools.

In addition, we will develop a basic interface and spdx-finalizing procedure to enable end users to manually use our software as a stand-alone program. These will consist of a simple uploader and SPDX finalizer. The core scanner will be able to work independently of these sub-systems to allow for automation or future customization.

If we have completed the main tasks above, we will attempt to optimize FOSSology’s execution time to likewise increase the speed of our program. Also, if time permits, we will attempt to design a web based user interface.

# System Service Request

Our project will sequentially scan a given piece of software with FOSSology and Ninka and combine their output into a single SPDX document. In order to do this we will need the following tools.

## Minimal Required Development Environment

* A Linux based computer or virtual machine
  + The Virtual Machine will use the Linux 12.04 operating system.
* Apache 2.x
* MySQL
* Postgres 8.3 or higher
* PHP 5
* Perl with cpan and the Text::Template module
* FOSSology
* Ninka

## Optimal Development Environment

A dedicated development server shared by all developers will save time and resources and prevent “overlap” issues. A dedicated server will also enable us to test our tool as a remotely accessible web application should we reach that point. The server will function as both a web server and a database to simplify collaboration on a single system.

The dedicated system should meet the minimal requirements above, but ideally will have sufficient processing power, memory, and disk storage to emulate real-world scale use of FOSSology, Ninka, and our tool.

It is a possible compromise to use a minimal or less-powerful system at the beginning of the project, then upgrade or move to more powerful hardware when the document generator portion of the tool is ready for full-scale testing.

# Stakeholders

The following groups/people are identified stakeholders in the project. These entities will develop and support the project, or may be called upon to volunteer advice and assistance, or may wish to use the completed project for research and business purposes.

* Our team: Doug Richardson, Jon von Kampen, James Thompson
* The University of Nebraska at Omaha
* Hewlett Packard Company (HP)
* The FOSSology team: Bob Gobeille, Mary Laser, Dong Ma, Yao-bin Shi, Raino Lintulampi, and Dan Stangel
* The SPDX Team: Kate Steawart, Jack Manbeck
* The Ninka team: Yuki Manabe and Daniel M. German

# Communication Management Plan

|  |  |  |  |
| --- | --- | --- | --- |
| Communication | Who | When | How |
| Team Meeting | Doug, James, John | Twice a week. E-mail whenever needed. | In person during and after class. E-mail outside of meetings. |
| The FOSSology Team | Bob Gobeille, Mary Laser, Dong Ma, Yao-bin Shi, Raino Lintulampi, and Dan Stangel | Every other week and when important developments happen | E-mail |
| The Ninka Team | Yuki Manabe and Daniel M. German | Every other week and when important developments happen | E-mail |
| The SPDX Team | Kate Stewart, Jack Manbeck | Every other week and when important developments happen | E-mail |

