E-Health System

Team 2 K16T1

Measurement Plan

For E- Health System

Version 1.1

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Contents

Revision history

Version	Updated Date	Author	Description
1.0	17/06/2013	Trinh Thai Anh	Define measurement plan
1.1	30/07/2013	Pham Ngoc Hung	Update template

1. Introduction

The primary purpose of measurement is to provide insight into software processes and products so that E-Health system is better able to make decisions and manage the achievement of goals
Document describes how team collects data and use data for estimating, analyzing and report. All metric collected to satisfy team's goal.

1.1 Purpose

Measurement is often equated with collecting and reporting data and focuses on presenting the numbers. The primary purpose of this report is to focus measurement more on setting goals, analyzing data with respect to software issues and manage project, and using the data to make decisions.

The objectives of this report are to:

- Provide some measure guidelines that can be used to improve E-Health's team.
- Ties measurement to E-Health's team goals and objectives.
- Defines measurement consistently, clearly, and accurately.
- Collects and analyzes data to measure progress towards goals.
- Evolves and improves as the process matures

1.2 Scope

This plan addresses all the activities for software development projects including planning, requirement analysis, project tracking, quality assurance, configuration management, design, and coding related procedures. The team focuses measure in Schedule, Moral and satisfaction.

1.3 Definitions, Acronyms, and Abbreviation

ACRONYMS	DESCRIPTIONS
GQM	Goal Question Metric
DEFINITIONS	
Measurement	The size or extent of something, especially in comparison with a known standard.
Metric	A calculated or composite indicator based on two or more measures. A quantified measure of the degree to which a system, component or process possesses given attributes.

