

Table 1: Revision History

<b>Date</b>	<b>Developer(s)</b>	<b>Change</b>
Sept 25, 2018	Vaibhav, Usman, Andy	Worked on part 1 to 4
Sept 27, 2018	Vaibhav, Usman, Andy	Worked on part 4 to 8
Sept 27, 2018	Vaibhav	Added the information from the meeting documents to the LaTeX file
Sept 28, 2018	Andy	Proof of concept, Git workflow, Final editing and formatting
Sept 28, 2018	Usman	Updated proof of concept
Oct 12, 2018	Andy	Made changes according to feedback on development plan and added section on POC demo
<b>Dec 2, 2018</b>	Vaibhav Chadha	Revision one changes to improve the documents quality.

# SE 3XA3: Development Plan

## Snake 2.0

Team # 30, VUA30  
Vaibhav Chadha , chadhav  
Usman Irfan , irfanm7  
Andy Hameed , hameea1

## 1 Team Meeting Plan

Meetings will be held **twice a week** at the following times:

- Mondays 5:30 - 6:30 pm at KTH Computer Labs
- Wednesdays 12:30 to 2:00pm at Health science library

### 1.1 Roles and Agenda

**Chair:** Andy Hameed

- Responsible for creating the agenda and selecting topics that pertain to all team members
- Agenda items will be listed as questions

**Notettaker:** Usman Irfan

- Responsible for taking meeting minutes
- Meeting decisions will be summarized in a statement at the end of the meeting

**Timekeeper:** Vaibhav Chadha

- Keeps track of time in case we are spending too much time on one topic

## 2 Team Communication Plan

Main source of communication is **Facebook Messenger**, it will be used for general inquiries, updates, reminders of team meetings, any links to useful resources and so on. Phone and texting will be used as a backup in case of urgent

matters, for example not being able to get in contact with a team member through messenger.

Aside from these, the team will be using Workflowy to assign small tasks that are promptly due or ones that may not necessarily fit on the gantt chart because they are minor - this tool will be used to delegate a small to-do list for each team member .

### 3 Team Member Roles

Vaibhav Chadha:

- Latex Documentation
- Analyst - makes sure the requirements of the clients are met through the software
- gantt chart management

Usman Irfan:

- Scribe
- Technology Research
- operation manager -ensures project development is running smoothly and software is being developed according to milestones

Andy Hameed:

- Final editing
- latex documentation
- team leader

All:

- GIT project management

### 4 Git Workflow Plan

We will be using the Git Feature Branch Workflow to manage the software development. Using branches, each team member is capable of working on different modules or sections of the software at the same time in localized branches, before pushing their changes to the master branch.

The following procedures will be followed:

- Vaibhav will be tagging any major milestones for final submission. This makes the submission process consistent. Otherwise, Andy or Usman will agree on one person to tag and submit for final submission.
- Any major changes can be placed in a branch to avoid merging conflicts and overwriting existing work. They can be merged later on upon team agreement.

## 5 Proof of Concept Demonstration Plan

The original project is built using **JavaScript**, HTML and CSS in contrast to our development plan using python and the Pygame library. Since we are using an OOP language, we will be able to create classes for different components of the snake game such as the snake unit block, snake body, and snake bate. The hardest part of the implementation will be the movement of the snake according to the user's keyboard inputs, and second to that would be the process of expanding the snake once a food item is captured. Besides that, the interface may be difficult to implement in python but could be simple with the use of a python framework such as PyQT5.

Once our game application has been developed the next part would be to test the project and for that we will be using Pytest, since our backend language is python this will help us test all possible functions and aspects. The functions that will be difficult to test would be to see if the snake eats the food, does the food appear at random locations after eaten by the snake and if the snake tries to leave the borders, will the game end. Portability will have to be taken into consideration since the application is being built for windows. However, it can be compiled and run on any system as long as the necessary files and libraries are download.

### 5.1 POC Demo

The team will be demonstrating the movement of a snake around the screen using unit blocks for the body of the snake. Lengthening the snake body, scoring and eating the bate will not be demonstrated in the demo. This POC should demonstrate that with the movement of the snake, which is the main component of the game, the team will be able to develop classes to represent other components of the game such as the score, food bate, and lengthening of the snake body.