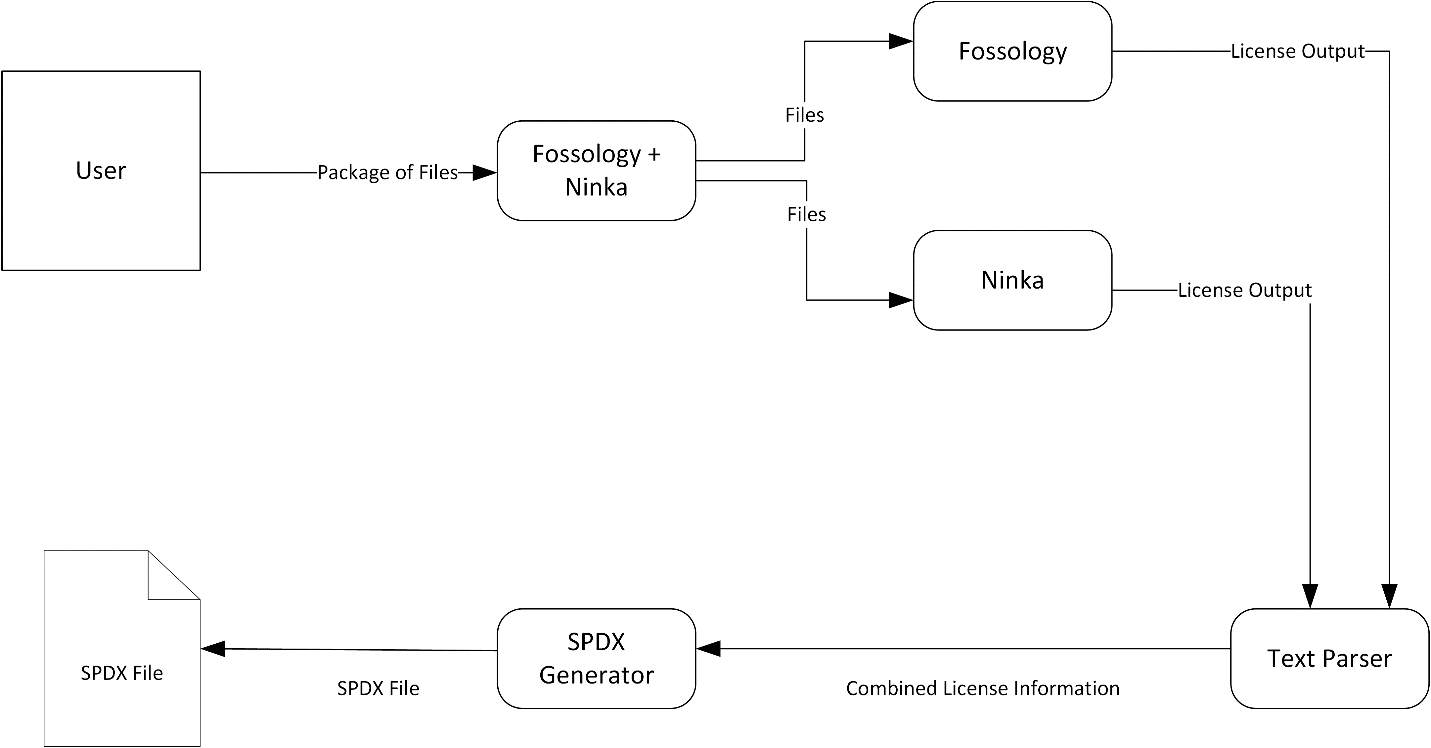
# Distribution System

The project will be distributed through a GitHub repository.

* **Name:** FOSSology-Ninka
* **Location:** [https://github.com/TheFinks/FOSSology-Ninka](https://github.com/TheFinks/Fossology-Ninka)
* **Ownership:** The repository is public, and is owned by Doug Richardson, Jon von Kampen, and James Thompson.

Programs and services may additionally be sent by e-mail at the request of a stakeholder or otherwise interested party. This method of distribution is at the sole discretion of the team (Doug Richardson, Jon von Kampen, and James Thompson) and should not be considered the primary means of distribution.

# Data Flow Diagram

****

FOSSOLOY + NINKA

-INPUT: Software #software is a file OR a package

-If INPUT is not package

--FOSSOLOGY(INPUT)

--NINKA(INPUT)

-ELSE

--Unpack(INPUT) as TEMP

--For FILES in TEMP

---FOSSOLOGY(FILE)

---NINKA(FILE)

(FOSSOLOGY and NINKA are external modules, they are treated as black boxes)

TEXT PARSER

-INPUT(FOSSOLGY\_OUT, NINKA\_OUT)

-READ(FOSSOLOGY\_OUT) as R1

-READ(NINKA\_OUT) as R2

-COMPARE(R1, R2) #compares R1 and R2 line by line, assumes the files are sorted in the same order

--IF R1 has license AND R2 has NONE or ERROR

---WRITE license(R1) TO COMBINED\_OUT

--ELSE IF R2 has license and R1 has NONE or ERROR

---WRITE license(R1) TO COMBINED\_OUT

--ELSE IF license(R1) == license(R2)

