

Requirements

Introduction

First the team read the brief and associated documentation. Then we got together and discussed our ideas, coming up with a rough draft of basic and requirements. From these we discussed the more ambiguous points, such as what sort of view the player will use, and where the murder will take place. Then we picked out the most ambiguous parts that prevented us from continuing with basic designs and discussed them with our customer. After two interviews with our customer we finalised the requirements.

At the first group meeting we played cluedo to get a feel for a general detective game. This sparked great discussion, and allowed for great strides to be made on requirements very early on, by giving us an idea of what works in a game. This also allowed us to discuss ideas that would be interesting but more difficult to implement, which we left as possible expansion if overall time costs do not overrun. We also produced a number of user scenarios [1] which we used to help guide our thinking when producing requirements.

After discussing our ideas on clues for a bit, as a group we decided that the most effective way of deducing the murderer was to attempt a 'guess who' style. This way the player can cross off certain NPCs upon finding clues that confirm their alibis. This should allow the player to feel as though they are actually solving the crime, rather than just witnessing the solving.

The requirements are sorted into two tables, functional and non-functional. Functional requirements are things that the system does, so mainly requirements for when the game is running. Non-functional requirements are things that the system is, so mainly qualities the game must have, or objects that are hard coded.

The tables below are numbered using the following system:

- The first number is category (The bit in bold e.g. NPCs)
- The second number represents 'must(1), should(2), could(3)' (the priority of achieving the requirement)
- The third number is the requirements position in the list (to make it easier to find and refer to)

The requirements are laid out in tables based on the IEEE standard for system requirements for ease of access. By giving each requirement a row and a number all information is easy to find quickly in future. Any and all associated risks are discussed in the risks document and are referenced in the tables.

Some requirements are based on considerations of environmental assumptions of the game. Requirements based on hardware have all taken into account the systems that the game will run on. We produced a survey [2] which we got a small number of our target market to answer. From this we found that the preferred way of interaction with the game was keyboard and mouse. Although our survey produced no results of colourblind people, it is a condition apparent in 1 in 12 men and 1 in 200 women [3] so we still feel that it is a requirement that some people would benefit from, hence why it is listed as 'could'.

Functional Requirements

No.	Requirement	Success Criteria	Alternative Requirements	Risk ID
NPCs				
1.1.1	The murderer and victim must be randomly selected each time the game begins from two sub-lists of murderers and victims.	Upon loading the game at least 2 times either or both the victim and murderer will change.	N/A - necessary requirement.	
1.1.2	The NPCs must spawn randomly into rooms so that each room has at least one NPC at the start of the game.	Upon loading of the game the NPCs will be spread around the map so that there is no room without an NPC.	NPCs will spawn in different rooms.	21
MAP				
2.1.1	Rooms on the viewable map must be revealed only once the player has visited the respective rooms.	Walk through map and check that rooms are only revealed once visited.	All of the map will be visible from the start.	21
Dialogue/Iteration				
3.1.1	The player must always get three choices of interaction with NPCs - Question, Accuse and Ignore.	Ensure while game is running the player can use any of these interactions with NPCs.	N/A - necessary requirement.	
3.1.2	All dialogue must change based on the characteristics of the player NPC and NPC.	Not every NPC will respond in the same way to the same question, the options the player has to interact with the player changes throughout the game.	Each NPC has set lines of dialogue.	3
3.1.3	The game should have a method, for example an interface to allow the player to view the map, and some form a information on NPCs, clues found and other points of interest.	Check functionality as described throughout a play-through. Ensure that there is a clear way of displaying and closing interfaces.	N/A - otherwise the player cannot review information collected.	
Clues				
4.1.1	Clues must help with the elimination process, but some will point to more than one NPC.	Ensure that all clues look meaningful, but some have false assumptions associated with them.	N/A - clues are necessary.	
4.1.2	The murder weapon must be found before the player is able to accuse any NPCs.	Make sure the player cannot accuse NPCs before they have found the murder weapon.	Murder weapon does not have to be found before the player is able to accuse NPCs.	21
Score				
5.1.1	The score must be raised when a clue is found.	If the player finds a clue, the score is raised.	There will be no scoring.	21
5.1.2	The score must be lowered for	The score changes as required.	There will be no	21

	each wrong accusation and each question asked.		scoring.	
5.3.1	The player could start with a predetermined score which is reduced for each second played.	Check that score reduces as time is spent playing the game.	There will be no scoring.	21
Other/System				
6.3.2	IF (dependant on 6.3.1) the game has a soundtrack it must have a 'sound on/off' option.	Check that sound turns on/off when appropriate option chosen.	The game will have no soundtrack.	21

