

CS30A7400 Software and Application Innovation

Lappeenranta University of Technology

ICC System Requirements

Team1

Martin Rudigier

Masoumeh Khaksari

Negin Banaeianjahromi

Saeed Mirzaeifar

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1. Document Overview

1.1. Purpose

The purpose of this document is to capture and define the software requirements related to the ICC application. The application is developed as a course project in Lappeenranta University of Technology, course “Software and Application Innovation”.

1.2. Team Contact Information

Department	Name	E-mail
Information Technology	Negin Banaeianjahromi	negin.banaeianjahromi@lut.fi
Information Technology	Saeed Mirzaeifar	saeed.mirzaeifar@lut.fi
Information Technology	Masoumeh Khaksari	masoumeh.khaksari@lut.fi
International Business	Martin Rudigier	martin.rudigier@lut.fi

2. Project Mission Statement

2.1. Project Introduction

Propentus Oy deals with the essence of organization development. Through cooperation with customers and other stakeholders. One of the systems that they are looking for is ICC. In this course we are going to give them new ideas for implementing ICC application.

2.2. Product Vision and Scope

In this project which the requirements defined by the Propentus Oy we are going to give some new ideas about ICC system. ICC is an application which has two sides, customer side and company side. The problem that the company is looking to solve is that they need to have a system which report errors before customer encounter with it and report it. In this way customers will report errors much less and consequently customers will be happier with the system. Additionally, this application should provide the real-time tracking of the problem within the company, both by customers and company's employees. Also, this application should provide user friendly environment for the feedback part.

2.3. Stakeholders

In this project stakeholders are Antti Backman on behalf of Propentus Oy, Jari Porras , team 1 members.

3. Requirements

3.1. Bug Occurring Management

- This system of ICC consist of a main part:
 - A subsystem that user wants to send the bug to the company by filling the required form and specifying the bug type and providing screen shots of related area and attaching to the form.

3.2. Bug Classification Management

- This system of ICC should divide the bugs to predefined and specific categories
- the categories are composed according to the level of criticality and part-relation of occurred bug
- the categories are comprised:
 - User side
 - Business logic
 - Database
 - vital Bugs
- this part should send bug reports or discovered bugs by intelligent system to appropriate section of bug handling
- A suitable report can be produced by this part to Reporting and Bug Tracking system

3.3. Bug Tracking Management

This system of ICC is in charge of controlling and tracing the states of occurred bugs. The main Responsibilities of this system are comprised of:

- To check that in which state the occurred bug is.
- the ability to communicate with other systems to receive real time reports for tracing the occurred bug
- To calculate how much time is needed for fixing each bug and send these calculation to Reporting system
- To send appropriate reports and log files to Reporting system

3.4. Reporting Management

This system consists of all the reporting functions in the ICC.

- ICC can report the status of bug to the customer or anyone in the company.
- ICC can report in which part of system most bugs happened.
- ICC can report which employee fixes the reported bugs more than other employees in a month and consider a ranking for it among company employees and provide kind of prizing for encouraging the employees to handle errors more efficiently.

- ICC can report to the customer in which stage the reported bug is and how long it takes to fix it.

3.5. Alarm Handling Management

The ICC monitoring system is installed on the user side:

- Pre alarms and alarms need to be sending to the company.
- If a permanent data connection is possible these alarms can automatically send to the company by using standard information channels.
- If there is only a limited possibility to communicate either by security reasons or cost alarming can be possible by using something simple just an e-mail.

3.6. Intelligent System Management

ICC has an intelligent system that can recognize some bugs before the user can face to them. This system can recognize the bug beforehand by data collection and also data analysis which are collected from previous bugs. The intelligent system included following subsystems:

3.6.1. Monitoring

This system monitors the behavior of whole system. Factors that this system monitors are:

- Internal and external network connection speed
- Speed of database when retrieving data
- number of bugs and errors happened during an specific time
- How long it takes to fix a bug for company

3.6.1.1. Data Collection

Data collection is a part of monitoring in which the data that provided from monitoring action collected in a specific part of the system during time for further analysis.

