

Core Objectives

(set by Code Institute)

Project Purpose:

“..build an interactive front-end site. The site should respond to the users' actions, allowing users to actively engage with data, alter the way the site displays the information to achieve their preferred goals.”

Value Provided:

1. *Users are able to interact with the site in their particular way, to achieve their personal goals and derive answers to their specific questions.*
2. *The site owner advances their own goals by providing this functionality, potentially by being a regular user themselves.*

Additional Considerations (personal)

Topic	Consideration	Purpose	Notes
Tools	Identify and use new tools	Broaden knowledge, experience and improve ways of working	FIGMA - UX / UI Design (MS1 mentor feedback) Source Tree - Manage Git Version Control Visual Studio - Directly or as now intergrated in GITPOD
Complexity	Keep design as 'simple' as possible. Over ambition cause of MS1 deadline missed.	Keep learning & execution focused & meet deadline!	During design, identify; • core requirements (must have) • non-core (can be considered after core requirements if time permits)
'Atomic' Commits	Per MS1 feedback, ensure commits are regular and well explained		Ensure definition of an 'atomic commit' is understood
Testing and Deployment	Per MS1 feedback, enhance testing process & subsequent README write-up		Continue research of what makes a good README.
README	Per MS1 feedback, ensure		
Use of Frameworks	Per MS1 experience, try to work with existing frameworks rather than force framework to meet my design (i.e. reduce time spent 'tailoring').		

Additional Considerations - Milestone 1 Post Mortem

MS1 (Astro:Fly) achieved a 'Pass' mark, but this was capped as the assignment missed the original deadline. Supporting feedback indicated that the work was well received so from a personal perspective there is disappointment that the delays in completion may have come at the cost of a higher assessment grade.

A review of the key causes for the delays has been performed to be used to inform with the planning and execution of MS2 and a similar exercise will be performed post completion.

Key Factors of Delays with MS1

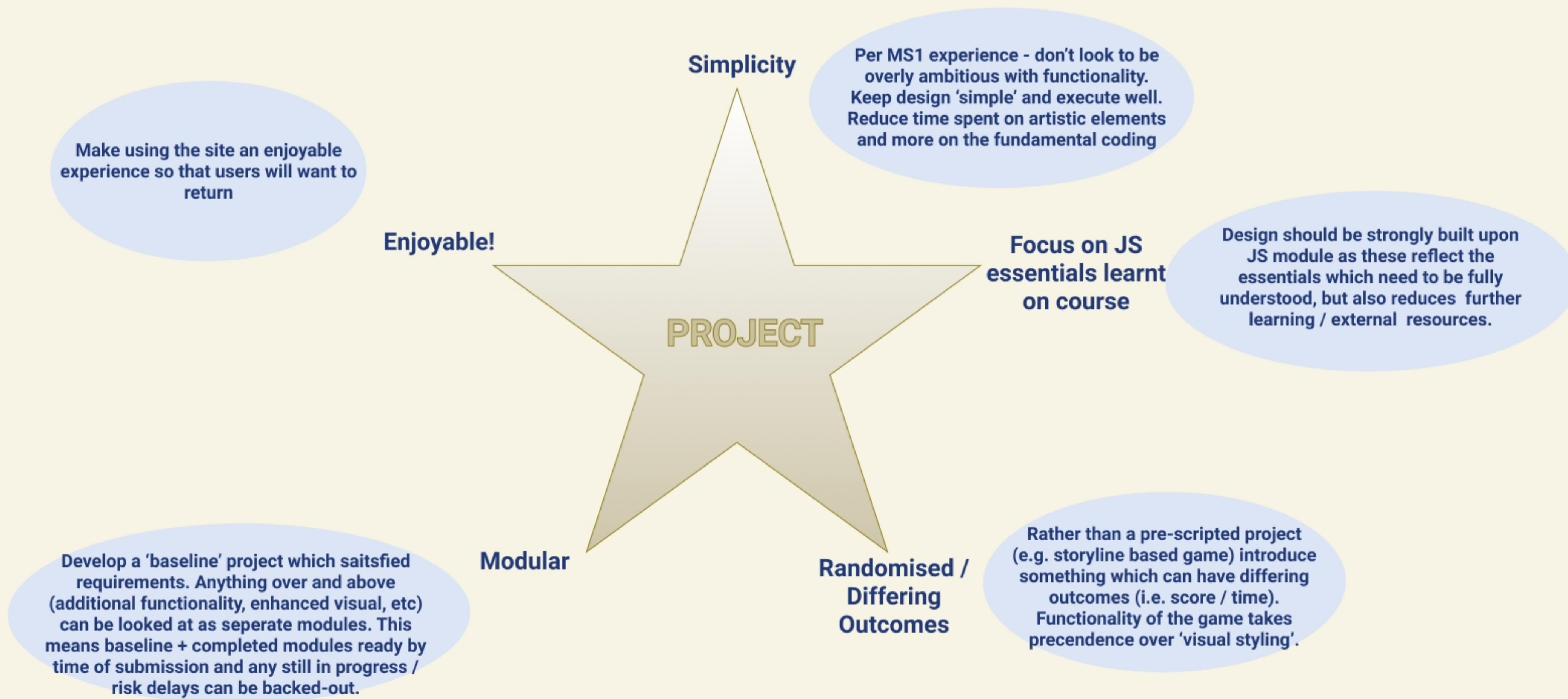
1. **Over ambition** - designed site how wanted it to look / function without knowledge of 'how' to execute. Many aspects turned out to require advanced skills especially where these are typically performed in JS vs pure CSS approach. Lead to significant time invested in additional external learning some of which was not actually reflected in final build.
2. **'Full mobile first'** - misunderstanding that mobile first development meant end to end design and build for that output before looking at next screen sizes. Rather than adjusting content to satisfy other screen sizes it actually lead to complete re-working. Additionally, the larger screen estate meant that additional content was needed.
3. **Scope creep** - as I gained knowledge (through external sources per point1) I looked to re-adapt functionality / content to incorporate.
4. **'Artistic' distractions** - took me away from core project (i.e. learning how to create / edit images in PhotoShop / Illustrator or build 3D models in Blender) - quicker wins could be had by settling for stock images.
5. **Reluctant to seek guidance** - hours (days!) spent trying to overcome challenges. Whilst this can lead to a better understanding of the cause & resolution, it is more time costly vs. using support channels.