---WRITE license(R1) TO COMBINED\_OUT #R1 and R2 are identical, either one works

--ELSE IF license(R1) != license(R2) #assuming R1 and R2 have licenses

---WRITE "LICENSE\_DECLARED = NOASSERTION, COMMENTS = CONFLICT" TO COMBINED OUT

#not the actual output format, just an example for representation purposes

SPDX GENERATOR

-INPUT(COMBINED\_INFO)

-CREATE FILE FINAL\_DOC, FORMAT = JSON, SCHEMA = SPDX

-IF COMBINED\_INFO.FILE\_FORMAT == PACKAGE

--FOR LINE IN COMBINED INFO #Multiple lines for a package

---WRITE(LINE.LICENSE\_DECLARED) TO FINAL\_DOC.LICENSE\_DECLARED

---WRITE(LINE.COMMENTS) TO FINAL\_DOC.COMMENTS #Even if no conflict, it can check for other comments that may be put in later

-ELSE

--WRITE(LINE.LICENSE\_DECLARED) TO FINAL\_DOC.LICENSE\_FOUND

--WRITE(LINE.COMMENTS) TO FINAL\_DOC.COMMENTS

# System Structure

The system will, by default, have all the structures and databases associated with FOSSology and Ninka. Refer to the documentation of those systems for more information.

On top of the structures built in to and required for the use of FOSSology and Ninka, the system is planned to have the following elements:

1. Text file output from FOSSology and Ninka on the command line (if such output is not already supported) (M)[[1]](#footnote-1)
2. A script to run FOSSology and Ninka on a given piece of software. (S)
   1. FOSSology and Ninka will probably be run in sequence because of anticipated resource constraints. Ideally, the script would run the tools in parallel.
3. A reader that will parse the output files and created a combined middle-document indicating the licenses concluded for a given piece of software (M).
4. An SPDX generator that will read the combined file and output it to an SPDX document (S).
5. A web-interface to do a tandem-scan of FOSSology and Ninka, and return an SPDX page (W).

# Copyright Declarations and License Choice

## FOSSology

FOSSology is licensed under GPL v2 and LGPL v2.

## Ninka

Ninka is licensed under AGPL v3.

## Original Artifact Attribution

All documentation and software created by the team will be attributed to Doug Richardson, Jon von Kampen, and James Thompson.

## Original Documentation

All documentation (including this document) are/will be licensed under the Creative Commons Attribution 4.0 International License.

## Original Software

All original software created by our team for the purposes of this project will be either GPL v2 or LGPL v2 or any newer version, depending on whether or not it needs to access proprietary libraries. This will allow it to most closely conform to FOSSology and other related projects. The allowance of newer versions will allow license compatibility with Ninka (AGPLv3 is compatible with GPLv3).

# 

Community representation plan

# Description

This document describes how FOSSology-Ninka will be provided and announced to its stakeholder communities. (Interactive communication between project contributors and stakeholders is detailed in the Communication Management Plan.) The project’s public-facing website will describe its purpose and either host or link to downloads, documentation, and code repositories. Major release announcements will be made to stakeholders’ public mailing lists.

# Project website

The project website will be the public face of FOSSology-Ninka. It will contain the following components:

1. **Project description:** A brief explanation of FOSSology-Ninka’s purpose and how it works.
2. **Sponsors and contributors:** Biographies and contact information of sponsoring organizations and core individual contributors
3. **Program downloads:** Downloads of public FOSSology-Ninka releases (may be hosted remotely)
4. **Changelog:** Detailed changelog for public releases (may be hosted remotely)
5. **Documentation:** Tutorials, user-oriented documentation, and auto-generated code documentation (may be hosted remotely)
6. **Code repository:** The public Git repository (may be hosted remotely)

# Project announcements

When FOSSology-Ninka is deemed ready for public beta testing, and for public release, it will be announced to the spdx-tech[[2]](#footnote-2) and fossology[[3]](#footnote-3) public mailing lists. The project’s goals and progress will be described in a paragraph or two. Users will be linked to the project website (see section 1) for more details.

