EDB Results Administration

Project Plan

Course: Project Management

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Group : 02

Students: Joe Smith – 221234

David Adams – 225432

Amy Dawson – 229876

Christopher Tanza - 223456

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# Project Statement

In this chapter we state why our project project is started and what we will achieve. The following topics will be described: the client, the projectleader, the initial situation, the problem description, the goal of our project, the deliverables and non-deliverables, the constraints and the risks.

## Formal Client

Ms. Mariëlle Fransen, teacher at Fontys ICT, the English Stream department. Fontys University of Applied Sciences is located in the Netherlands. One of the schools at Fontys is the School of Information and Communication Technology (ICT), which is located in Eindhoven. English Stream is a department in Fontys ICT, where the education is entirely given in English.

Ms. Fransen is coordinating the four Databases courses at Fontys ICT: Databases 1 (EDB1), Databases 2 (EDB2), Databases 3 (EDB3) and Databases 4 (EDB4). She is responsible for keeping the contents of the courses up-to date with the newest trends in the industry. Next to teaching these courses, she develops the lesson material, practical assignments, etc.

Contact information

Marielle Fransen

Rachelsmolen 1, Eindhoven

Room 4.34

M.Fransen@fontys.nl

(040) 123 45 67

06 – 123 45 678

Working days: Monday, Tuesday, Wednesday.

## Project Leader

Mr. Tanza of the ICT department ICSS from Fontys ICT Eindhoven is the projectleader.

Contact information

Mr. Tanza

Rachelsmolen 1, Eindhoven

Room 3.34

C.Tanza@fontys.nl

(040) 323 45 67

06 – 213 45 678

Working days: Wednesday, Thursday, Friday.

## Current Situation

Each of the four databases courses is organized as follows: (1) presence at the theory lessons is not compulsory, (2) each week students must solve several practical exercises, and (3) at the end of the course a student has to take an exam. Theory lessons are given by several teachers and practical lessons are given both by several teachers and several student assistants.

For each class, for each student, records about presence in the theory and practical lessons, submitted practical assignments and exam mark is must be archived. This is done by each teacher and student assistant separately, in Microsoft Excel files or on paper.

## Problem description

The way course results are archived is not optimal for three reasons.

First, records are kept separately by each teacher and student assistant. In order to look at the status of one student, one has to know who were the involved teachers and student assistants. For every student, our client needs 10 minutes to make a status report. Currently, she has to do this for 80 students every three months. This is time consuming and annoying for our client.

Second, keeping records by different people in different files (or even on paper) is not suitable for data recovery. In case an Microsoft Excel file or paper gets lost, there is not back-up to recover the data.

Third, because results are not archived centrally, it is not possible to make reports. Ms, Fransen would like to be able to generate various reports. For example, a report showing how many students solved or did not solve a certain practical assignment or exam question could indicate that this topic should be covered better in the lessons.

## Project goal

The goal of this project is to develop a software application prototype. Mrs. Fransen want to run a pilot with our developed prototype. In this prototype all involved teachers and student assistants will be able to save data about:

* presence in theory and practical lessons,
* submitted practical assignments, and
* exam mark including achieved points for each exam question.

All data will be saved in a central database.This database will make it possible to:

1. easily find the status of each individual student, regardless which teachers/student assistants were responsible for the student,
2. make automatic backups of the stored data, and
3. make various reports about the results of students.

## Project Deliverables and Non-Deliverables

In this project the deliverables are:

* Only the executable version (the “.exe” file) of the software application will be delivered.
* A database where the data about presence, practical submissions, and exam results will be saved, and
* A user manual will explain how teachers and student assistants can use the application.

We will not deliver:

* The source code of the software application will not be delivered.
* A training for users will not be offered, since the user manual can be used to learn how to work with the application.
* The reports about the results of students will not be made. However, we will develop and use a database to store all data, so that later it is possible to make the necessary reports.

## Project Constraints

***Constraint 1: Time***

**The project must be completed within 5 months.**

***Constraint 2: Budget***

**The budget for this project is:**

* **150 manhours with a maximum of 6000 euro’s**
* **200 euro’s for softwarepackages and hardware**

***Constraint 3: English Language***

Due to the fact that most of the student assistants do not speak Dutch, both the application and the user manual must be in English.

***Constraint 4: Java Programming Language***

Teachers have different types of computers (Microsoft and Apple), so the software application should be able to run easily on every type of computer and tablet. Therefore, you should use Java to program the software application.

***Constraint 5: Oracle Database***

The school already has an Oracle Database server installed. Therefore, you should use an Oracle database for saving the data.