Action / Learn for MS2

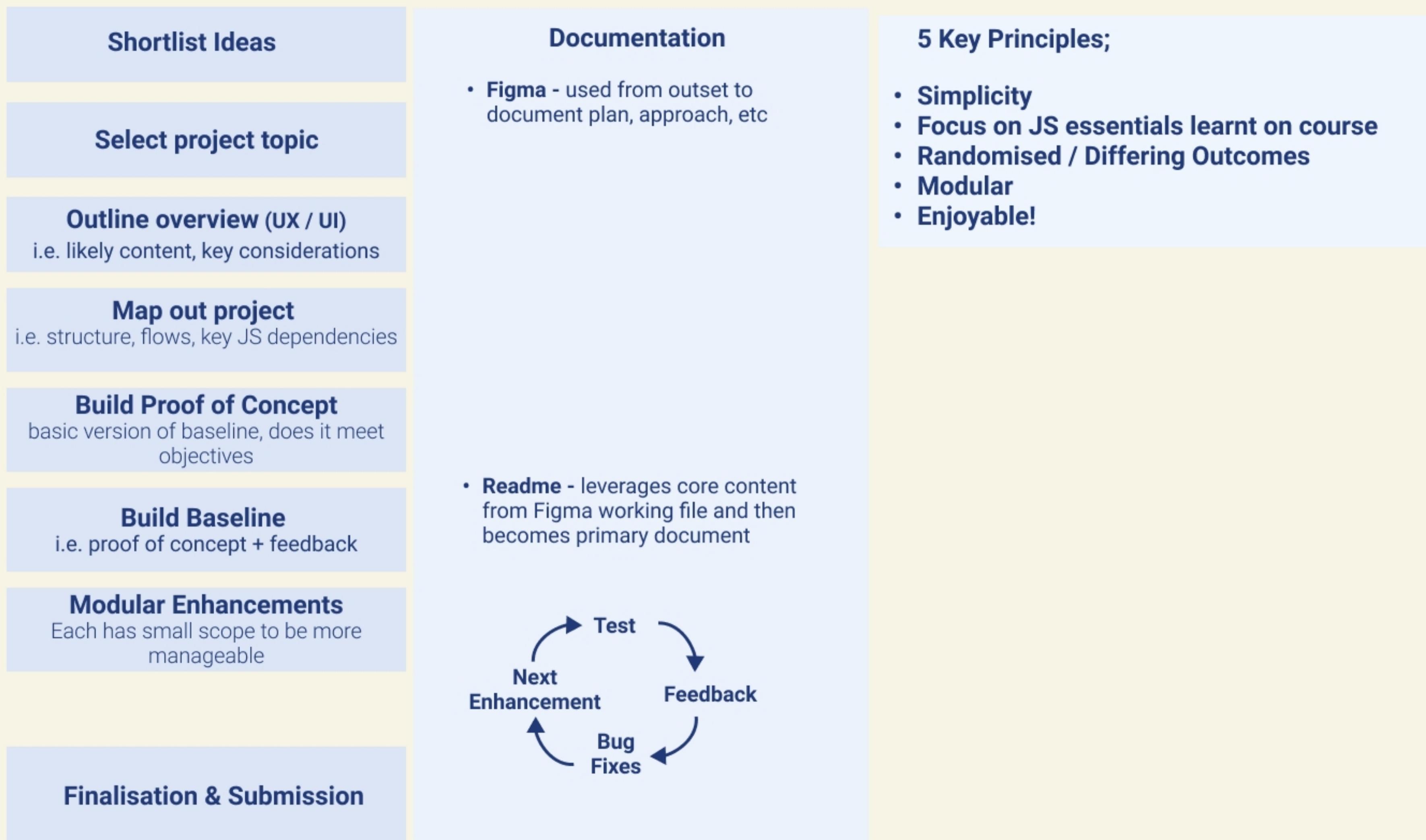
1. Develop MS2 based on the course content and project requirements.
2. Develop, build in stages across all screen sizes.
3. Ideas are likely to evolve as the project evolves, look at a modular approach whereby all core requirements satisfied in a 'baseline' and if time permits aspects can be expanded upon (and back-out if necessary to still meet deadline with completed assignment).
4. MS2 has greater emphasis on site functionality than styling. Minimise time spent and should be limited to 'need to have' than 'nice to have'.
5. Swallow pride and don't feel foolish to ask for help!

