CHAPTER 1

1. INTRODUCTION

1.1 Project overview

In this fast paced world, music is one of the thing that still become important to a lot of people. They always want to gain more access on music. Today, we see a lot of people use different type of music application. Music application that commonly used by people this day, usually only provide music player or music's lyrics while playing the song. These day, we only used application for user who enjoy music, so they mostly doesn't know anything about the chords in every music. Then, what about application for people who had more interest in music ?. That is why we would like to try bring more experienced for people who are interested with music chords.

This project is to create an Android-based application called ClarietEar. ClaritEar (/ˈklær.ə.tɪər/) is an educational and entertainment applications based on Android that are useful to train your hearing sensitivity in knowing the kind of tone or chord that is being played. With this application we hope people will gain more knowledge about music chords. Also we hope our application will be helping a lot of people on becoming new musician.

1.2 Project deliverables

During the course of this project, several documents and programs have to be produced and delivered.

- Preliminary Project Plan
- Software Project Management Plan
- Project Risk Management Plan (included in SPMP)
- Test Plan
- UML
- DD
- User Manual
- Final Document

1.3 Evolution of this document

This document will be updated as the project progresses. Update should be expected in the following sections.

a. ***References*** – updated as necessary
b. ***Definitions, acronyms, and abbreviations*** – updated as necessary.
c. ***Technical Process*** – will be revised as the requirements and design decisions become clearer.
d. ***Schedule*** – the schedule will be updated as the project progresses.

1.4 References

Several case studies used for the development of this project.

- http://www.nature.com/news/why-dissonant-music-strikes-the-wrong-chord-in-the-brain-1.11791
- http://listaka.com/top-10-most-difficult-musical-instruments/
- http://www.premierguitar.com/articles/19696-digging-deeper-how-many-chords-are-there

1.5 Definition, acronyms, and abbreviations

i. SPMP – Software Project Management Plan
ii. DD – Detailed Product
iii. UML – Unified Model Language

2. PROJECT ORGANIZATION

2.1 Process model

The project process will be based on Iterative Development Model, which is effective for dynamic software development, with the possibility to go back to the previous phase to dynamically improve and modify anything.

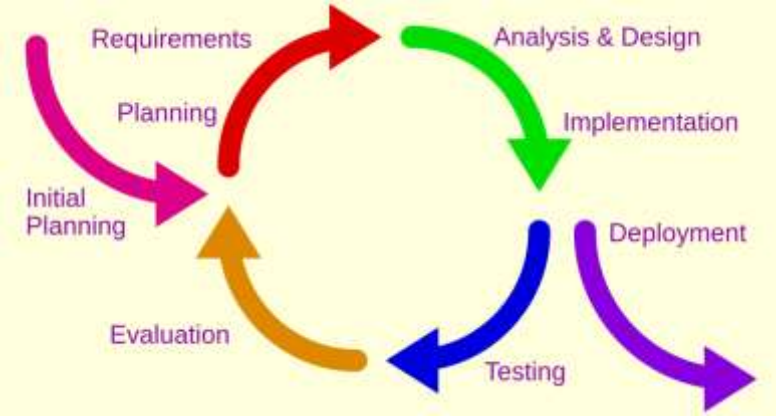

Figure 1 : Process Model

The project is divided in these phases:

1. Inception
2. Elaboration
3. Construction
4. Transition

Inception phase is the initial phase, which consist of initial planning of the project, and the planning of the whole project. Elaboration is the next phase, with the step of requirements analysis and the analysis of the project, with the initial design. The construction phase will be the longest phase in term of time, with the implementation and deployment step in it. The last phase, the transition phase, will be consisted of testing step and evaluation step, in order to validate the product and do the launching, while maintaining the product from the test results.

We will use Andorid Studio and UML tools to create the system model and the subsequent breakdown of the design. For this project, our group will be using Eclipse UML2 version Mars.

2.2 Organizational structure

Team members :

- Muhamad Harist Refian Anwar
- Andira Rozawati

- Pandu Wicaksono

Week/Deliverable	Team Leader	Deliverable Description
1	Muhamad Harist Refian A.	Project Plan
2	Andira Rozawati	Requirements Specification
3	Pandu Wicaksono	Analysis
4	Muhamad Harist Refian A.	Architecture Spec
5	Andira Rozawati	Component/Object Specification
6	Pandu Wicaksono	Source Code
7	Muhamad Harist Refian A.	Test Plan
8	Andira Rozawati	Final Deliverable

Table 1: Organizational Structure

This project employs three persons in which has their own main role and additional job. Main role is his/her position through this project and additional job is basically added in order to finish several technical things that may happen during doing this project. Also their additional job will accour when other team member needs help on doing their main job. There must be good communication between all employees during doing this task. As a team leader, he must be able to motivate and give solution when problem accour to another member and team leader also has to control the progress of the overall project.

