Full List of Updated Requirements

#	Category	Description	Risks	Priority
1	Map	The system must display at least three university landmarks.	N/A	3
2	Map	The system must display every plot as the same size.	N/A	2
3	Map	The system must display a futuristic aesthetic, as game is based in the future.	Map could become indistinguishable from the university if we try to change too much of it.	3
4	Map Roboticon	The system must allow a roboticon to be installed on plots of land owned by the player.	N/A	1
5	Map	The system must ensure all plots of land are unallocated at the beginning of a play session.	N/A - Easy to implement	1
6	Map	The system should display a unique identifier for each player on every plot of land they own.	N/A - Easy to implement	1
7	Map Resources	The system should allow different features of plots to boost certain resource production and hinder others.	Effects could be too powerful, testing will be needed to balance.	3
8	Resources	The system should implement three types of resource: Food, Energy and Ore. Only energy and ore production required for assessment 2 so these have higher priority.	Need to balance power of resources so that players will want to obtain an equal amount of each.	1
9	Market Resources	The system should include a market to buy and sell resources and equipment. This requirement was mentioned in the client brief for assessment 2 thus, now has a higher priority.	N/A	1
10	Market	The system should implement a pub with a bar where “gambling” can take place for money. Gambling will not be implemented in assessment 2.	Needs to be balanced as it could be used to inflate the economy.	3
11	Resources	The system should only allow resources to be produced with a Roboticon on that plot	Players may feel that there is no point to owning a tile without a roboticon on it.	2
12	Resources Market	The system should have an optional auction to sell produced resources to other players or the market. Auction not to be implemented in assessment 2.	Could very easily break the economy if suitable prices are not set for market items.	3
13	Events	The system should implement random effects, which may be good or bad	Could be too powerful if not configured correctly.	3
14	Stakeholder	The system should promote the university	Hard to both create a futuristic aesthetic and keep likeness to the university.	4
15	Players	The system should support 2 players, one of which may be a computer	Many things could go wrong with an improperly designed A	2

			Two human players using one screen may make it possible for one of them to see information that they are not meant to. Also, transitions between phases and turns for multiple players could go wrong very easily.	
16	Resources	The player should be shown how much food they need. If a player does not have enough food the rate at which the colony produces resources is reduced. If neglected for too long, they should be punished.	Need to avoid limiting production too much, as to avoid ability to escape effect. Loss of a turn can easily become very annoying and unbalanced	3
17	GUI Resources	The system should display to each player how much of each resource they are producing each turn	Players should not be able to see what resources other players have, which is difficult if both are using the same screen.	1
18	Resources Roboticons	The system should ensure if a player does not have enough energy, some of their roboticons will fail to produce resources.	The player may get to the point where they fall into an uncoverable position because of this. Consider applying a penalty instead of outright failing to produce.	3
19	Market Resources	The system must ensure the market does not start with any ore	May make it hard for it to introduce new roboticons into the game	2
20	Map	The system must ensure only one tile can be purchased per turn	Depending on size of map, this could make games last a very long time.	2
21	Market Roboticons Turns	The system should implement a time limit on how long you have to buy, customise and install roboticons.	Players could feel rushed through their turns. Playtesting needed to find a suitable amount of time that isn't too long or too short.	2
22	Resources	The system must ensure each player starts with some money.	Balancing is an issue here, player needs to start with just the right of amount of money to not be under/overturned	2
23	Resources Roboticons	The system must ensure production should fail if a tile has the wrong type of roboticon installed for the type of resource on that tile	Player could fall into a loop of unrecovery if the set up their initial robotics wrong.	4
24	Resources Event	The system should ensure random events that happen sometimes change what a tile produces. Eg. a meteor turns a food tile into an ore tile.	Could become unbalanced very easily, playtesting will be needed to fine tune effects.	3
25	Roboticon	The system should ensure all roboticons with ore customisation are identical. Same for food and energy. Food customised roboticons not yet required.	N/A	3

