

Training Information System (TIS)

Software Requirement Specification (SRS)

VERSION 1.0

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This document contains a specification for the Training Information System used in context with introductory training for new joiners to a company. The system assigns joiners to groups in a 2 day course and can print a list of joiners for the course coordinator.

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1 Introduction

1.1 Purpose

The purpose of this document is to specify the software requirements for the Training Information System (TIS). It shows what system the customer wants and what the supplier must deliver.

The document is intended for the stakeholders customer, manager, system engineer, software engineer, test engineer, maintenance engineer, quality engineer, Training Department staff (e.g. course coordinator)

1.2 Scope

The software products for the TIS are: a client part, a server part and a badge generator part.

The client part is used to communicate with the TIS e.g. to request a list of new joiners for a course.

The server part processes requests from clients and send responses to clients. The server part communicates with the Personel Information System (PIS).

The badge generator part generates a PDF file containing a badge ready to print and cut from data sent to the badge generator.

The TIS will automate manual processes for handling introductory training for new joiners.

1.3 Document history

Date	Version	State	Authors	Text
2014-03-01	1.0	Draft	Per Hygum Due	The description of TIS has been read. The customer has been interviewed via questions in email dialogue for clarification of requirements.

1.4 Definitions, acronyms, and abbreviations

Client Part. The user communicates with the client part using a web browser. The web browser communicates with the web application on the web server

Cluster. A group of servers acting as one server.

Firewall. A firewall allows and denies data traffic analyzing connections and data packet contents.

Food and drinks ordering. A IT system used to order food and drinks to help canteen staff plan buy, prepare and deliver food and drinks.

Host. An electronic device having computational, memory and network communication resources. The host can execute programs.

HTTPS. The Secure HyperText Transfer Protocol. Securing messages sent using the Hypertext Transfer Protocol (HTTP).

PIS. Personel Information System. A IT system where all staff in a company is registered.

Room reservation. A IT system used to reserve meeting rooms, training rooms.

Server Part. The server part hosts the web application and communicates with the client part and other hosts to complete the requests received from the clients. The server sends responses to clients.

TBD. To Be Determined. Issues to be discussed further among the stakeholders.

TIS. Training Information System. An IT system supporting the Training Department in preparing and organizing courses for new joiners.

Web application. An application accessed used a standard web browser.

Web service. Allows heterogeneous systems to work together using HTTP and XML.

1.5 References

[1], Web Accessibility Initiative (WAI), <http://www.w3.org/WAI/>

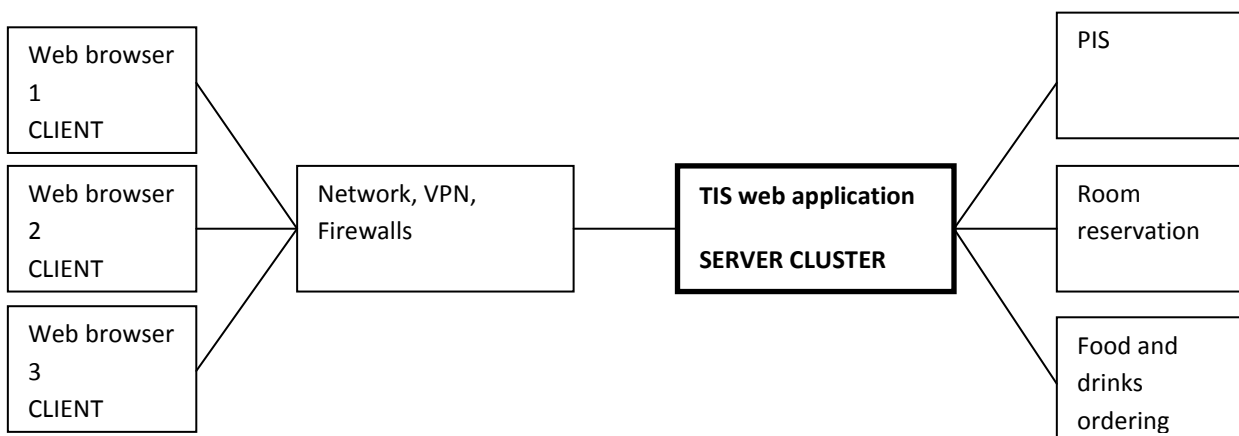
[2], IEEE Recommended Practice for Software Requirements Specifications, IEEE Std 830-1993, Approved 1993-12-02.