2.3 Organizational boundaries and interfaces

Team Leader

Task: Perform all necessary activities to ensure that a task assigned to a team is performed well and on time. This includes but is not limited to:

• Planning and coordinating team activities;

• Providing feedback about team progress to the PM;

• Motivating team members;

• Chairing reviews of the items made by his team.

Team Member

Task: Perform all necessary activities to ensure that a task assigned to a team is performed well and on time. This includes but is not limited to:

• Assisting the Team Leader or Project Manager by signaling problems in an early stage;
• Executing plans made by the Team Leader and by the Project Manager;
• Keeping track of time spent on various tasks;
• Following procedures and plans.

2.4 Project responsibilities

Ultimately the entire project team is responsible for the successful delivery of the product. Team member assignments per deliverable according to expertise are :

1. Project Plan – Entire Team
2. Requirements Specification – Andira Rozawati
3. Analysis – Pandu Wicaksono
4. Architecture Spec – Muhamad Harist Refian Anwar
5. Component/Object Specification – Andira Rozawati
6. Source Code – Pandu Wicaksono
7. Test Plan – Muhamad Harist Refian Anwar
8. Final Deliverable – Entire Team

3. MANAGERIAL PROCESS

3.1 Management objectives and priorities

The objective of the project is to develop a mobile application system within allocated budget, time, and specified quality. The project is highly prioritized to help people in social life and also for our group's project in Software Engineering course. The benefits will be further discussed in CBA (Cost benefit Analysis).

3.2 Assumptions, dependencies, and constraint

The project assumptions are as follows :

- Team of 3 resources
- Equipment and software availability
- Approval on Project
- Finding and Analizing The Software Content
- Programming The Software

The project dependencies are as follows

- The design of mobile application interface
- The content of it's mobile application
- Programming using java
- Time
- Budget
- Man hours
- Availability of existing software

3.3 Risk management

This section mentions a number of possible risks for the project. Also, actions or measures are described to prevent or to reduce the risks. Four categories of risks are identified:

- Risks with respect to the work to be done;
- Risks with respect to the management;
- Risks with respect to the resources;
- Risks with respect to the customer.

The risk of each category will be explain below.

1. Risk With Respect to The Work to be done
    a. Programming

Probability : High

Prevention : Need to learn the programming language fastly

Corection : Finding more literature about the programming language our group use in the project. Finding similar code for reference. Asking seniors about our group difficulties in making the mobile application.

Impact : High

b. Time Shortage

Probility : High

Prevention : Care is taken to plan enough spare time.

Correction : When tasks are failed to be done or if tasks are finished earlier, then the planning schedule need to be adjust with the situation. If time shortage become severe, the content of the mobile application will be pinched.

Impact : High

c. Design

Probability : Low

Prevention : The design should be review very critically. We should consult the matter with the advisor or the customer it self about the design.

Correction : When errors in the design are noticed, we do some meeting to fixed the problem. Doing some research to used more appealing design for the customer.

Impact : Low

2. Risk With The Respect to Management

d. Sudden Absen of Member

Probability: Low

Prevention: There are very few things in which the presence of the member cannot be missed for a short period of time. Nevertheless the member will inform the other member of a planned period of absence in time so that the other member can prepare to take over.

Correction: By keeping the other member up-to-date on the project status we will have enough knowledge to take over in case of illness or absence of the member.

Impact: Low

3. Risk With The Respect to The Resources
    e. Unavailability of the advisor when needed
    Probability: Medium
    Prevention: Meetings with the advisor can be planned in advance and time has been reserved in their schedule for counseling the content our mobile application.
    Correction: A different appointment is made, or another expert is consulted.
    Impact: Medium

4. Risk With The Respect to The Customer
    f. The customer changed their mind
    Probability: High
    Prevention: It is obviously explained to the customer, that after he has accepted a version of the purpose and content of the project, it cannot be changed by the customer's wish only.
    Correction: If the customer changes his mind during the user requirement phase his new requirements can be incorporated.
    Impact: Low
    g. The Customer is not available when needed
    Probability: Medium
    Prevention: Meetings with the customer can be planned well in advance. The customer has been given room in his schedule for his Software Engineering related work.
    Correction: When the customer is not available, meetings may have to be rescheduled.
    Impact: Medium

5. Summary

    It is obvious that problems will occur during the project. To avoid problems the following rules should be followed by all team members:

- Try to signal problems as early as possible and meeting with the member as soon as possible, so that action can be taken;
- Pay attention to communication and make sure everybody understands the things the same way;
- Focus on the agreed user requirements, which express the wishes of the customer;
- Minimize friction between people by helping and supporting each other;

3.4 Monitoring and Controlling Mechanism

Weekly Project Group Meetings

The project group meetings take place in Faculty of Engineering, University of Indonesia. Project group meetings usually take place on Thursday at 11 AM, although this time may be subject to change, e-mails or chats will be send about the time if it changes. These meetings are meant to inform each other of the progress made on various tasks. Before the meeting, all members read minutes of previous meeting. The member takes care of the agenda and presides the meeting.