3.6.1.2. Data Analysis

Based in the data collected by Data collection, system will do some analyzing tasks.

- The results of these analyzes will compare with some predefined variables to check if the system is healthy or not.
- The results will be reported to the related employees to decide for further actions.
- ICC can use the outcome of this system and automatically fix the bugs if possible.

3.6.2. ICC Diagnostic

- The Intelligent system should debug the discovered bug before the user face to that.
- The system should get convenient and real time help from Data Analysis subsystem

- If the bug remains unfixed, it should send that bug to bug receiving system.

3.7. Help Center

A subsystem with a database of common bugs along with step by step solutions to help user fix the bug himself. (instant answer) when customer is writing his/her request or problem, while writing the system search through the articles that were prepared for this matter or even through the previous Q&A of the other users. in this case user might get his/her answer without sending anything and let the company concentrate more on users who need help more.

3.8. Validation Management

The user inputs are a proper source of problems for an application. Therefore this inputs need to be checked. For a better understanding of wrong user inputs information need to be collected.

- Check Inputs on validity (formatting, length,...)
- Analyzing the wrong inputs on some characteristics
- Adapt input policies for the user inputs

3.9. User Information Management

When the ICC recognizes a problem which influences the user it should inform the user about the action which takes place.

- Easy and clear information to the user in case of something went wrong
- Actual status of the system during the phase of troubles
- Provides information to solve the problem by giving automatically support from the ICC system.

3.10. Self-Testing Management

The ICC system of the server side can run a test case automatically triggered to the client side to test the common user interaction. By these tests the behavior of the System can be tested and also measured.

- Checks if the client and server side is working
- measures the performance of a test case and compare the performance to some specific timings
- indicating patterns of network problems and server downtimes on the customer side
- checks database integrity

4. ITIL Processes

The Propentus seeks a service solution to meet the immediate need of its customers and they want the highly available service tool to function based on ITIL processes. The solution which is proposed in this document provides cost-effective and customer-friendly IT service by leveraging ITIL framework. The values which are delivered by our solution are based on these ITIL services:

Event Management Process

Event might indicate that something is not functioning correctly. Event management is based on monitoring but generates and detects notification. When event is detected it might lead to an incident, problem or change and response to the event can be automated.

Incident Management Process

The unplanned interruptions to IT is called incident which might leads to reduce the quality of an IT service. Incident Management Process is responsible to restore the system as quickly as possible. Incidents are recognized by users or event management. System categorized the incidents to identify who should work on them. If an incident cannot be resolved, the incident is passed to technical team. After investigating the incident and solving it, service system should make sure that user is satisfied before closing the incident.