Non-Functional Requirements

No.	Requirement	Success Criteria	Alternative Requirements	Risk ID
NPCs				
1.1.3	The game must have a cast of 10 NPCs (Non-Player NPCs).	The game contains 10 NPCs.	N/A - necessary requirement.	
1.1.4	The murderer must have a motive that becomes clear at some point in the game, not necessarily before they are accused.	Game functions as described.	The murderer will not have a clear motive.	21
1.1.5	There must be a narrator who acts as the tutorial and further help during gameplay.	The narrator talks to the player.	There will be no narrator.	3
MAP				
2.1.2	The game must contain a game-map of 10 separate rooms, spread across the setting of 'The Ron Cooke Hub'.	The game will have 10 rooms that are accessible to the player.	N/A - necessary requirement.	
2.2.1	The room of the crime scene/murder room must be chosen randomly each time the game begins.	Upon loading the game at least 2 times the murder room will change.	The crime scene is always in the same place.	21
Dialogue/Interaction				
3.1.4	The game must have multiple 'plot lines'.	Play through the game multiple times, checking that the plot lines differ each time.	N/A - necessary requirement.	
3.2.1	Some plotlines could be more intricate than others.	Play through the game and determine that some plotlines are more complicated.	The game line has similar plot lines.	3
Clues				
4.1.3	There must be at least one clue to find in each room on the map.	Make sure that clues spawn in each room.	N/A - necessary requirement.	
4.2.1	Some 'constant' clues should be available, for example the guest	Check that consistent clues spawn in the correct place on at least 2 separate	There are no 'constant' clues.	21

	sign in book in the central part of the map.	occasions.		
4.2.2	Some rooms should have more than one clue e..g note left by victim/murder weapon.	Check that at least one room has at least one clue in.	There is only one clue per room.	21
4.3.1	The player could be able to interact with or pick up some items which are not clues.	Check the player can interact with some item and it not be listed as a clue.	All clues will be meaningful.	3
Score				
5.1.3	The player must be scored on time taken, number of wrong accusations, number of questions asked and number of clues found.	Play through the game at least 3 times to check that scores add up as expected.	There will be no scoring system.	21
5.3.2	A list of high-scores could be stored on a server.	Check the server contains the high scores.	There will be a local list of high scores or no list of high scores.	3
Other/System				
6.1.1	The game will be controlled by keyboard with mouse integration.	Determine the game is controlled as described.	N/A - necessary requirement.	
6.1.2	The game must play on a windows based system.	Determine the game runs on the system described.	N/A - necessary requirement.	
6.1.3	The game must be played in a 'top down' viewpoint, where the player is in the centre of the screen and the world moves around the player. The viewpoint is fixed zoom.	Check the game is viewed as described.	The game will be played in an improved viewpoint based on the reason for discarding this one.	5
6.2.1	The game should run smoothly on university computers.	Use frame-rate measuring software to obtain a frame-rate of at-least 30.	N/A - necessary requirement.	
6.3.1	The game could have a soundtrack.	Check that sound plays when game is running.	The game will not have a soundtrack.	21
6.3.3	The game could have a 'colour blind' setting.	When activated, the colourblind setting changes all textures in the game to ones that are easier for a colour-blind person to see.	The game textures will be designed with colour blindness in mind.	5
6.3.4	The game could be cross compatible on mobile (android) and Mac.	Make sure game runs on alternative systems.	The game will not be cross compatible.	5
6.3.5	The game could be controlled by a gamepad.	The game is controlled as described.	The game will not use a gamepad.	21

Bibliography:

[1] Appendix A [online] docs.lihq.me/en/latest/AppendixA [Created 22/11/16]

[2] Appendix C [online] docs.lihq.me/en/latest/AppendixC [Created 21/11/16]

[3] Colour Blind awareness [online] <http://www.colourblindawareness.org/colour-blindness/>,
[Accessed 3/11/16]