SOEN 6011
Software Engineering Processes
Summer 2016 / AA

Project ZeroX (Tic-Tac-Toe)
Assignment 1: Project Plan

Submitted To:
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Dittimi Tamarafinide

Project Name

- ZeroX

Team Name

- Team ZeroX

Team Leader

- Gurvinder Devgun

Team Members

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Document Change Control

Version Number	Date of Issue	Author(s)	Brief Description of Change
V1.0	May 2016	Gurvinder Singh - Project Manager	Approved version.

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1. Introduction

Tic-Tac-Toe is a strategic paper-board game for two players, which in turn place the symbols “X” and “O” in a 3x3 board, attempting to form a 3-in-line pattern to win the game.

As part of the course, it is required to build as a team a Tic-Tac-Toe Java application for both desktop/laptop and Android mobile devices. To create the application, the team must use a development methodology, which required the creation of artifacts (documents), the assignation of roles and the execution of activities related with the methodology.

In this document the proposed project plan has been described, together with the key elements of the project.

2. Objectives

In this section the resources available for the project are presented. The objectives of this project are.

- Develop an Java application that allow people play Tic-Tac-Toe against other people or the device (computer or mobile)

3. Scope

In this section scopes for the project is presented. The scopes for the project are:

- Application will be available to run on Windows and Android OS.
- Multiplayer on a single device will be supported.
- Support for Computer vs Player mode.

Future scope includes:

- Making the application for the iOS platform.

4. Organization Roles and Responsibilities

In this section the Roles and Responsibilities of the project members is described.

Role	Description	Participant(s)
Lead Business Analyst	Gather requirements and documentation.	Urvi Desai
Responsibility		
1) Ensure that the requirements of business clients are captured. 2) Requirements are documented correctly before a solution is developed. 3) Communicate effectively with client.		

Role	Description	Participant(s)
Associate Business Analyst	Support Lead Business Analyst in documentation.	Labdhi Deliwala, Bhavik Desai
Responsibility		
1) Assist Lead Business Analyst. 2) Ensure the requirements are documented properly. 3) Ensure documentation is error free.		

Role	Description	Participant(s)
Development Manager	Manages the development team activity.	Ricardo Cortes
Responsibility		
1) Set the scope of the project. 2) Manage Relationship with all the teams. 3) Manage the development team. 4) Manage Releases. 5) Manage Deployment. 6) Team Staffing.		

Role	Description	Participant(s)
Development Associate	Works on tasks assigned by Development manager	Karan Deep Singh, Amarpreet Singh
Responsibility		
1) Work on tasks assigned by Development Manager. 2) Propose new solution to perform existing things. 3) Prepare strategies for unit testing. 4) Perform code review. 5) Work on application development in a timely manner.		

Role	Description	Participant(s)
QA Manager	Manage the QA team	Gurkamal Singh Dhoot
Responsibility		
1) Set the scope for testing. 2) Manage Relationship with all the teams. 3) Manage the QA team. 4) Team Staffing. 5) Ensure test coverage is complete.		

Role	Description	Participant(s)
QA Tester	Performs actual testing tasks.	Kamaljeet Singh Dhaliwal
Responsibility		
1) Work on the task assigned by QA Manager. 2) Propose new solution to perform existing things. 3) Create and execute test scripts. 4) Assist QA manager in determining scope. 5) Ensure Solution is free of errors and defects. 6) Ensures solution meets the business requirements.		

Role	Description	Participant(s)
Project Manager	Closely monitor and partner with business to understand their needs and develop a vision.	Gurvinder Singh
Responsibility		
1) Maintains communication between team. 2) Create and maintain burn-down chart. 3) Communicate effectively among Team and stakeholders. 4) Reports progress to stakeholders regularly.		

Role	Description	Participant(s)
Stakeholders	Have interest/stake in the outcome of the project.	Nicolangelo Piccirilli
Responsibility		
1) Interact with Business Analyst and Project Manager to put forth their needs which will be translated to requirements.		