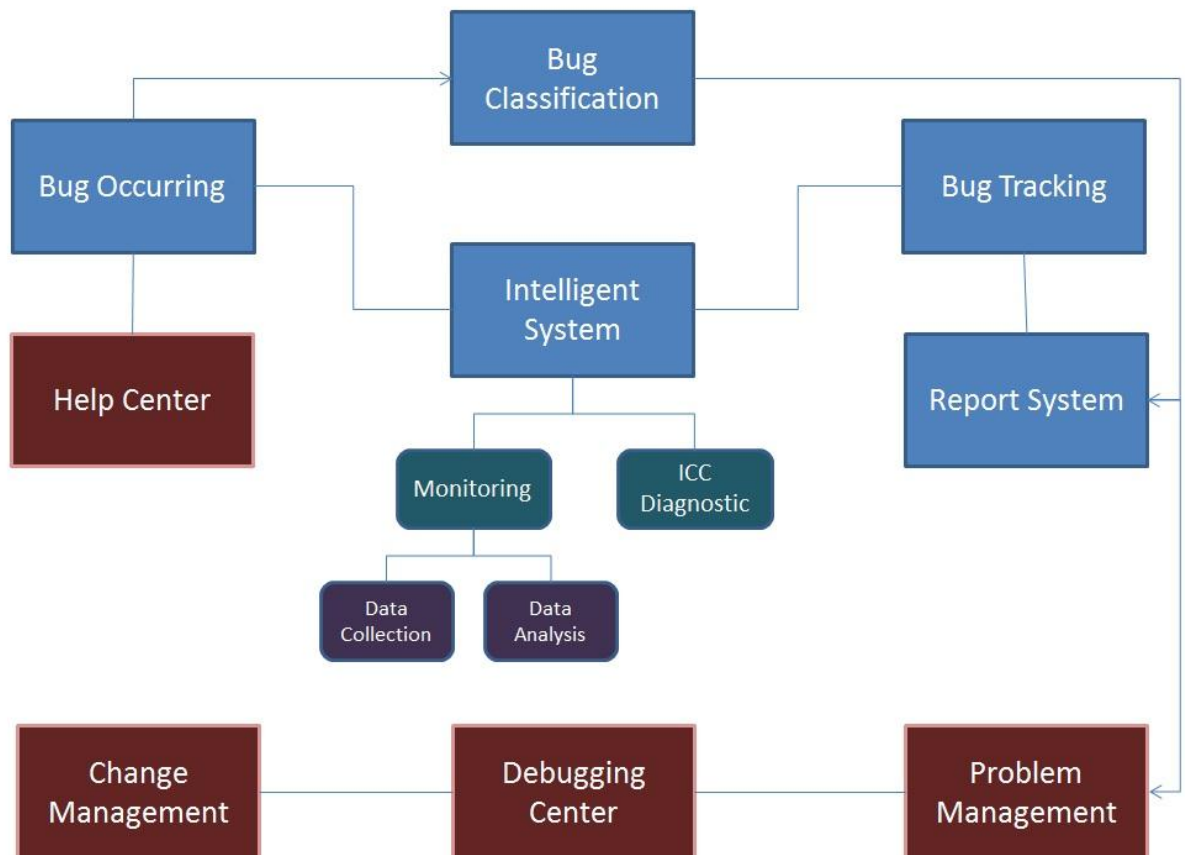
Request Fulfillment Process

Users can request for information, advice or change and Request Fulfillment enables users to request and receive the services. Furthermore, all the requests are tracked and logged.

Problem Management Process

The problem is cause of incidents which are not known at the time and the problem management can follow further investigation. Problem management is responsible to eliminate reoccurring the incident and preventing the impact of incident. Problems are categorized like incidents but the causes should be understood.

5. ICC Architecture



6. Business Model

A possible business model was developed by using the business model canvas. By using this model the relationship to the customers, distributions channels and main benefits of the product or service can be identified. Apart from that also cost and revenue are considered.

THE BUSINESS MODEL CANVAS



Source: <http://glennas.wordpress.com/2010/07/31/business-model-innovation-alexander-osterwalder/>

When filling this form the main important issues concerning the customer are taking into account. If there are problems to fill up this form the product or service will have problems to sell.