Progress Meetings

These meetings are scheduled biweekly at 11:00 AM. On these meetings the member of the group project will meet together to discuss some problem or to inform the progress each member have done. Before progress meetings the following things need to be done:

- Write a progress report after the example of the previous reports;
- Read the minutes of the previous meeting;
- Deliver the report to the other member half an hour before the start of the first meeting on that day.

Project Log

Each of members (team leader and team member) should be filled their log after weekly internal meeting in order to be controlled by PM. The following table is used to show the reporting and communication plan for the project.

Information Communicated	From	To	Time Period
Status report	Project Team Leader	Member of The Project	Weekly
Status report	Member with Programming as their main job	Team Leader and Other Member	Weekly
Project Review	Group Project	Customer	Undefined / Flexible
Project Log	All Members	Advisor	Weekly

Table 2: Communication and Reporting Plan

3.5 Staff Plan

The following table contains contact information about the members of the Socializer project group:

Name	Email	Phone	Function
Muhamad Harist Refian Anwar	muhamad.harist@ui.ac.id	083895222109	Group Leader and Design
Pandu Wicaksono	pandu.wicaksono31@ui.ac.id	08174930665	Programming
Andira Rozawati	andira.rozawati@ui.ac.id	088210740164	Content and Managerial

Table 3: Staff Planning

4. TECHNICAL PROCESS

4.1 Methods, Tools and Techniques

In this project, we design using process model that has been inlcuded in section 2.1. The project will be implemented utilizing java programming languange, and tools such as Java JDK, Visio, Trello, Android Studio, Photoshop and Marvel will be utilized. The object oriented analysis technique will be used to successfully complete the project. ClaritEar is mobile application that train people's hearing sensitivity in knowing the kind of tone or chord that is being played. With this application we hope people will gain more knowledge about music chords. Also we hope our application could help people on becoming new musician.

4.2 Software Documentation

During the project, documents should conform to a number of aspects:

- Documents must be of good quality.

The standards all documents are required to meet are documented in with respect to style and with respect to content.

- Documents must be reviewed.

The manner in which document reviews by the advisor or by the group project themselves.

- The purpose of document reviews is to get docs of high quality.

The requirements which apply to the approval of documents are given to Software Engineering lecture.

4.3 User Documentation

Since the user of this software will have different perspectives from one to another,so the user documentation has to be very clear and easily understand by them. And that document should conform several aspects like: Have a good quality and must be

reviewed. Also inside user documentation should explain user manual about how to use the software.

4.4 Infrastructur Plan

The hardware resources are all the member of the group project computers running windows 7 / 8 / 10 Operating System. Each of these computers should at least already installing the tools that helped making the project.

5. WORK ELEMENTS, SCHEDULE, AND BUDGETS

- The project is budgeted for 3 resources, and equipments needed to complete analysis, implementation, and the test of the application
- The project lead will be rotated for each phase out of 3 team members.
- The document for all phases will be revised in subsequent phases if applicable.

5.1 Schedule

The following is the schedule that we will do in our ClaritEar Mobile Application project :

- The team budget of 3 persons **x** 1,464 hours = 4,392 hours;
- The project deadline of May 24th 2016;
- The final presentation of June 03rd 2016;

5.2 Timeline

The following is our activities in the making of the application :