## Project Risks

**Risk 1: The Fontys IT department decides to stop using the Oracle server.**

Probility: Very low.

Impact on project: High.

Steps to prevent: Try to get a contract for at least 5 years between Oracle and Fontys IT department.

Clean up action: Switch to using a Microsoft Access database.

**Risk 2: It takes too long to learn Java programming language.**

Probility: Medium.

Impact on project: Medium.

Steps to prevent: Try to find project members with knowledge of Java.

Clean up action: Switch to using Microsoft C# as a programming language.

**Risk 3: The user manual is not finished in time.**

Probility: Low.

Impact on project: Low.

Steps to prevent: Start writing a draft version after the first version of the software.

Clean up action: Use draft version of the user manual.

**Risk 4: Users do not want the system**

Probility: Medium

Impact: High

Steps to prevent: User involvement during development.

Clean up action: Meeting with users about the problems with current situation.

# Project Phasing

In this chapter we describe the phases of our project, with the activities and milestones. In figure 1 a visual overview of the activities, their dependancies and the milestones is given. The total project will take 15 weeks to complete. The critical path is made bold and red.

design

initiation

build

deploy

test

test system

build application

design application

start-up project

deploy system

write user manual

design database

build database

**M5**

**M4**

**M3**

**M2**

**M1**

wk1 wk3 wk6 wk9 wk13 wk15

Figure 1. The activities and milestones.

## Phase 1: Initiation

The initiation phase has only one activity, called “Start-up project”.

Activity: Start-up the project

Tasks for the activity are:

* Interview client
* Discuss current situation, problems, desired end situation
* Set the project goal together with the client
* Organise the team
* Organise resources (Visual Studio 2013)
* Kick off meeting

Estimated duration is two weeks and 15 manhours.

Deliverables for milestone **M1** are:

* Detailed division of work amongst team members
* Installed Visual Studio 2013 on computers of all developers
* The Projectplan

## Phase 2: Design

The design phase has two major activities: Design the application and Design the database. For each activity the tasks are described.

Activity: Design the application

* 1. Research possible methods for conducting interviews and making questionnaires
  2. Make questionnaires
  3. Interview tutors
  4. Research possbile methods for documenting requirements
  5. Make user requirements
  6. Install Java software for design
  7. Interview technical department
  8. Make technical requirements
  9. Present possible solutions to the client
  10. Choose solution to implement
  11. Make class diagrams

Estimated duration is three weeks and 25 manhours.

Activity: Design the database

* 1. Make ERD on paper
  2. Discuss ERD with client
  3. Install Oracle software for ERD design

Estimated duration is one week and 15 manhours.

Deliverables for milestone **M2** are:

* Specified requirements (functional and technical)
* Class diagram for the software program with description of every class.
* Entity-Relational diagram for the database with description of tables, columns and column types.

## Phase 3: Build

The build phase has two major activities: Build the application and Build the database. For each activity the tasks are described.

Activity: Build the application

1. Install Java
2. Implement class diagrams
3. Fill methods
4. Implement logics
5. Runtime tests
6. Fix bugs
7. Update documentation

Estimated duration is three weeks and 35 manhours.

Activity: Build the database

1. Make relational database based on the ERD
2. Fill database with data
3. Test database

Estimated duration is one week and 10 manhours.

Deliverables for milestone **M3** are:

* Java application.
* Oracle database with data

## Phase 4: Test

The build phase has two activites: Test system and Write user manual. For these activities the tasks are described.

Activity: Test system

Tasks for the activity are:

* Connect the database with the application
* Conduct research regarding test methods and writing a test plan
* Make test plan
* Make test data with presence, practical submissions, and exam results
* Discuss test plan with client
* Execute test plan
* Document all succeeded tests, all failed tests and a list of improvements

Estimated duration is four weeks and 25 manhours.

Activity: Write user manual

Tasks for the activity are:

* Write user manual
* Conduct research regarding testing a manual by observing users
* Observe at least three users while using the manual with the software
* Improve user manual based on results

Estimated duration is one week and 10 manhours.

Deliverables for milestone **M4** are:

* Test report including all succeeded tests, all failed tests and a list of improvements.
* The user manual document.

## Phase 5: Deploy

The deploy phase has only one activity, called “Deploy system”.

Activity: Deploy system

Tasks for the activity are:

* Get a list of teachers involved from the client
* Install software on the computers of the teachers
* Distribute user manual to teachers

Estimated duration is two weeks and 5 manhours.

Deliverables for milestone **M5** are:

* A deployed system consisting of the Java application and Oracle database is running on computers of all teachers.