

Smart Cart	Version: 1.2
Project Plan	Date: 2011-10-27

SmartCart Project Plan

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Revision History

Date	Version	Description	Author
2011-10-15	0.1	Initial Draft	SmartCart Team
2011-10-20	1.0	First version of the document	SmartCart Team
2011-10-25	1.1	Changed Interface technology in chapter 3.1	Luka Božić
2011-10-27	1.2	Added new role to Shahid	Luka Božić

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1. Introduction

SmartCart is imagined as a mobile application which should ease up the daily process of buying groceries for end users. Smart Cart will enable users to enter groceries they have to buy to a list, and then find out in which store they can buy cheapest groceries and save money or find the closest store with requested product. Although there are some existing web sites and applications with purpose of finding cheapest items across multiple stores they do it on the basis of a single item. SmartCart on the other hand will do it for the whole list of groceries.

1.1 Purpose of this document

The purpose of this document is to provide a high level description and summary of a project plan and schedule. This document includes details about organization, roles, deliverables, project risks, time plans and financial plans.

1.2 Intended Audience

Intended audience of this project are all project stakeholders:

- project customer,
- project supervisor,
- team members,
- all persons responsible for monitoring the project.

1.3 Scope

This document gives a brief overview of the SmartCart project. The overview includes prediction of risks which are common for this kind of project, the cost estimation and the time schedule. Milestones for important stages of the project are given. Also, each team member roles and responsibilities are described.

1.4 Definitions and acronyms

1.4.1 Definitions

Keyword	Definitions
SmartCart	The project name.
Project Leader	A person who is part of the team and is responsible of organizing the team and communicating with the customers/steering group.
Team Leader	A person who is part of the team and is responsible of keeping communication channel opened between Croatian and Swedish part of the team and forwarding orders from Project Leader.
Team Member	Person who is an active member of a team and makes job done.
Project Designer	Person who is responsible of defining technical details of the project. Defines architecture and interfaces between components.
QA Manager	Person who is responsible of maintaining satisfying level of project quality in all aspects of the project, i.e. documentation, code, performance.
Milestone	Milestone is a time in a project that marks the end of a project phase or the completion of an important deliverable.

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1.4.2 Acronyms and abbreviations

Acronym or abbreviation	Definitions
FER	Faculty of Electrical Engineering and Computing, Zagreb, Croatia
MDH	Mälardalnes Högskola, Västerås Sweden
SVN	SubVersioN
QA	Quality Assurance
SW	Software
DB	Database
VM	Virtual Machine
PL	Project Leader
TL	Team Leader
TM	Team Member
RUP	Rational Unified Process
GUI	Graphical User Interface
WCF	Windows Communication Foundation

1.5 References

Project homepage: <http://www.fer.unizg.hr/rasip/dsd/projects/smartcart>

2. Organization

This project is distributed between two universities, FER and MDH with teams working on both sides. Project supervisor and customer is located in Sweden with four team members (TM), and three more TM are located in Croatia.

2.1 Project management

- Project supervisor : Juraj Feljan @ MDH
- Project Leader: Luka Božić @ MDH
- Team Leader: Filip Gvardijan @ FER

2.2 Project group

Name	Initials	Responsibility (roles)
Luka Božić	LB	Project Leader, SW developer (server side), WP7 developer
Igor Czerwinski	IC	SVN coordinator, SW developer (server side), WP7 developer

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Bin Wu	BW	Documentation writer, SW Tester, Database developer
Ali Shahid	AS	SW developer (Web scraping), Documentation writer, Database developer, Android developer
Filip Gvardijan	FG	Team Leader, Android developer, Documentation reviewer
Željko Brdarić	ZB	Android developer, Documentation writer
Ivo Štimac	IS	Database architect, SW developer (server side), VM responsible

2.3 Steering group

The steering group for this project is project supervisor and customer Juraj Feljan, professor Ivica Crnković from MDH, professor Mario Žagar from FER and all persons whose task is to monitor this project .

Juraj's main responsibilities are:

- Give project demands
- Provide directives to Project Leader
- Review project deliverables
- Assist in conflict resolution

Professor's main responsibilities are:

- Annotate noticed remarks
- Guide to better work

2.4 Customer

Juraj Feljan

2.5 Others

SmartCart team members, besides the coordinators from Sweden (MDH), deal with coordinators in Croatia (FER) in resolving technical details such as VM setup. One of those coordinators is Marin Orlić.

3. Assumptions and constraints

3.1 Technological

The technology used in the SmartCart development is determined by the 3 main components of the product high level architecture: Server, interface and periphery (mobile devices).