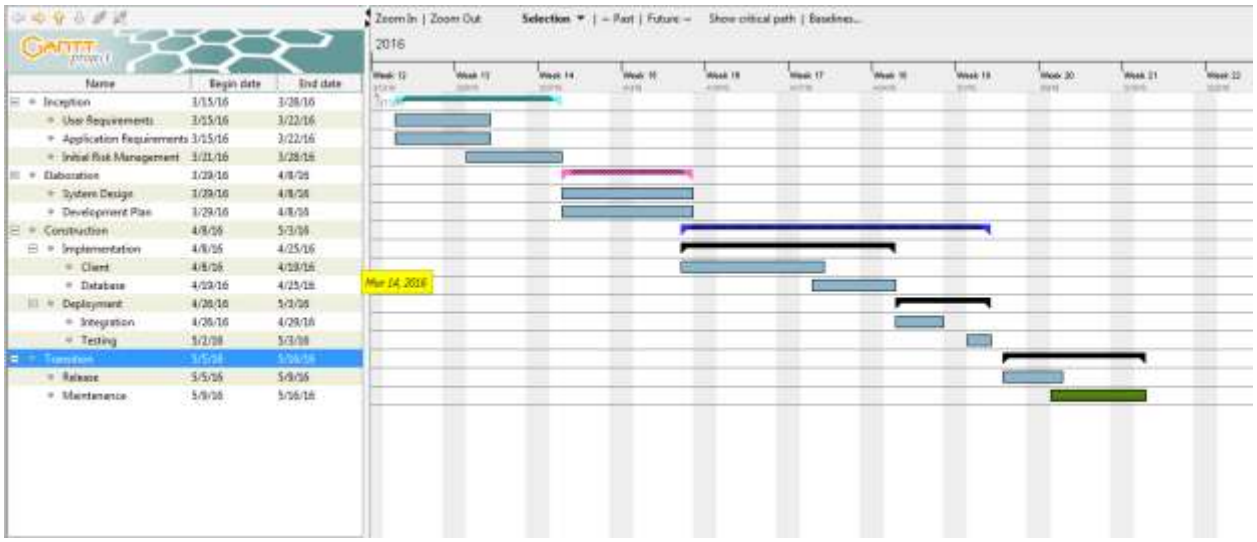

Figure 2. Schedule

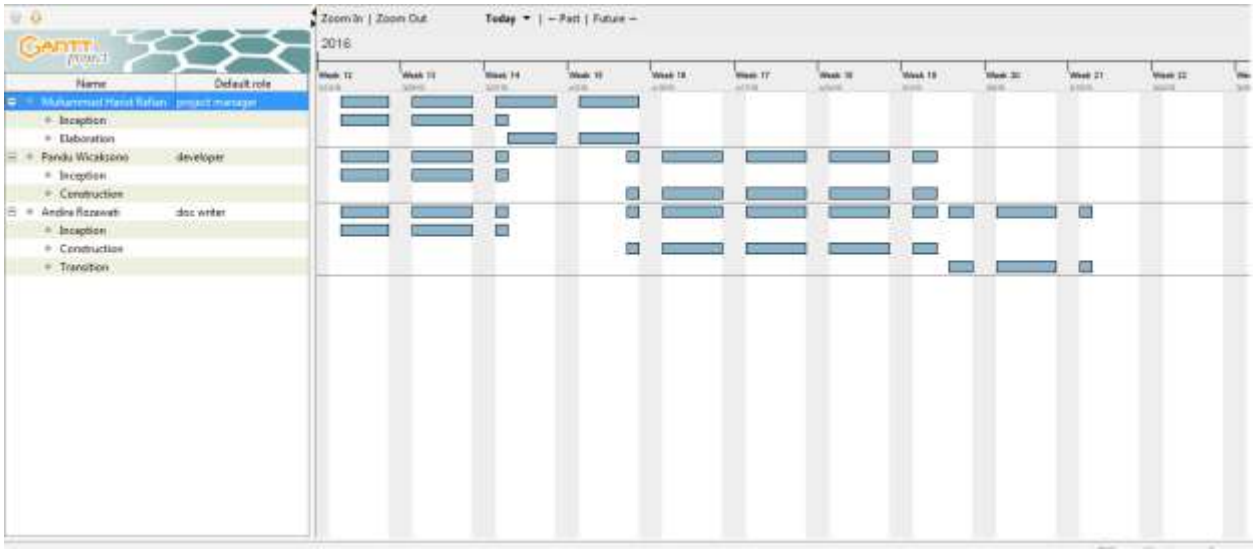

Figure 3. Resources Figure

5.3 Resources Requirement

The most important resource during the project is human resources. The software that is needed during the process of making this project are Adobe Flash or Construct 2, Photoshop, Adobe Illustrator and Corel Draw. During the project software development

is required, for example programming language used in Adobe Flash and Construct 2. Other resources needed include development stations, a store where documents and information can be backed up, a printer, network connectivity, a working and meeting room with chairs. During the project software is required like text editor and compiler for any programming language.

6. ADDITIONAL COMPONENTS

6.1 Index

Index is not identified yet for the first draft of SPMP. Any changes are subjected soon.

6.2 Appendices

Appendices is not identified yet for the first draft of SPMP. Any changes are subjected soon.