## 6 Technology

Coding Language: Python, **Kivy** for GUI  
 IDE: IDLE scripting  
 Testing: PyUnit testing

Documentation: Doxygen

## 7 Coding Style

We will be using the Google Python Style Guide for our coding style. It encompasses all the necessary naming conventions and standards required for the project development.

## 8 Project Schedule

Please see the following pages for the project schedule in the form of a [Gantt Chart](#).

## 3XA3: Team Project

9-Nov-2018

<http://>

Project manager

Project dates

25-Sep-2018 - 7-Dec-2018

Completion

7%

Tasks

60

Resources

5

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Developing the classical Snake game using python and front-end development languages.

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## 3XA3: Team Project

9-Nov-2018

### Tasks

2

Name	Begin date	End date
Development Plan	25/09/18	28/09/18
Team Meeting Plan	25/09/18	25/09/18
Team Communication Plan	25/09/18	25/09/18
Copy_Team Communication Plan	25/09/18	25/09/18
Team Member Roles	25/09/18	25/09/18
Git workflow plan	25/09/18	25/09/18
Proof of Concept	26/09/18	26/09/18
Technology	26/09/18	26/09/18
Coding Style	27/09/18	27/09/18
Project Schedule	27/09/18	27/09/18
Project review	28/09/18	28/09/18
Requirements Document Revision	01/10/18	05/10/18
Project Drivers	01/10/18	02/10/18
Functional Requirements	02/10/18	03/10/18
Non-Functional Requirements	03/10/18	04/10/18
Project Issues	03/10/18	04/10/18
Push & Tag Document	05/10/18	05/10/18
SpellCheck	04/10/18	04/10/18
Proof of Concept Demonstration	10/10/18	15/10/18
Snake Body & Movement	10/10/18	11/10/18
Home Page GUI	11/10/18	12/10/18
Border Boundaries	15/10/18	15/10/18
Test Plan Revision	19/10/18	25/10/18
General Information	19/10/18	22/10/18
Plan	19/10/18	22/10/18
System Test Description	22/10/18	23/10/18

## 3XA3: Team Project

9-Nov-2018

### Tasks

3

Name	Begin date	End date
Tests for Proof of Concept	23/10/18	25/10/18
Tests for Functional Req.	23/10/18	25/10/18
Tests for Non-Functional Req.	23/10/18	24/10/18
Comparison to Existing Implementation	24/10/18	25/10/18
Unit Test Plan	24/10/18	25/10/18
Design & Document Revision	31/10/18	05/11/18
Anticipated and Unlikely Changes	05/11/18	05/11/18
Introduction	31/10/18	31/10/18
Module Hierarchy	01/11/18	02/11/18
Conncection between Requirements and Design	31/10/18	02/11/18
Module Decomposition	31/10/18	05/11/18
Traceability Matrix	31/10/18	05/11/18
Use Heirarchy between modules	02/11/18	05/11/18
MIS	02/11/18	05/11/18
Interface - Doxygen	02/11/18	05/11/18
Food & barriers - Doxygen	02/11/18	05/11/18
Snake body & movement - doxygen	02/11/18	05/11/18
Implementation	06/11/18	15/11/18
highscore	12/11/18	13/11/18
Gameplay	06/11/18	15/11/18
init	06/11/18	07/11/18
Interface	06/11/18	15/11/18
Food	08/11/18	08/11/18
Themes	13/11/18	15/11/18
Testing	13/11/18	15/11/18



Tasks

Name	Begin date	End date
System/Integration testing	13/11/18	13/11/18
<i>Will be done throughout the development process to check if everything works together correctly. Closer to the final date, peers will be asked to try the game as part of system testing.</i>		
Gameplay - white box testing	14/11/18	15/11/18
Interface - white box testin	14/11/18	15/11/18
highscore - whitebox testing	14/11/18	15/11/18
Themes - white box	14/11/18	15/11/18
Revision 0 Demonstration	12/11/18	13/11/18
Final Demonstration	19/11/18	27/11/18
Peer Evaluation - Final Demo	27/11/18	30/11/18
Final Documentation	06/12/18	06/12/18
<i>Problem Statement</i>		
<i>Development Plan</i>		
<i>Requirements Document</i>		
<i>Design Document</i>		
<i>Test Plan</i>		
<i>Test Report</i>		
<i>Users Guide (optional)</i>		
<i>Source Code</i>		