<p>Key Partners</p> <p>Who are our Key Partners? Who are our key suppliers? Which Key Resources are we acquiring from partners? Which Key Activities do partners perform?</p> <ul style="list-style-type: none"> - IT Departments of the customer - IT developers of the customers IT systems 	<p>Key Activities</p> <p>What Key Activities do our Value Propositions require? Our Distribution Channels? Customer Relationships? Revenue streams?</p> <ul style="list-style-type: none"> - Bug reporting - System monitoring - increase of efficiency - close customer collaboration - follow-up orders 	<p>Value Propositions</p> <p>What value do we deliver to the customer? Which one of our customer's problems are we helping to solve? What bundles of products and services are we offering to each Customer Segment? Which customer needs are we satisfying?</p> <ul style="list-style-type: none"> - customer orientation - professional service - proactive service support - high availability of the system - ICC scaleable on the different SLA's 	<p>Customer Relationships</p> <p>What type of relationship does each of our Customer Segments expect us to establish and maintain with them? Which ones have we established? How are they integrated with the rest of our business model? How costly are they?</p> <ul style="list-style-type: none"> - personal relationship - advanced customer information - fast an easy adaption of customer requirements 	<p>Customer Segments</p> <p>For whom are we creating value? Who are our most important customers?</p> <ul style="list-style-type: none"> - Customers with a high degree of implemented interfaces - Customers which are willing to improve working efficiency of the solution - Key Customers
<p>Cost Structure</p> <p>What are the most important costs inherent in our business model? Which Key Resources are most expensive? Which Key Activities are most expensive?</p>	<p>Key Resources</p> <p>What Key Resources do our Value Propositions require? Our Distribution Channels? Customer Relationships? Revenue Streams?</p> <ul style="list-style-type: none"> - Highly skilled support personal - After Sales People to sell the benefit - Long service agreements 	<p>Revenue Streams</p> <p>For what value are our customers really willing to pay? For what do they currently pay? How are they currently paying? How would they prefer to pay? How much does each Revenue Stream contribute to overall revenues?</p>	<p>Channels</p> <p>Through which Channels do our Customer Segments want to be reached? How are we reaching them now? How are our Channels integrated? Which ones work best? Which ones are most cost-efficient? How are we integrating them with customer routines?</p> <ul style="list-style-type: none"> - ICC basics should be implemented in the standard product - Some ICC parts (monitoring and improvement) can be sold by the sales people 	<ul style="list-style-type: none"> - long term service agreement - higher SLA's - quality improvement will reduce the support effort for future implementations

6.1. Key Partner

To implement an effective service tool in a highly customized IT environment a very close corporation to the IT support team of the customer and other IT application suppliers of the customers is needed.

6.2. Key Activities

The main requirement of the system is an easy and efficient way of bug reporting and tracking. But this is a standard implementation of all bigger IT applications. To add a real customer benefit the ICC system need to have some extra qualities. If the ICC system can help the customer to be more efficient in their work and give Propentus a change to closely collaborate with their customers it will be a win win situation for both sides.

6.3. Key Resources

To implement an effective communication system not only the know how to implement the system is important. The system need to be used afterwards by the customer support service effectively. On the customer side also the IT-Support need to be trained on the

implemented System. To make additional revenue with the product also the sales people need to be trained.

6.4. Value Proposition

The real value for the customer is a professional service and a higher availability of their solution. Due to a proactive approach a very close communication is possible. Out if this new customer requirements can be identified also after the first implementation phase. When implementing ICC as a component based system it will be possible to offer a scalable solution depending on the customer need or depending on the service level the customer chooses.

6.5. Customer Relationship

The ICC is not only a tool implemented to improve the service support. It will help also to stay in contact with the customer and to improve the customer relationship to last longer. By using the information we can gather from the ICC it is possible to get some ideas to improve the solution.

6.6. Channel

The ICC architecture will be implemented in the core product. So it is delivered automatically to the customer. Depending on the customer willing to pay for the service, ICC will be unlocked on demand. Some basic functions like the bug tracking is free to use because the main advantage here is for Propentus itself.

6.7. Customer Segments

The customer segmentation for the core product will not be changed by adding ICC to the product. But ICC be more important for bigger customers with a lot of integration interface, because the necessary service support for this installation will be much higher. This customer will also be likely to improve their efficiency when working with the Propentus solution.

6.8. Cost Structure

Main cost for ICC will be the necessary implementation cost. If possible existing technologies should be used although there will be some licensing cost to use the technologies. Apart from that also additional staff in the service support center will be needed during the phase of introducing the ICC system.

6.9. Revenue Stream

Additional revenue will come from longer service intervals and additional fees because of selling higher SLA's to the customers. On the other hand the ICC will help to increase the quality of Propentus core product which will result in lower cost of free of charge service support.