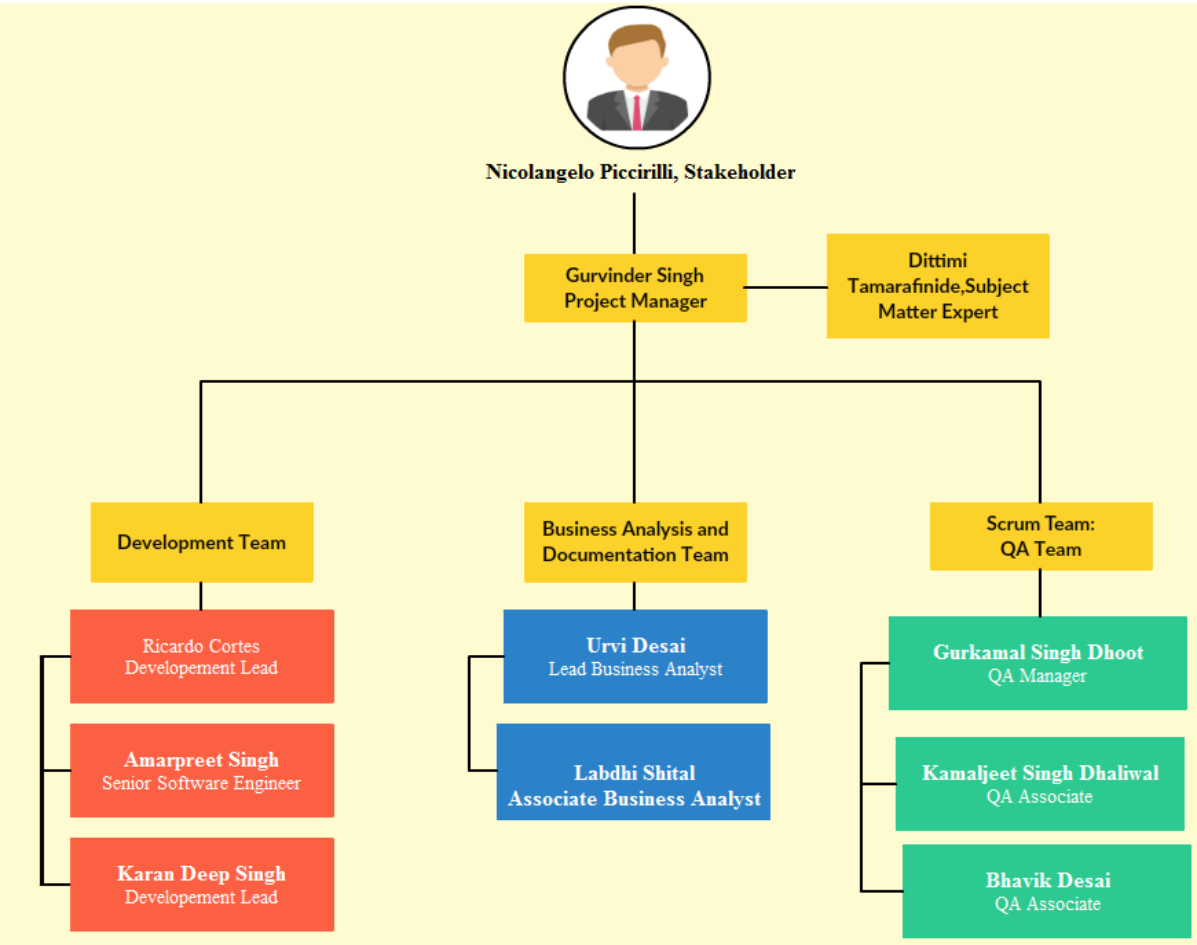
Role	Description	Participant(s)
Subject Matter Expert	Has superior knowledge of the discipline, technology used.	Dittimi Tamarafinide
Responsibility		
1) Assist in improving processes adopted by the project team. 2) Interact with Managers and provide improvement suggestions.		

5. Resources

In this section the resources available for the project are listed.

5.1. Human

The project has a team of 10 people and their distribution is done as per below organizational structure:



5.2. Software

The following software are used for the project:

Software	Description
Eclipse	It is a open source platform for customizable

	development.
Android Studio	It is the official IDE for Android app development.
JUnit Test framework	A component for IDE, used for Unit test creation.
Windows 7 and higher	Desktop/Laptop Operating System.
Android OS v4 and higher	Mobile operating system

5.3. Hardware

Hardware includes:

- Any desktop/laptop with windows OS.
- Android mobile device.

6. Constraints

In this section the most important constraints are described. In the context of the project, the main constraints are:

1. The project needs to be completed within fixed fast approaching timelines.

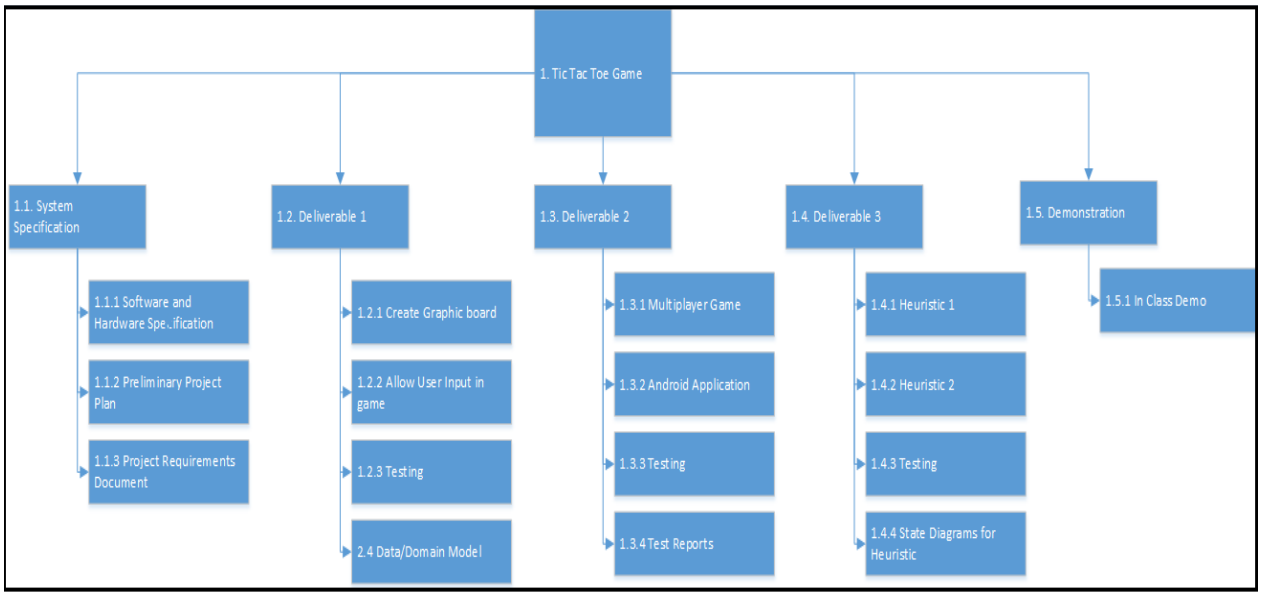
7. Assumptions

In this section the most important assumptions are described. In the context of the project, the main assumptions are:

1. In its classical version, the Tic-Tac-Toe game take place in a 3x3 board. All deliverables will be designed and implemented based on this version and its rules.
2. Team members will adhere to communication plans.
3. All team members will follow the guidelines prescribed by this document.
4. Project plan may change as new issues are disclosed.

8. Work breakdown structure.

The deliverable oriented breakdown of a project in smaller components is referred to as Work breakdown structure. The below structure represents the same.



9. Deliverables

In this section the deliverables of the project are described. In each section the provided description is stated, along with a description about the understanding of the requirement.

9.1. Deliverable 1: Tic-Tac-Toe Board

> "*A stand-alone Java application that is able to show the board and draw an "X" or an "O" where the user clicks*"

The board will start empty. Following the rules of the game, the "X" and "O" will be placed in turn in a 3x3 table, with no option to change the symbol is allowed once it has been placed, neither delete them. Once the table is complete, the game is regard finished. Despite that, in any moment a new empty board can be selected.

9.2. Deliverable 2: Porting Tic-Tac-Toe

> "*A java mobile application that works on Android devices for the full Tic-Tac-Toe game (2 human players)*"

All the features of deliverable 1 will be part of the Android version of deliverable 2. Since the variety of Android devices is high (i.e. the screen) the board must adapt to the size of the mobile device.

9.3. Deliverable 3: AI Tic-Tac-Toe

> *"A two player computer version of the game against a computer player that uses a heuristic to attempt to beat the human player. Should work on desktop or Android mobile*"

All the features of deliverable 1 will be part of the Android version of deliverable 2. There are several ways to implement the heuristic for a computer to play Tic-Tac-Toe, two representative options will be implemented in this deliverable.

10. Plan

In this section the plan of the project is described. Since Prototype software engineering process will be used, each deliverable has been decomposed in the features to be implemented. For each feature, activities of requirement analysis, design, developing and testing will be done.
The Gantt chart displays the dependencies that each task has on the other tasks. Also, we can visualize the critical paths as the one highlighted in red.

ID	Task Name	Duration	Start	Finish
7	Preliminary project plan	3 days	Sat 5/7/16	Tue 5/10/16
8	Project requirements document	3 days	Wed 5/11/16	Fri 5/13/16
9	**Deliverable 1**	**6 days**	**Sat 5/14/16**	**Fri 5/20/16**
10	Create a graphic board	2 days	Sat 5/14/16	Mon 5/16/16
11	input of "X" and '	2 days	Tue 5/17/16	Wed 5/18/16
12	Testing	1 day	Thu 5/19/16	Thu 5/19/16
13	**Data/Domain Model**	1 day	Fri 5/20/16	Fri 5/20/16
14	**Deliverable 2**	**6 days**	**Sat 5/21/16**	**Fri 5/27/16**
15	Multiplayer game	3 days	Thu 5/19/16	Mon 5/23/16
16	Android Application	2 days	Tue 5/24/16	Wed 5/25/16
17	Testing	1 day	Thu 5/26/16	Thu 5/26/16
18	**Test Reports**	1 day	Fri 5/27/16	Fri 5/27/16
19	**Deliverable 3**	**7 days**	**Sat 5/28/16**	**Mon 6/6/16**
20	Heuristic 1	2 days	Mon 5/30/16	Tue 5/31/16
21	Heuristic 2	3 days	Wed 6/1/16	Fri 6/3/16
22	Testing	1 day	Mon 6/6/16	Mon 6/6/16
23	**State Diagrams for heuristic**	1 day	Tue 6/7/16	Tue 6/7/16
24	**Documentation**	4 days	Wed 6/8/16	Mon 6/13/16
25	**Final Demo**	2 days	Tue 6/14/16	Wed 6/15/16