# Muksis project

# Project plan

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**Abstract:** This is the project plan document of application project Muksis. The document introduces readers to the area of this project explaning terms and giving background information and describing goals, available resources and management methods. In the later part of the plan the document hadles information about tasks, schedule and risks.

**Keywords:** Application project, black frame detecting, DVB, MPEG, search in MPEG TS, Muksis, MPlayer.

# Version history

| Version | Date | Changes | Authors |
|---|---|---|---|
| 0.1 | 19.9.2008 | First version. Introduction and contact information started. | TM |
| 0.2 | 28.9.2008 | Introduction written. Terms, background, project goals and resources started. | TM |
| 0.3 | 29.9.2008 | Recources written. | RD |

# Project information

Project Muksis designs and implements new features, like black frame detection, support for DVB subtitles and search in MPEG TS to an open source media player application MPlayer and/or improves similar existing features for Matthieu Weber.

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# Contents

# 1   Introduction

Muksis is a student application project in the Department of Mathematical Information Technology at the University of Jyväskylä. During fall 2008 and the beginning of year 2009 the project designs and implements new features, like black frame detection, support for DVB subtitles and search in MPEG TS to an open source media player application MPlayer and/or improves similar existing features possibly found in original MPlayer code if found meaningful. The application is made for Matthieu Weber who is a senior assistant in the Department of Mathematical Information Technology at the University of Jyväskylä.

MPlayer is a free open source media player distributed under the GNU General Public License. It is a command line application with different optional graphical user interfaces. The program supports all major operating systems, including Linux and other Unix-like systems, Microsoft Windows and Mac OS X. MPlayer has support for very wide variety of media formats. In addition to its generous range of supported formats MPlayer can also save all streamed content to a file.

The project will be performed in a group of four students: Richard Domander, Tuomas Mäenpää, Teemu Nisu and Tommi Teistelä. All members except Tuomas Mäenpää have a good knowledge of programming language C. Tommi Teistelä is also familiar with the MPlayer source code. Tuomas Mäenpää has mostly done web based developing before the project.

This document is an introduction to the work flow of the project Muksis. In Chapter 2 the main terms used in this document are explained. Chapter 3 expounds background information and chapter 4 construes and reasons the main goals. Chapter 5 analyzes available resources, chapter 6 describes project management methods and chapter 7 explains about tasks, workload and division of labour. Project schedule is introduced in chapter 8 and finally chapter 9 describes possible risks involved in this application project.

# 2   Terms

Following terms appear on this document:

**Agile software development**   a software development process. Agile methods emphasize realtime communication and working software as the primary measure of progress using iterative development.

**Application project**   course on The Department of Mathematical Information Technology.

**C**   a general-purpose, high-level programming language.

**DVB**   Digital Video Broadcasting, a set of open standards for digital television. Defines various details about the physical and data link layer-level transmission of data, refers to existing MPEG standards for the actual format specifications where possible. The datastream itself is an MPEG-2 Transport Stream with some DVB-specific constraints and may contain multiple channels.

**Iterative development**   technique of developing and delivering incremental components of business functionality. A single iteration results in one or more bite-sized but complete packages of project work that can perform some tangible business function. Multiple iterations recurse to create a fully integrated product.

**MPEG**   The Motion Picture Experts Group, a working group of ISO/IEC. Also a common name for certain standards created by them.

**MPEG-2**   The MPEG standard specifying video, audio and related format specifications, primarily used for DVDs and digital television broadcasting.

**User story**                   a software system requirement formulated as one
                                 or two sentences in the everyday language of the
                                 user.

# 3 Background

## 3.1 Documents

The following documents will be realized during the project:

- **Architecture report** explains meaningful information about MPlayer stucture.

- **Application report** describes how new features work.

- **Project plan** describes about the meaning of the project. The document introduces readers to the area of this project and describing goals, resources and management methods used in the project. It also contains information about tasks, workload, division of labour, schedule and risks.

- **Requirement analysis(?)**

- **Project report**

- **Source code**

- **Installing introduction(?)**

- **Resource management report**

- **Showcase reports (esittelyraportit)**

- **Test report**

- **E-mail archive**

All documents are written in english, except showcase reports that are in finnish.

# 4  Project goals

- Tommi

## 4.1  Patch for MPlayer community

## 4.2  Patch for Matthieu Weber

## 4.3  Software

## 4.4  Other results

# 5  Resources

This chapter describes the available resources for project Muksis.

## 5.1  Recource constraints

One ECTS credit (op, opintopiste) equals about 27 hours of work [1], so a student can expect to work between 270 and 400 hours for the project (10-15 op for the course). The team members don't have many other courses simultaneously, so it won't be challenge for anyone to allocate the required time. If the allocated time is not enough the features will be at least partially implemented, because of the iterative process used in this project.

## 5.2  The team

The team consists of four mathematical information technology majors. The supervisors tried to form as heterogenous team as possible from the course applicants. Still, all members meet the requirements set for the course, and this fall all selected were quite advanced in their studies.

## 5.3  Physical resources

The project team has been given the room AgC225.3 inside the project space AgC223.1. In the room there are four computers (1/member) and office supplies. The team can also use the project space, but a reservation has to be made beforehand. The printer in project space and MIT department's copier can be used for project documents. Also a small "library" of technical books is available, but most of the technical documents needed is provided by the client, Matthieu Weber.

The team can request further software installations and resources (for example, Trac) from MIT's PC support. Team members are not allowed to install programs. The team chose Linux and CodeBlocks IDE, but kept one Windows machine just in case. The team can also get a projector and a digital audio recorder for the meetings.

## 5.4   Supervisors

The supervisor in charge is Ville Isomöttönen from MIT. He supervises all aspects of the project and especially its planning, process, management, and general state. He also acts as a sort of mediator between the client and the team. There currently is no technical supervisor for the project, but everyone in the team has some experience with C. Linux OS and CodeBlocks IDE are familiar too for most of the members, so they can instruct those less versed. Weber has specific technical knowledge about the subject, so the team will cope even if no technical supervisor is found, altough lack of one presents unique risks.

# 6   Management methods

## 6.1   Meeting

-official meetings -Other meetings -methods: m

## 7   Tasks, workload and division of labour

# 8 Schedule

# 9  Risks

- Teemu -What could make project to fail –MPlayer's source code changes much during project

# 10    Summary

# 11   Bibliography

[1]  University of Jyväskylä; KIEPO termipankki, refrenced 29.9.2008

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# A First appendix