Code contribution management plan

# Description

This document describes how the FOSSology-Ninka codebase will be administered. Technical decisions will be made by the unanimous consent of named core contributors. Code will be managed on a public GitHub repository and the core contributors will review third-party contributions for inclusion. Following the spring 2014 semester, project administration will be wholly transferred to Matt Germonprez and the University of Nebraska at Omaha.

# Code repository

A GitHub repository[[4]](#footnote-4) will be used for code hosting and version control. The repository will be publicly accessible.

# Decision-making and core contributors

Core contributors have the final say as to the technical direction of the project, including whether to accept third-party code contributions (see section 3). All choices will be made by unanimous consensus. However, core contributors are encouraged to defer to experts when necessary and may also decline to vote on proposals.

The founding core contributors are Doug Richardson, James Thompson, and Jon von Kampen. Additional core contributors will be designated by unanimous consensus of the existing core contributors.

The practice of unanimous consensus may be revised in the future should the number of contributors make it impractical or unwieldy.

# Incorporation of third-party contributions

Third parties wishing to contribute or revise code may issue pull requests to the FOSSology-Ninka GitHub repository. The core contributors will review pull requests and unanimously decide whether to accept them. Pull requests may also be declined with the option to resubmit with certain specified changes. One core contributor may be designated to manage pull requests.

Non-code contributions such as technical advice may be emailed to core contributors for similar consideration.

# Continuity beyond semester project

The founding contributors plan to end their involvement in FOSSology-Ninka after their semester project concludes in early May, 2014. Unless otherwise stated, at that time, project administration will be wholly transferred to Matt Germonprez and the University of Nebraska at Omaha (“transferees”). The founding contributors’ code and other artifacts will be licensed to the transferees for unlimited reuse, modification, and relicensing. The transferees will receive all core contributor decision-making powers.

# Change Log

## Overall Document

|  |  |  |
| --- | --- | --- |
| Date: | Action | Who |
| 02/03/2014 | Created final report | James Thompson |
| 02/05/2014 | Proofread and formatted final report (all sections) | Jon von Kampen |
| 02/25/2014 | Separated all documents in the final report and inserted them into Github. | James Thompson |
| 02/25/2014 | Inserted all corrections made by James and Doug on all of our documents into the correct document location | James Thompson |

## Project Charter

|  |  |  |
| --- | --- | --- |
| Date: | Action | Who |
| 01/27/2014 | Created Prototype | Doug Richardson |
| 01/29/2014 | Updated File content | Doug Richardson |
| 01/29/2014 | Uploaded to Google Drive | James Thompson |
| 02/02/2014 | Updated License declaration | Doug Richardson |
| 02/03/2014 | Updated and moved into final report | James Thompson |
| 02/21/2014 | Added information about FOSSOLOGY and Ninka. Described where this project is within the larger meta-project. Updated the charter to indicate the use of a human-based interface and SPDX finalizer (still under dispute) | Doug Richardson |

## System Service Request

|  |  |  |
| --- | --- | --- |
| Date: | Action | Who |
| 01/27/2014 | Created Prototype | Doug Richardson |
| 01/29/2014 | Uploaded to Google Docs | James Thompson |
| 02/03/2014 | Updated License Notice and optimal environment requirements | Doug Richardson |
| 02/03/2014 | Moved into final report | James Thompson |
| 02/21/2014 | Clarified that all members will be using Ubuntu 12.04 linux on our virtual machines | Doug Richardson |

