

Yoshi	Version: 1.0
Design Description	Date: 2014-11-14



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## Revision History

Date	Version	Description	Author
2014-11-21	1.0	Design Draft	Rizwan Khalid

## 1. Introduction

### 1.1 Purpose of this document

The purpose of this document is to expose the design decisions that have been made by team Yoshi during the YOSHI project which is being developed as part of the "Distributed Software Development" course simultaneously at 'Mälardalen University' situated in Västerås, Sweden and 'Politecnico di Milano' situated in Milan, Italy.

### 1.2 Document organization

The document is organized as follows:

- Section 1, Introduction, describes contents of this guide, used documentation during developing process etc.
- Section 2, High-level description of the system to be developed and desired functionalities
- Section 3, System Overview
- Section 4, Software Architecture
- Section 5, Detailed Software Design
- Section 6, Graphical User interface

### 1.3 Intended Audience

The intended audience is:

- The customer of the project
- The supervisors of the project
- Yoshi Team
- All related stakeholders
- Any developer with interest to continue or improve the project

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## 1.4 Scope

The document addresses the design the Yoshi Project. The project is addressing problems of evaluating and supporting community types.

## 1.5 Definitions and acronyms

### 1.5.1 Definitions

Keyword	Definitions
Community	Social unit of any size that shares common values.
Open Source Community	A Community that develops open source software.

### 1.5.2 Acronyms and abbreviations

Acronym or abbreviation	Definitions
NTR	Nothing to Report. There is no information to a specific topic available or necessary.

## 2. High level description & Functionalities:

### 2.1 Project Background

YOSHI is an application to evaluate the open source communities within software development. The customer wants to upgrade the current software for supporting social community awareness in open-source, called Yoshi.

Yoshi, is an analytic software for open-source communities, helping different users better understanding the open-source community and getting a good understanding for research and for practice.

Yoshi, guarantees understanding any open-source communities by measuring different metrics according to different needs.

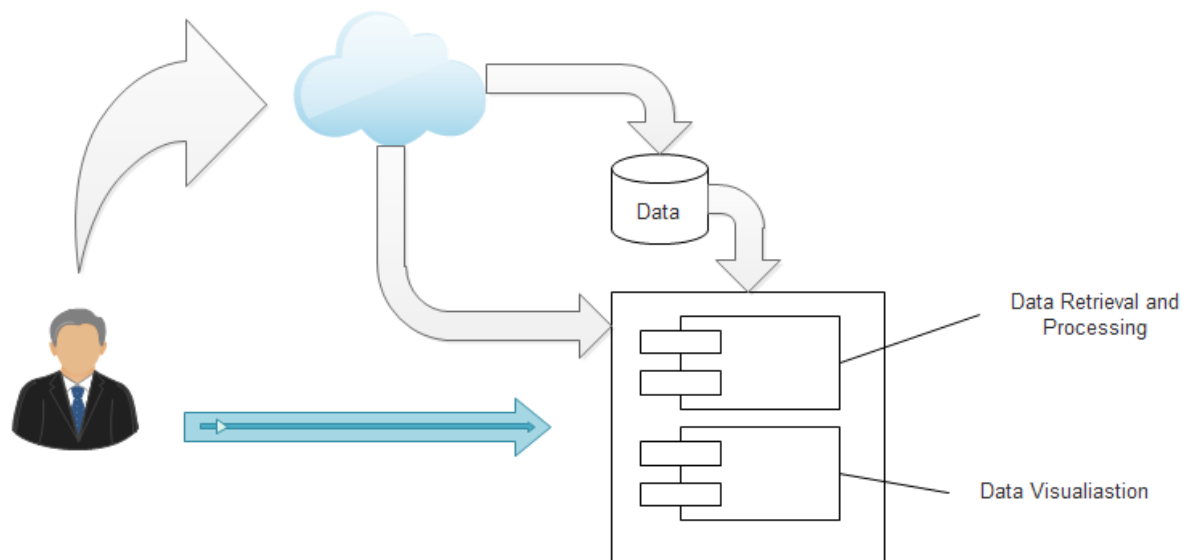
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The application gets the data required, process it and present it to the user in a way which is easy to evaluate and understand e.g, Visualisation.

The application investigates the community types and categorize it in various categories according to their characteristic such as engagement, longevity and Cohesion etc.

## 2.2 High level description

The new developed application will take data from the previously developed Yoshi application and process the data and show it the user as required.



## 2.3 Functional Requirements

### 2.3.1 Managing Profiles

[FR1] The system should distinguish profiles in two categories: non-registered users, registered users.

[FR2] The non-registered users should be able to register to the system

[FR3] The registered users should be able to Login.

[FR4] The registered users should be able to Logout.

[FR5] The registered users should be able to modify personal information.