Server side technology:

- C#
- .NET framework version 4.0
 - LINQ – Language-Integrated Query, standard, easily-learned patterns for querying and updating data, and the technology can be extended to support potentially any kind of data store
 - LINQ to SQL - provides a run-time infrastructure for managing relational data as objects
- SQL Server 2008 Database

Interface technology:

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- WCF Web Services
- Periphery technology:
- Android application:
 - Java
 - Tools: Eclipse IDE and Android SDK plugin
 - Windows Phone 7 application (possibility):
 - C#
 - XAML
 - Silverlight for Windows Phone

3.2 Environmental

The tools used in the project depend on the technology that is planned to be used. So, for the development of the server and the interface part the tools that will be used are:

- MS Visual Studio 2010
- SQL Server Management Studio

For developing an Android application:

- Eclipse IDE
- Android SDK plugin

For developing a Windows Phone 7 application:

- MS Visual Studio 2010
- Windows Phone SDK
- MS Expression Blend

For designing the GUIs:

- Gimp

3.3 Interpersonal

The structure of the team communication hierarchy is presented by the Fig 1.. Luka as a Project Leader is in a constant contact with Juraj (project supervisor and customer) and Filip (Team Leader). Also Luka is a lot in contact with the team members that are located in Sweden (Bin, Igor and Shahid). The team members who are located in Croatia are mostly in contact with Filip and also with Luka (but with less frequency than with Filip).

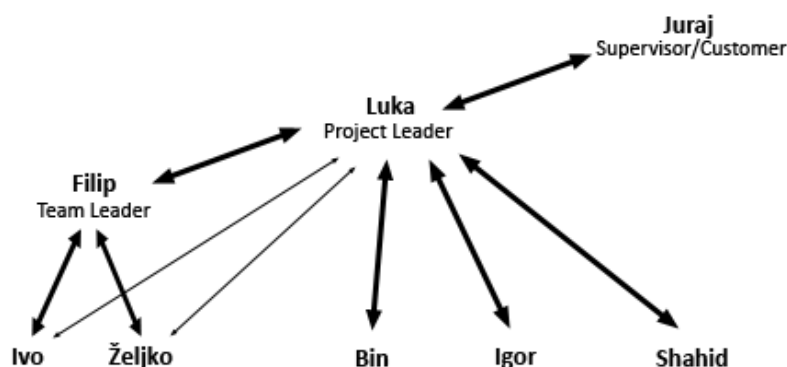


Fig 1. Team Communication

This structure doesn't mean that communication channels between other members don't exist. On the contrary, it is very good if all of the team members communicate to each other as much as they like. This structure only shows the usual flow of information because of the time and location boundaries.

The only semi-limited communication channel is the one with Juraj. In the usual case he is only in the direct contact with the Project Leader (Luka). However, in some cases, if they feel the information is critical and won't reach Juraj in time or they lose the trust in the Project Leader, other team members can also directly contact Juraj. Also, Juraj can be asked to join the team meeting where he directly talks to all the team members.

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All the team members have a weekly meeting where they discuss the present issues regarding the project. Except for those weekly meetings there are extra meetings that are set according to the need.

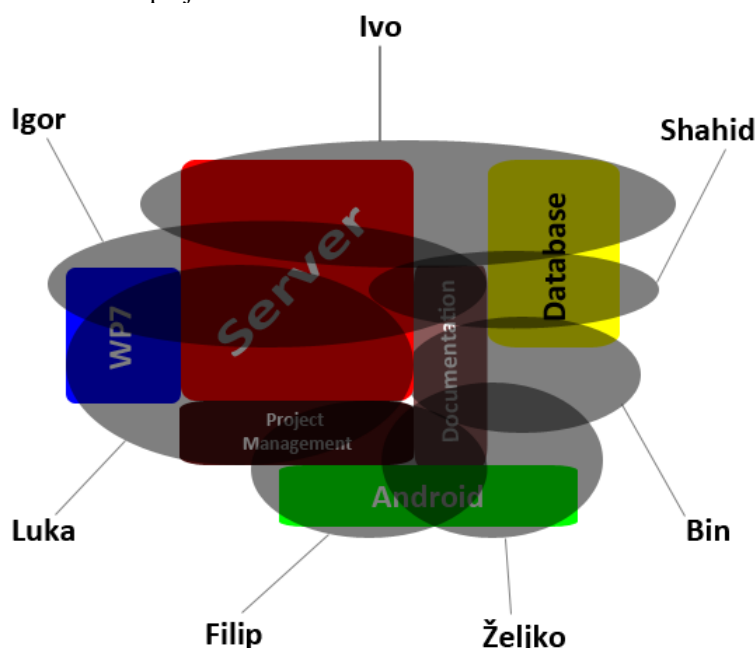
3.4 Work distribution

The below image illustrates approximately the distribution of work among the team members. The image does not present the exact division of work in terms of work ratio distribution in particular component.

In the background of the image there are seven main components of the project:

- Server
- Web Scraping
- Database
- Android application
- Windows phone 7 application
- Project and Product Documentation
- Project Management

Team members are assigned to work on these components according to their previous knowledge level of technology needed for completing the tasks related to the component. The quantity of the components the team member is assigned to work on does not implicate the amount of work the team member will have in this project.



Team members and the project components they will be working on:

- Luka
 - Project management
 - Server
 - Windows Phone 7 application
- Filip
 - Project management
 - Android application
 - Documentation
- Shahid
 - Database
 - Documentation
 - Server
- Ivo
 - Server

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- Database
- Igor
 - Server
 - Documentation
 - Windows Phone 7 application
- Željko
 - Android application
 - Documentation
- Bin
 - Documentation
 - Database

3.5 Causal relationships

Since our project isn't depending on the results of any other project, there are no causal relationships.