Table 1: Definitions and acronyms

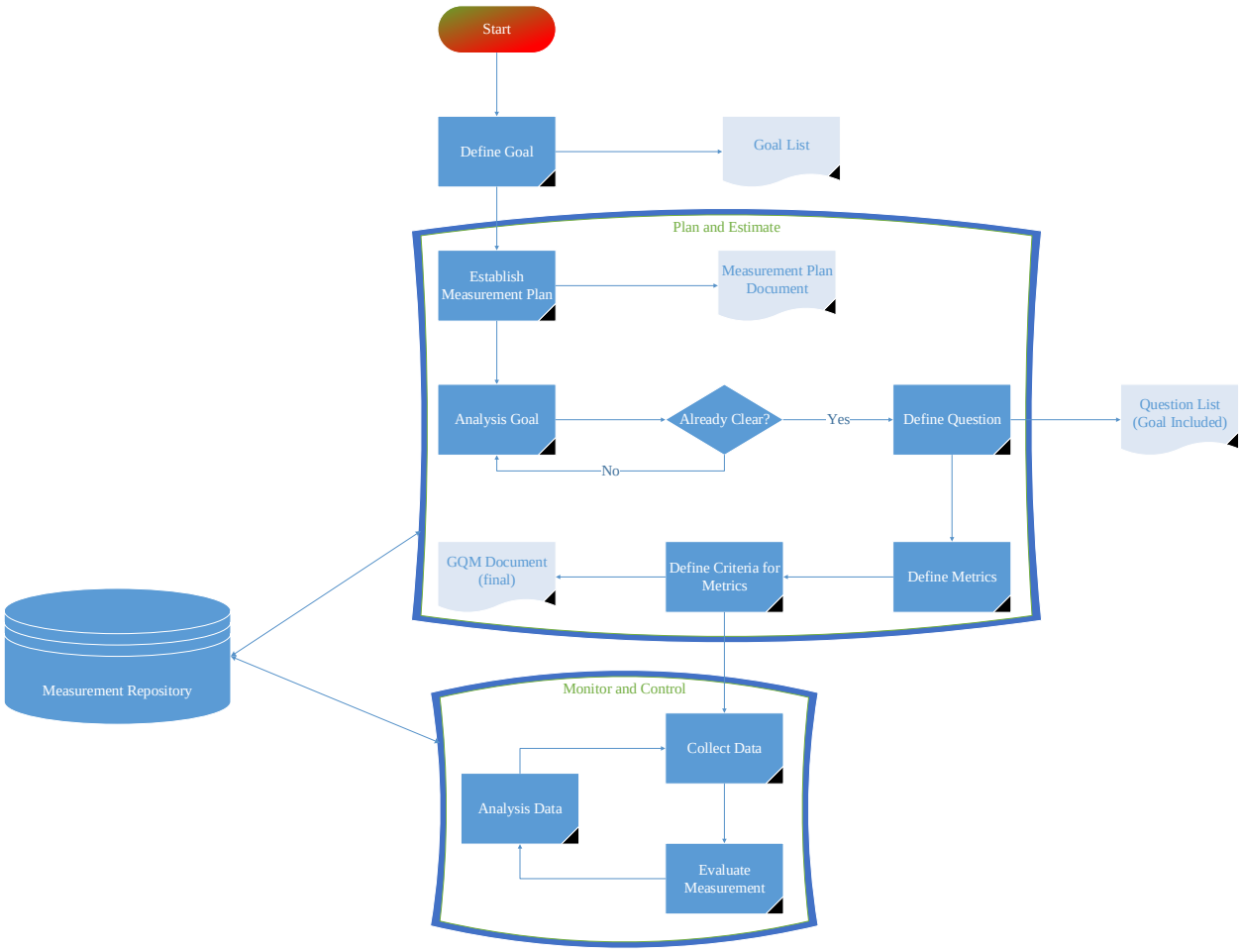
1.4 References

SEP_PM_Project_Plan.pdf

2. Mesurement Process

2.1 Process model

2.1.1 Introduction



2.1.2.1 Description

Define goal	**Identify goal, issues which project need be measured**
Establish measurement plan	Make planning for measure project
Analysis goal	Goal is defined at phase 1, analysis goal, if goal isn't clear understand, continuous analysis goal
Define question	After analysis, define question relate to goal
Define metrics	Define metrics which engineer need measure to response the question after phase
Define criteria	Propose criteria to evaluate metrics
Collect data	After defined measures by GQM, collect data about measures
Analysis data	Analysis data that is collected
Evaluate measurement	Evaluate all measures to monitor project
Measurement Repository	Store all documents & data that collected

Table 2: Process description

3. Strength and weakness

MEASURE	STRENGH	WEAKNESSES
Schedule	- Organize the work and resources over time to complete the work. - Making effective use of resources. - easily communicate with all project stakeholders.	- Frequency tracking, control and update schedule's plan. - Collect historical data to make an accuracy plan.
Productivity	- Increase product value. - Improve processes. - Benchmark organization's capabilities. - Assess current productivity. - Understand what might contribute to productivity increase. - Monitor the increase as we make changes	- Measuring Productivity is difficult.
Budget	- Focus on a specific project. - Account for income and/or expense. - Use spreadsheets to build a budget that contains the costs associated with all of the resources you will need - Align your budget with business needs - Track your performance to budget and note any variances - Use budget and financial analysis tools to ensure that your project is valuable to the business	- Collect historical data to make an accuracy plan.
Earned Value	- The best schedule and cost tracking mechanism available for traditional methodologies.	- Hard to apply for agile methodologies. - To implement EVM you need to have a • WBS broken into work packages associated with specific deliverables • A baselined schedule and budget • An effort logging system to track work performed against tasks
Quality	- Quality data helps guide our actions.	- Gathering,analyzing Requirements Checklist. - Hard to collect Quality Data.
Risk	- Provide risk information to decision makers that will assist in making informed project decisions.	- Can't "manage" every risk.

	- use a technique such as risk exposure to understand overall project risk.	- Be sure to document your risks correctly.
Change	- To communicate openly and honestly with your stakeholders. - Measure the changes so you can quantify the impact of the changes to the project.	- Establish the tools, processes, metrics at project start
Customer Satisfaction	- Satisfy and delight the customer - Generate repeat business	- Hard to trust data
Team Morale	- Keep valued, skilled employees on the project and in the company. - Maintain or improve productivity - Reduce turnover and the cost of retraining. - Cultivate good communication and rapport - Create “good” work environment.	- Motivation is different for different people. - Rapport is based on trust and respect.

Table 3: Strength and weakness

4. Goal – Question - Metrics

4.1 Schedule:

GOAL	**KEEP SCHEDULE IS NOT DELAYED MORE THAN 10% HIGHER THAN PLANNED.**
Question	What is the schedule status?
Measure	Actual task completed/ estimated
Metrics	• Actual task completed • Total of task in plan
Data Collection	Detailed Plan
Criteria	Less than 10%: very bad From 10% to 50%: bad From 50% to 80%: normal From 80% to 90%: good 100%: very good
Description	To help to improve staff's effort to build product faster and easier.

Table 4: Schedule

4.2 Productivity:

GOAL	**KEEP PRODUCTIVITY.**
Question	Is productivity of the team good? How to measure productivity?
Measure	• (Number of tasks completed in one week/ Total tasks in one week)*100% • Size/effort.
Metrics	- Number of tasks completed in one week. - Total tasks in one week. - Size of product. - Total effort of team.
Data Collection	Report Time log
Criteria	More than 90%: Good More than 80%: Normal Less than 80%: Bad
Description	Maintain productivity of team (improve if possible)

4.3 Budget:

GOALS	**BETTER CONTROL ON BUDGET SPEND.**
Question	At now over budget or not?
Measure	Total cost have used/Total cost in plan
Metrics	• Total cost have used • Total cost in plan
Data Collection	• Detail plan • report
Criteria	More than 1: Bad More than 0 and less than 1: Good
Description	To help us to control total project cost does not exceed too far from the initial budget.

