Table 1: Revision History

Date	**Developer(s)**	**Change**
September 24th	Jie	Created a development plan for Revision 0
September 29th	Jie,Adwity,Arfa	Discussed development plan for Revision 0
September 30th	Arfa,Adwity	Modified development plan for Revision 0
September 30th	Jie	Modified development plan for Revision 0
December 7th	Arfa	Updated document for Revision 1
December 8th	Jie	Review added for Revision 1

SE 3XA3: Development Plan
Title of Project

Lab 01, Team 03, Pongthusiastics
Adwity Sharma - sharma78
Arfa Butt - buttaa3
Jie Luo - luoj3

1 Team Meeting Plan

Team members will be meeting on a daily basis. Two types of meeting will be utilized: the face-to-face meeting and the on-line meeting. The meetings are scheduled based on team members' course schedules and their availabilities. The on-line meeting plan is listed in the following section, and the face-to-face meeting plan is described below.

Details	**Descriptions**
When	There should be a face-to-face meeting scheduled on every Wednesday from 2:30 p.m. to 5:30 p.m, roughly three hours in total. The number of hours for meeting could vary, depending on the meeting progress.
Where	The meeting location would be the Health Science Library (or any other library at McMaster University)
Frequency	Once a week or more depending on the need
Roles	Team leader - Jean Luo Schedule manager - Arfa Butt Note taker - Adwity Sharma
Rules for agenda	If anyone cannot attend a pre-scheduled meeting, he/she should notify the team at least 3 hours before so the meeting can be rescheduled and must bring food to the next meeting. Each team member should be prepared for the meeting, so that during the meeting, each member would show what they have done since the last meeting, any problems encountered during the project work, and any plans that should be finished before next meeting.

2 Team Communication Plan

In addition to meeting face-to-face, team members also agreed to share their personal contact for on-line meeting. Several on-line applications will be utilized for contacts, discussions, and file-sharing.

Tools	**Descriptions**
Git	It will be used to pull or push files from the repository; it will also be used to get notifications about any current issue with the on going project by the instructor or the course coordinators.
Facebook	The xa3 group chat will be used to discuss any implementation problems and administrative details regarding the project.
Phones/texts	They will be used to contact team members; they will be mainly used as emergency contact.
Google Docs	It will be used to work together on documentations, before transferring them into the Latex format.

3 Team Member Roles

Each team member is assigned at least one role for this project. The team leader will be in charge of the project as a whole, including guiding the members in the progress of development, delegating tasks to members properly, and maintaining healthy group dynamics. An expert on technology will be focusing on the software development of the project, and he/she will be helping other team members on programming problems/issues. A documentation expert will be managing the tasks on documentations, and ensuring the good quality of the documentations at submission.

Members	**Roles**
Arfa Amer Butt	Expert on technology
Jean Luo	Team leader, Git and Latex expert
Adwity Sharma	Documentation expert

4 Git Workflow Plan

The centralized flow plan will be used on Git. A master branch is created on GitLab for file sharing and submissions. When working on the project, each team members will be pulling or committing files from the master branch. The commits will be identified by Mac IDs and commit messages. Labels are considered as tags for the submissions. At the end of the semester, this project will be submitted as a milestone.

5 Proof of Concept Demonstration Plan

Testing will be difficult because it is a game and self testing could turn out to be a challenge - we can change the parameters (values and data) in the model part of the program. For example to see if the counting of score is taking place properly we can program it in the model in such a way that if a user misses the pong in the first turn, we can use assert statements to check if the miss has been recorded as it was implemented to be.

For the implementation of the game we are planning to add a bomb-mode option, so that could turn out to be a challenge - bomb-mode will require the implementation of two balls and keeping track of them at the same time might prove challenging. Since we are also planning on adding an in-game options panel, implementing the use of a mouse listener (for the in-game options) and a key listener (for the actual game) together could prove difficult.

No external library is being used so that will not be an issue.

For the proof of concept demonstration, we will provide a prototype of the ping pong game, with two working modes; Single player and Advanced player with the bomb. The movements of the paddles and the in-game options will be implemented and will be controlled by the user through the following commands:

- User's paddle will move left and right through the 'left' and 'right' keys on the keyboard, respectively.
- User will choose to pause, resume, save and exit the game by pressing on the corresponding button with their mouse.

Basic features and commands of the game will be demonstrated, while detailed testing will be done at a later date.

6 Technology

Tools	**Details**
Programming language	Java
IDE	Eclipse Java IDE
Testing framework	Junit testing, integration testing, black box testing, and testing through user surveys
Document generation	Latex, Google docs for working concurrently, Microsoft word to work on rough

For the game to work one will require a Java environment (JRE), which could be a challenge for the intended users. Team members will try to create an android friendly version of the game. However because of time constrains, this part of the implementation will be scheduled after the end of the course.

7 Coding Style

The Google Java Style will be the guide for this project. To be precise, the codes will adhere the Google Java Style in terms of its the format, class structures, naming conventions, and any other features pointed out in the guide.

The more detailed information on the Google Java Style Guide can be found here: Google Coding Style Reference .

8 Project Schedule

The project schedule can be found here: this location

9 Project Review

In the end of this project, all team members in Pongthusiastics are benefited from this software development process. Additional features were added to the new game and they help facilitate the usability of the game. A new game mode was added and it makes the game more enjoyable. We were glad that not only we were able to have coding practices, but also we could apply the theories of software development process onto our project. Especially, we were able to learn and write various documents throughout the process using professional tool.

There are several aspect the team members could have been better during the software development process. The first aspect would be the time management. Althourough team members are subjected to follow the timeline on Gantt Chart, due to different reason, team members barely follow the schedule, and rushed to finish tasks before deadline. Secondly, the communications between team members are not enough, in the sense that the issues on Git were not used until the second half of the semester.

However, despite all the adversities mentioned above, the Gantt Chart was still followed and team members were able to pull it off by accomplish tasks on time. It would be a valuable experience for all three of us in the future.