3.6 Time

Project Leader (Luka) is responsible to keep track of all the upcoming project deliverables' deadlines. Also it has been decided that all the documents and other project outputs will be delivered to Juraj at least one or (preferably) two or more days before the official deadline.

4. Deliverables

To	Output	Planned week	Promised week	Late +/-	Delivered week	Rem
All Stakeholders	Project plan document	W41	W42		W42	
All Stakeholders	Requirements Definition document	W42	W42		W42	
All Stakeholders	Design Description document	W43	W43			
All Stakeholders	Summary of the Week Report, <i>happiness</i> poll	Every Monday				R_01
All Stakeholders	Minutes of Meeting	During project				R_02
All Stakeholders	Technical documents, project policies etc.	During project				R_03
All Stakeholders	Revisions of existing documents	On Major Changes				R_04
All Stakeholders	Alpha Prototype	W47	W47			
All Stakeholders	Beta Prototype	W50	W50			
All Stakeholders	Acceptance test plan	W50				
All Stakeholders	Test report	W01	W02			
All Stakeholders	Final Project Report, final versions of documents, other project-related documentation (as negotiated with the customer)	W02	W02			
All Stakeholders	Final product (installation, source code, etc.)	W02	W02			

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4.1.1 Remarks

Remark Id	Description
R_01	From W40 until W02 every Monday
R_02	From W40 until W02 every Tuesday + Extra meetings are expected
R_03	Delivered on major changes since W41 until W02
R_04	Delivered on major changes since W40 until W02

5. Inputs

From	Required item	Planned week	Promised week	Late +/-	Delivered week	Rem
Customer	Project Proposal	W40	W40	0	W40	
Steering Group	SVN	W40	W40	0	W40	
Steering Group	Prototype evaluation	W47	W47			
Customer	Project Evaluation	W02	W02			

6. Project risks

Possibility	Risk	Preventive action
High	Cannot finish the task in time	Better is to assign the task to two members to work together. Team member who knows he won't be able to finish the task in time should alert other members ASAP.
Medium	Requirements complexity	Implement requirements by their importance.
Medium	Insufficient skills	Come up with the problem ASAP, and work as an assistant with more experienced members.
Medium	Task Assignment	Right person for right job.
Low	Bad cooperation	Weekly meeting between all team members and locally meeting to synchronize the status of the progress. Use MoMs to show tasks assignments.

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7. Communication

- Weekly meetings
 - At least weekly meeting between Croatian and Swedish part of the team.
- Additional meetings as needed
 - Addition meeting is added if needs.
 - Meeting is held locally face to face.
- E-mail
 - E-mail, at least check the email once a day to Sync the status of the project.
- Google Groups
 - Share information, and work together at the same time.
- Skype
 - Instant message is used to discuss the topic avoid missing any information.
- Dropbox
 - Share and save files and resources, backup the SVN repository.

8. Configuration management

Configuration management focuses on establishing and maintaining information assurance. SVN Subversion will be used for purpose of maintaining and sharing documentation. For manually backup we use Dropbox and have scheduled automatic backup every day through Google code. Project code files will also be controlled and versioned with the official DSD SVN repository. An SVN manager is assigned and his main roles and responsibilities are creating SVN usage policy and managing of SVN repository. Every member has to follow the SVN project conventions.

FER provided SVN repository on:

`svn://lapis.rasip.fer.hr/svn/dsd11/SSaver`

9. Project plan

9.1 Time schedule

Id	Milestone Description	Responsible Dept./Initials	Finished week			Metr.	Rem.	
			Plan	Forecast				Actual
				Week	+/-			
M001	Requirements definition		W42	W42		W42		
M002	System architecture definition		W43	W43				
M003	Alpha release		W47	W47				
M004	Beta release		W50	W50				
M005	Acceptance testing report		W50	W50				
M006	Final release		W01	W01				
M007	Final presentation		W02	W02				

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9.2 Activity plan

Activity	w42	w43	w44	w45	w46	w47	w48	w49	w50	w51	w52	w1	w2
Requirement gathering													
Requirement Analysis													
Architecture Design													
Product Implementation													
Testing													
Deployment													

9.3 Financial Plan

Activity	Volume (days) (days*man*day-cost)	Cost	Rem.
Requirement gathering and analysis	15*6*35	3150 Euros	Rem_1
System Design	15*6*35	3150 Euros	Rem_1
Implementation	40*7*35	9800 Euros	Rem_1
Testing	15*4*35	2100 Euros	Rem_1
Documentation	20*7*35	4900 Euros	Rem_1
Miscellaneous	--	1800 Euros	--

Planned effort (man-days)	Man-day cost	Planned project cost (100%)
660	35 Euros	23100+1800 = 24900 Euros

9.3.1 Remarks

Remark Id	Description
Rem_1	We assume every person works 5 hours a day on average.