[3], TBD: List of allowed Open Source at IBM

1.6 Overview

2 Overall description

2.1 Product perspective



2.2 Product functions

2.3 User characteristics

2.4 Constraints

2.5 Assumptions and dependencies

3 Specific requirements

3.1 External interface requirements

3.1.1 User interfaces

3.1.2 Hardware interfaces

3.1.3 Software interfaces

3.1.4 Communications interface

3.2 Functional requirements

3.2.1 Customer/User

Requirement	TIS must receive new joiners from PIS and create 4 to 9 groups TBD: What if only 0 or 1 new joiner? Wait until next month introduction training? Minimum group size?
Source	Tina S. Hetherington, IBM Global Business Services
Req ID	20140301-094900
Req references	20140301-095500, 20140301-095600

Requirement	In creating groups for course day-1 new joiners from the same office should be in different groups.
Source	Tina S. Hetherington, IBM Global Business Services
Req ID	20140301-095500
Req references	20140301-095600, 20140301-094900

Requirement	In creating groups for course day-2 the groups should be different as much as possible from groups on course day-1
Source	Tina S. Hetherington, IBM Global Business Services
Req ID	20140301-095600
Req references	20140301-095500, 20140301-094900

Requirement	TIS must print a list of participants for each day for each room and the total number of people
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	TBD: One group in each room ? TIS should interface with room reservation system? Total number is new joiners + teachers + Group Board member + National Board members? Should TIS send info to cafeteria ordering system for automatic ordering of food and drinks?
Source	Tina S. Hetherington, IBM Global Business Services
Req ID	20140301-103401
Req references	

Requirement	TIS must print a badge for each new joiner. The badge must contain name and department.
Source	Tina S. Hetherington, IBM Global Business Services
Req ID	20140301-103402
Req references	

Requirement	TIS can create a new employee in PIS.
Source	Tina S. Hetherington, IBM Global Business Services
Req ID	20140301-103403
Req references	

3.3 Non-functional requirements

3.3.1 Customer/User

Requirement	Response time from requesting a list of participants to answer received and visible on the UI. Maximum 5 seconds.
Source	Tina S. Hetherington, IBM Global Business Services
Req ID	20140228-212400
Req references	

Requirement	UI Support for users with disabilities. The W3C standards for accessibility should be followed.
Source	Tina S. Hetherington, IBM Global Business Services
Req ID	20140228-212500
Req references	

Requirement	UI Language should be English.
Source	Tina S. Hetherington, IBM Global Business Services
Req ID	20140228-213300
Req references	

Requirement	Reliability. No specific value but failures must be logged.
Source	Tina S. Hetherington, IBM Global Business Services

Req ID	20140228-213500
Req references	

Requirement	Availability. Working hours (8-17): 98.7% Outside working hours: 95%
Source	Tina S. Hetherington, IBM Global Business Services
Req ID	20140228-213700
Req references	

Requirement	Authentication. The user of TIS must login with a username and password.
Source	Tina S. Hetherington, IBM Global Business Services
Req ID	20140228-214000
Req references	

Requirement	Authentication of unexpected participants. The name and participants must be checked in PIS.
Source	Tina S. Hetherington, IBM Global Business Services
Req ID	20140301-091900
Req references	

3.3.2 Manager

Requirement	1000 hours can be used for the project
Source	Tina S. Hetherington, IBM Global Business Services
Req ID	20140228-214800
Req references	

Requirement	The time frame is 3 month from agreement signed to ready for production.
Source	Tina S. Hetherington, IBM Global Business Services
Req ID	20140228-215000
Req references	

3.3.3 System Engineer

Requirement	Architecture/Interfaces. TIS must be a web application using web services to communicate with other systems.
Source	Tina S. Hetherington, IBM Global Business Services
Req ID	20140228-215300
Req references	

Requirement	TIS/PIS interface. HTTPS must be used and authentication is required.
Source	Tina S. Hetherington, IBM Global Business Services
Req ID	20140228-215700
Req references	

Requirement	Authentication for TIS should be username and password.
Source	Tina S. Hetherington, IBM Global Business Services
Req ID	20140228-220000
Req references	

Requirement	Authentication. When TIS accesses PIS web service authentication must be used.
Source	Tina S. Hetherington, IBM Global Business Services
Req ID	20140228-220200
Req references	

3.3.4 Software Engineer

Requirement	Open source. Only open source approved by IBM are allowed.
Source	Tina S. Hetherington, IBM Global Business Services
Req ID	20140228-220300
Req references	

Requirement	Unit test. Required and it must be documented it has been done.
Source	Tina S. Hetherington, IBM Global Business Services
Req ID	20140228-220600
Req references	