## Stakeholders

|  |  |  |
| --- | --- | --- |
| Date: | Action | Who |
| 01/27/2014 | Created Prototype | Doug Richardson |
| 02/02/2014 | Uploaded to google drive, updated file content. Updated License Declaration | Doug Richardson |
| 02/03/2014 | Moved into final report | James Thompson |
| 02/21/2014 | Added Kate Stewart and Jack Manbeck of the SPDX team to the list of stakeholders | Doug Richardson |

## Communication Management Plan

|  |  |  |
| --- | --- | --- |
| Date: | Action | Who |
| 01/27/2014 | Created Prototype | Doug Richardson |
| 01/29/2014 | Uploaded it to Google Docs | James Thompson |
| 02/02/2014 | Updated content to include FOSSology and Ninka community. | Doug Richardson |
| 02/03/2014 | Moved into final report | James Thompson |
| 02/21/2014 | Added Kate Stewart and Jack Manbeck of the SPDX team to the communication management plan, and created a plan on how and when to contact them. | Doug Richardson |

## Distribution System

|  |  |  |
| --- | --- | --- |
| Date: | Action | Who |
| 01/27/2014 | Created Prototype | Doug Richardson |
| 02/02/2014 | Uploaded to google drive, updated file content.  Updated License Declaration | Doug Richardson |
| 02/03/2014 | Moved into final report | James Thompson |

## Data Flow Diagram

|  |  |  |
| --- | --- | --- |
| Date: | Action | Who |
| 01/27/2014 | Created Prototype | Doug Richardson |
| 01/31/2014 | Created MS-Paint Prototype of the dataflow diagram | Doug Richardson |
| 01/31/2014 | Created VISIO document of the dataflow diagram | James Thompson |
| 02/04/2014 | Moved into final report | Jon von Kampen |
| 02/05/2014 | Updated to reflect comments during class presentation | James Thompson |

## System Structure

|  |  |  |
| --- | --- | --- |
| Date: | Action | Who |
| 01/27/2014 | Created Prototype | Doug Richardson |
| 02/02/2014 | Uploaded to google drive, updated file content. Updated License Declaration | Doug Richardson |
| 02/03/2014 | Moved into final report | James Thompson |

## Copyright and License Declarations

|  |  |  |
| --- | --- | --- |
| Date: | Action | Who |
| 01/27/2014 | Created Prototype | Doug Richardson |
| 02/02/2014 | Uploaded to google drive.  Included section on license conflicts and possible solutions.  Updated document license notice. | Doug Richardson |
| 02/03/2014 | Moved into final report | James Thompson |
| 02/21/2014 | Declared our software to be GPLv2/LGPLv2 or any newer version. This was done to resolve the license conflict between Ninka and FOSSology (Ninka is AGPLv3, which is compatible with GPLv3, but not GPLv2, which FOSSOLOGY is. This allows middleware to be license compatible with both). | Doug Richardson |

## Software Development

|  |  |  |
| --- | --- | --- |
| Date: | Action | Who |
| 02/19/2014 | Created an application that takes in the output from Ninka and translates it to a format (much) easier for humans to read. | Doug Richardson |
| 02/19/2014 | Created a prototype application that uses both scanners and produces output files (this application is NOT optimized or finalized). | Doug Richardson |

# Code Contribution Management Plan

|  |  |  |
| --- | --- | --- |
| Date: | Action | Who |
| 02/25/2014 | Completed first draft | Jon von Kampen |

# Community Representation Plan

|  |  |  |
| --- | --- | --- |
| Date: | Action | Who |
| 02/25/2014 | Completed first draft | Jon von Kampen |

1. Implementation of each element is prioritized according to the MoSCoW model: (M)ust-have, (S)hould-have, (C)ould-have, and (W)ould-have. [↑](#footnote-ref-1)
2. <http://lists.spdx.org/mailman/listinfo/spdx-tech> [↑](#footnote-ref-2)
3. <http://lists.fossology.org/mailman/listinfo/fossology> [↑](#footnote-ref-3)
4. <https://github.com/TheFinks/Fossology-Ninka> [↑](#footnote-ref-4)