[FR6] The users should be able to view his/her saved results from computation

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### **2.3.2 Managing Non-registered users**

[FR7] Non-registered users should be able to interact with the system - view already computed metrics that are presented from the product

### **2.3.3 Managing registered users**

[FR8] Registered users should be able to compute communities' type by offered APIs from the system

[FR9] Registered users should be able to compute communities' type by offered DB

[FR10] Registered users should be able to understand what is the organisational type of the community that he/she is observing

[FR11] Registered user should be able to generate a report with all relevant characteristics for open source community

[FR12] Registered user should be able to correlate community type and characteristics with known performance metrics for open-source

### **2.3.4 Managing Connection**

[FR13] The product should be able to connect to instances from which it should gather the data

### **2.3.5 Managing Computation**

[FR14] The product should be able to grasp the data from the community that is researched by the user

[FR15] The product should be able to compute the grasped data

[FR16] The product should be able to store the computed data

[FR17] The product should be able to visualize the stored data

[FR18] The product should be able to visualize data provided by the user

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[FR19] The product should be able to compare characteristics on multiple communities

[FR20] The product should be able to visualize the comparison of characteristic on multiple communities and at

the same time, in the same screen

### **3. System Overview**

- Description of the current system

NTR, as we are still undergoing to understand the current system.

### **4. Software Architecture**

This section includes the following topics that are still to be written as the software is still to be developed.

- Architectural Style
- Decomposition of the software
- Major System States
- Persistent data and access control
- Synchronization and Timing
- Error Handling and Security

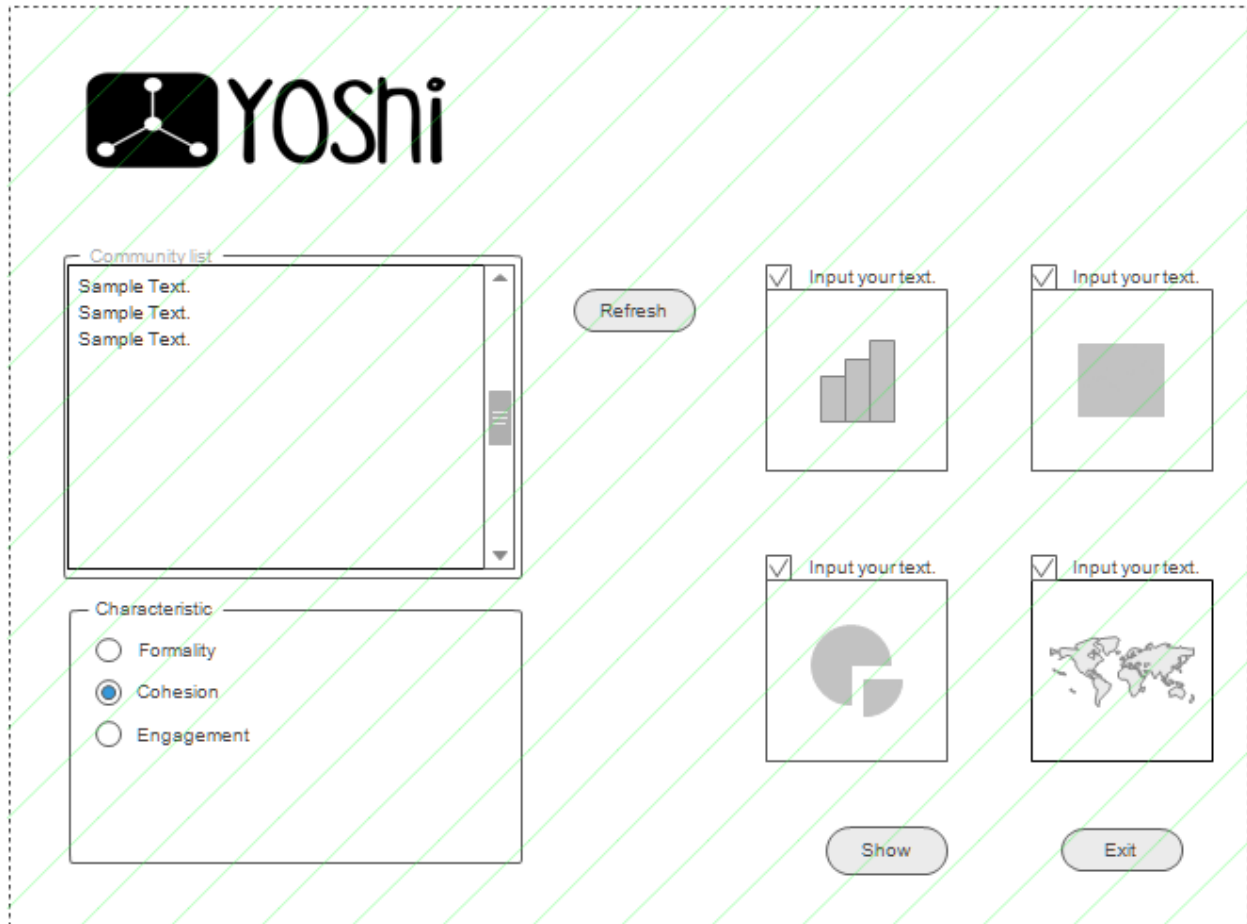
### **5. Detailed software design**

NTR. At the moment as the application is still to be developed

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## 6. Graphical User interface

### 6.1 Mockup



The above mockup is a general layout of how the interface will look like.

Following is a scenario for investigating a community.

1. First the user selects a community
2. Select the characteristic that the user wants to measure
3. The form of data presentation.
4. Click show to open the graph showing the required information.

Refresh button is used to update the live feed of the community data into the application.

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## References

- R. N. Taylor, N. Medvidović and E. M. Dashofy, Software architecture: Foundations, Theory and Practice. Wiley, 2009