GOALS	**TO KNOW THE NET INCOME FROM AN INVESTMENT.**
Question	How much it really costs to earn the reported value?
Measure	Cost Performance Index = BCWP / ACWP
Metrics	• BCWP – Budgeted cost of work performed • ACWP – Actual cost of work performed
Data Collection	Detail plan Weekly report
Criteria	CPI >1: Under Budget CPI =1: On Budget CPI <1: Over Budget
Description	N/A

4.4 Quality:

GOAL	**KEEP THE GOOD QUALITY OF PRODUCT.**
Question	What is the status of defects?
Measure	Number of Defects found/ All testcase/ Release
Metrics	• Number of Defect found • All test case • Release
Data Collection	Testing Report
Criteria	Less than 0.5 agree : bad More than 0.5 and less than 0.7 agree: normal More than 0.9 agree: good
Description	To help us to know the rate of defect released for customers

GOAL	**THIS IS RATE FEATURE PASSED IN TOTAL FEATURES OF PROJECT WHEN END TEST PHASE.**
Question	How to know the rate of feature to be passed in the project?
Measure	Number of features passed/Total features
Metrics	• A feature is passed when tester report it passed all related test cases.

	• All features in SRS
Data Collection	Testing Report
Criteria	Less than 0.5 agree : bad More than 0.5 and less than 0.7 agree: normal More than 0.9 agree: good
Description	To help us to know the rate of feature to be passed in the project

GOAL	**THIS IS RATE QUALITY ATTRIBUTES PASSED OF PROJECT WHEN END TEST PHASE.**
Question	How to know the rate quality attributes passed of project?
Measure	Number of quality attributes passed/Total quality attributes
Metrics	• Number of quality attributes passed when collect data at test phase. • Total quality attributes of project
Data Collection	Testing Report
Criteria	Less than 0.5 agree : bad More than 0.5 and less than 0.7 agree: normal More than 0.9 agree: good
Description	To help us to know the rate quality attributes passed of project

GOAL	**KEEP THE GOOD QUALITY OF PRODUCT.**
Question	Current reality of defects like?
Measure	Total defects found – defects removed
Metrics	• Total defects found • defects removed
Data Collection	Testing Report
Criteria	More than 10: Very bad. More than 5: Bad As 5: Normal Less than 5: Good
Description	To help us to know the status of defects if they were removed or not

4.5 Earned Value:

GOAL	**COMPARE EARNED VALUE WITH EFFORT ACTUAL.**
Question	How to compare the earned value with the effort spent reality?
Measure	Budgeted cost of work performed = percent of work completed * budgeted cost of work schedule.
Metrics	• BCWS – Budgeted cost of work schedule • Percent of work completed
Data Collection	Detail plan Weekly report
Criteria	EV> AC: Under Budget EV = AC: On Budget

	EV <AC: Over Budget CV greater than 0 is good (under budget).
Description	N/A

4.6 Customer satisfaction:

GOAL	**KEEP THE SATISFACTION OF CUSTOMERS.**
Question	• Is our product useful to customer? • Do customers have satisfy with attitude of develop team?
Measure	Mark points / Total points
Metrics	• Mark points • Total points
Data Collection	Survey
Criteria	Less than 50% agree : bad More than 50% and less than 80 agree: normal More than 80% agree: good
Description	To help us to maintain and improve satisfaction of customers

4.7 Team morale:

GOAL	**KEEP THE GREAT MORAL STRENGTH OF TEAM MEMBERS.**
Question	• Do employee have satisfy with project team? • Do team member is still enjoying with project?
Measure	Mark points / Total points
Metrics	• Mark points • Total points
Data Collection	Survey
Criteria	Less than 50% agree : bad More than 50% and less than 80 agree: normal More than 80% agree: good
Description	To help us to maintain and improve team moral, therefore improve productivity

4.8 Risk and Change:

GOAL	**MINIMIZE IMPACTS OF RISK (MITIGATE IMPACT OF RISKS).**
Question	How do we control risk well?
Measure	Resolved Risk / Identified Risk
Metrics	• Resolved Risk • Identified Risk
Data Collection	• Weekly report • Risk mitigation and change log
Criteria	Less than 50% agree : bad More than 50% and less than 80 agree: normal More than 80% agree: good
Description	To help us to know the status of risks if they resolved or not

GOAL	**CONTROL CHANGE AND RISK.**
Question	How to control changes and risk in project?
Measure	Resolved Risk / Identified Risk
Metrics	• Total changes to be removed. • Total changes to be defined in project. • Total risks to be removed • Total risks to be defined in project.
Data Collection	Risk mitigation and change log
Criteria	Less than 50% agree : bad More than 50% and less than 80 agree: normal More than 80% agree: good
Description	To help us to know the status of changes and risks if they removed or not

5. Tool

NO	NAME	DESCRIPTION
1	Microsoft office	Using to store data and make report
2	Visual studio	Using to collect data.