Resources

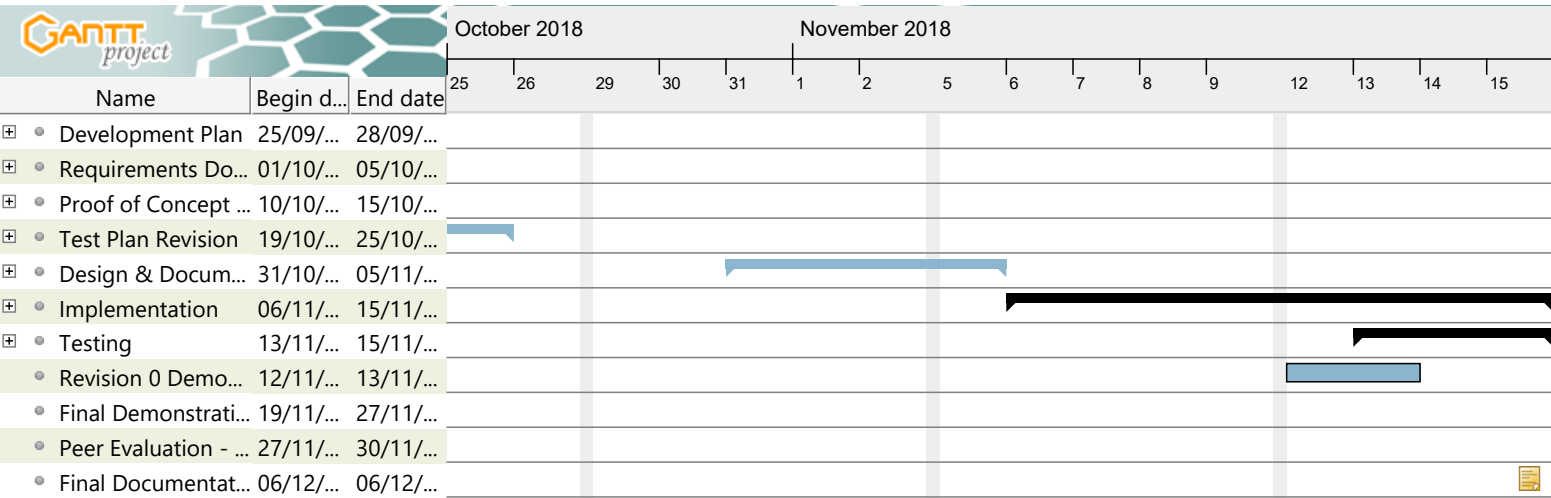
Name	Default role
Andy	Main Programmer   Requirements Documentation
Usman	Main Programmer   Requirements Documentation
Vaibhav	Git master   Testing Requirements
Varun Hooda	TA
Dr. Bokhari	Course Professor

3XA3: Team Project

9-Nov-2018

Gantt Chart

6

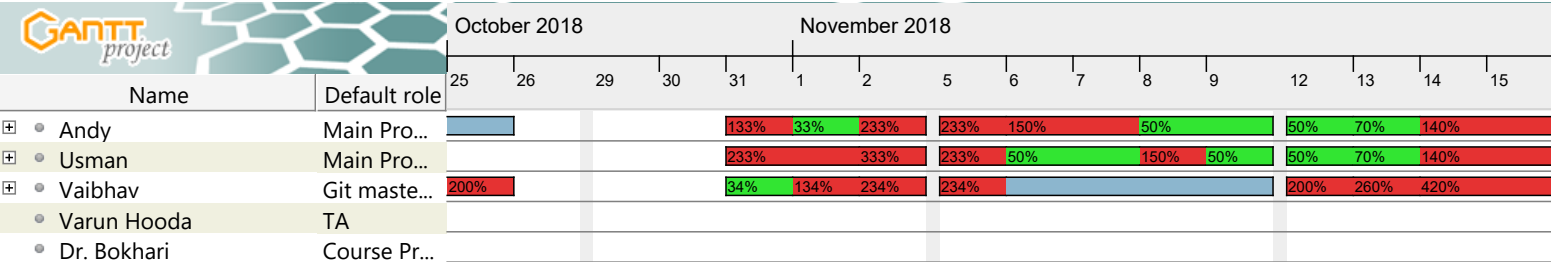


3XA3: Team Project

9-Nov-2018

Resources Chart

7



## 9 Project Review