3.3.5 Test Engineer

Requirement	The web service interface must be tested using Rational Service tester. Regression tests must be developed. TBD: Must TIS include some functionality to support this testing?
Source	Tina S. Hetherington, IBM Global Business Services
Req ID	20140301-124000
Req references	

3.3.6 Maintenance Engineer

Requirement	Patches should be automatically distributed/downloaded when logging on to the system TBD: If a web application TIS software updates only necessary at TIS server. Clients use standard web browsers.
Source	Tina S. Hetherington, IBM Global Business Services
Req ID	20140301-124500
Req references	

3.3.7 Quality Engineer

Requirement	Agile development method and IBM will be product owners and prioritize user stories
Source	Tina S. Hetherington, IBM Global Business Services
Req ID	20140301-124900
Req references	

Requirement	Measurements: No of defects found per component No of development point per user story No of user story implemented in sprint No of defects found per user story, Time to resolve defect TBD: Needs more clarification. Will this require any functionality from TIS to support. E.g. special tags in fault reports automatic tools can scan for?
Source	Tina S. Hetherington, IBM Global Business Services
Req ID	20140301-125100
Req references	

3.4 Performance requirements

3.5 Design constraints

3.6 Software system attributes

3.7 Other requirements

4 Appendixes

4.1 Email dialogue Per Hygum Due and the customer Tina Hetherington at IBM

My questions to you about the Training Information System (TIS) I have read the exercise text and have some questions to help elicit the requirements. I have organized the questions for each stakeholder.

4.1.1 Customer

Response time. Time from requesting a list of participants to result received (printing process excluded). -> max 5 sec

UI Support for users with disabilities? -> This should live up to the standards for accessibility W3C

UI in different languages? -> This is not needed, English will be sufficient

Reliability (failure rate)? -> The users expect a reliable/robust solution without failures, any failure should although be logged

Availability (0.9, 0.99, etc.)? -> working hours (8 - 17) availability of 98,7%, outside working hours 95%

Security (Authentication, authorization, encryption, audit)? -> User login/pw protection

Performance (speed, program size, memory usage)? -> there are no specific constraints but design of operational model be sufficient to fulfill availability requirements, number of users and response time req.

Operating system to use? -> there are no specific constraints

Database to use? -> there are no specific constraints

Settings/Configuration parameters? -> -> there are no specific constraints or requirements

Badge printing. What info (name, department, photo). What size and shape (circular, rectangular)? -> Name and department, must be readable to other people in the classroom

How to authenticate unexpected participants. They should have username/password, ID-card? ->

Name and department given must be known in personel system

Different UI capabilities, processing power, memory. Devices to support (PC, Tablet, Smartphone). ->-> there are no requirements in this area

Reuse. Separate Badge Printing Module which can receive badge data and generate a badge to be printed? -> this is a design decision

4.1.2 Manager

Budget allocated for the project? -> There is limited funding as this is an internal project. We expect no more than 1000 h project.

Time budget? -> We like the project to be realized asap and production date 3 months from agreement is signed.

4.1.3 System Engineer

Architecture? -> We expect a web application and the use of web services for system integrations/interface

Data storage. Text, XML, database. Authentication/Authorization requirements? -> no specific requirement for data storage, users must be known

Data communication and firewalls? -> https, there are firewalls and services must be authenticated when requesting information from personel system

Data format. Interface between Training Information System (TIS) and the Personel Information System (PIS). Text, XML, etc.? -> the interface should be via a web service

Authentication and authorization requirements for TIS? -> username/pw

Authentication methods TIS must support to access PIS? -> web service authentication

4.1.4 Software Engineer

Coding standards to use? -> there are no specific req

Programming language? -> there are no specific req

Internal software libraries? -> there are no specific req

External software libraries? -> there are no specific req

Open source code allowed? -> only company listed open source are allowed

Unit test? -> unit test is expected as a dicipline performed by the developers and are required

4.1.5 Test Engineer

Interface for automatic test tools(remote control(normal mode, test mode), set/get data)? ->

The web service interface should be tested using Rational Service tester and a regression suite developed with expected results

Debugging. Trace and logfile generation? -> this is part of develpers task if errors are found by the testers

4.1.6 Maintenance Engineer

Logging requirement to help troubleshooting? -> there are no specific req

How to do software updates. Automatic? -> Patches should be automatically distributed/downloaded when logging on to the system

Read out of versions of TIS and its components? -> Not sure I understand this question?

4.1.7 Quality Engineer

Development process to use? ->We prefer agile development method and we will as the client be product owners and prioritize user stories

Quality metrics to use. Functionality needed to collect statistics? -> No of defects found per component, No of development point per user story, No of user story implemented in sprint, No of defects found per user story, Time to resolve defect

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