26	Roboticon Event	The system should implement random events to roboticons as well. Eg. get rusty and slow production. Eg. Lightning strike causes energy to double.	Events could be too powerful. Playtesting will be needed to determine effects.	3
27	Roboticon	The system should allow the player to remove roboticons from their current plot	N/A	3
28	Phase 1	The system must ensure each player can buy a single unoccupied plot of land	Game may take a very long time to complete if only one plot is purchasable per turn. Game may also potentially last forever if it is not required to buy a tile every turn.	2
29	Phase 1	This phase should somehow be made competitive. For example the first player to hit a button gets the tile. We realised it would be difficult for the system to allow both players to use the keyboard and screen at the same time so decided not to make this phase competitive. If we have time, we will do something like whichever player acquires the most energy in phase 1 will get a bonus.	May be hard to implement with only one keyboard available	2
30	GUI Resources	The system should ensure in standard play players should not be able to see the other players resources, although a random event could change this.	This is very hard to implement if the two players are sharing a single screen.	2
31	Score Game end	The system should ensure the aim of the game is to become vice chancellor. This is the player with the highest score at the end of the game.	Need to balance score to encourage multiple paths to victory.	2
32	Game end	The system should ensure the game ends at the end of the turn where the last tile was purchased	N/A - Easy to track when no available plots left	2
33	Gambling	The system should implement a form of gambling- should be something simple like black jack / slot machine. Gambling not implemented in assessment 2.	Need to balance to make gambling a risk, players should usually lose money and occasionally get lucky.	3
34	Gambling Phase 2 Phase 3	The system should make gambling available during phases 2 and 3 so the player has to choose between taking their time on those phases or rushing so they can gamble too. Gambling not to be implemented in assessment 2.	Too much gambling could occur in one turn. May be a good idea to implement a short cooldown.	3
35	Stakeholder	The system should ensure the game is short enough to be playable as a demo in UCAS or open days.	Game may drag on for too long, if only one tile is purchasable per turn. Map may need to be relatively small.	3
36	Phase 2 Phase 3	The system should ensure that if a player fails to complete the given tasks for these stages the phase should either end or a penalty should be applied.	Could be too harsh of a punishment, playtesting will be needed to fine tune.	3
37	Map Resources	The system should ensure landmarks should buff or debuff adjacent tiles.	Could be too powerful, need playtesting to decide effects.	3

38	Map	The system should ensure computer science should buff nearby tiles. Optional feature which might be implemented in further assessments so now has a lower priority.	Could be too powerful, need playtesting to decide effects.	4
39	Score Game end	The system must ensure money is the basis for the score and resources are worth what they could have been sold for in the final turn.	An incentive for selling to the market will be needed, else players will hoard ore and no more roboticons will be able to be made.	2
40	Map	The system should allow purchased tile not to be adjacent to currently purchased tiles.	N/A - Very easy to implement	1
41	Map Resources	The system should allow adjacent tiles to apply a bonus to their productions. Play test how large of an effect this should have	Could become unbalanced, playtesting will be needed to fine tune.	4
42	Phases	The system should ensure phases 2 and 3 are time-limited If a player has time left in phase 2 or 3 they can choose to gamble.	Many things could go wrong with phases and transitioning between them. A large amount of testing will be required to make sure this feature works correctly. This feature also needs to work for human and AI players, which may pose a challenge. We will also need to balance the time-limited phases so that players do not feel that they are being rushed through the turn.	1
43	Phases	The system should have a total of 5 phases.	Transitions between phases could fail.	1

Priorities

1. Essential for the game to function
2. Important to the playability/usability of the game
3. Requested feature that should be implemented in time
4. Optional addition

We have changed some of the requirements as the client has stated some features are not to be implemented for assessment 2 i.e. gambling. This means some of the priorities have changed as well. For example, the priority for any requirements including the market has gone up whereas, the priority for gambling has gone down. All changes are highlighted in red. We identified a conflicting requirement which has now been removed after negotiation with the client (face to face). We realised it would be difficult to allow two players to play at the same time using the same keyboard and this would lead to problems especially on open days. We have also written up the requirements in a more standard format (i.e. “The system must…”) as suggested in the assessment one feedback.