Concept Development - 5 Principles

5 key principles identified - informed by key learns from MS1 and support MS2 core objectives / requirements. Will underpin decision stages from initial design, build and finalisation.

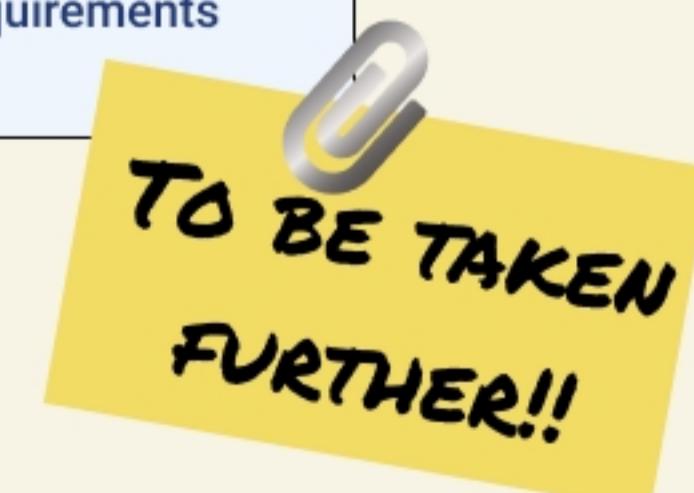


Concept Development - Approach



Concept Development Initial Candidates

Idea	Simplicity	JS Essentials	Randomisable	Modular	Enjoyable	Thoughts
Site with Google maps API	✓	✓	✓	?	?	No immediate thoughts on how the modular and enjoyability would relate specifically to the JS elements
Audio / Visual Memory Game	✓	✓	✓	✓	✓	Has potential to meet requirements, but as a course suggested topic may lack originality.
Financial Markets Game	✗	✓	✓	✓	✓	Likely the feed of stock prices through an API would be challenging and for playability a fictitious market would likely need to have some form of background info / indicators to make investment decisions on which would detract from core requirements.
Dice Based Game (e.g. Yahtzee style)	✓	✓	✓	?	?	Single player may not be so enjoyable and likely an AI opponent would be too complex (randomised dice scores ok but rules for AI to make choices).
Cryptocurrency Mining Game	✓	✓	✓	✓	✓	Has potential to meet all requirements

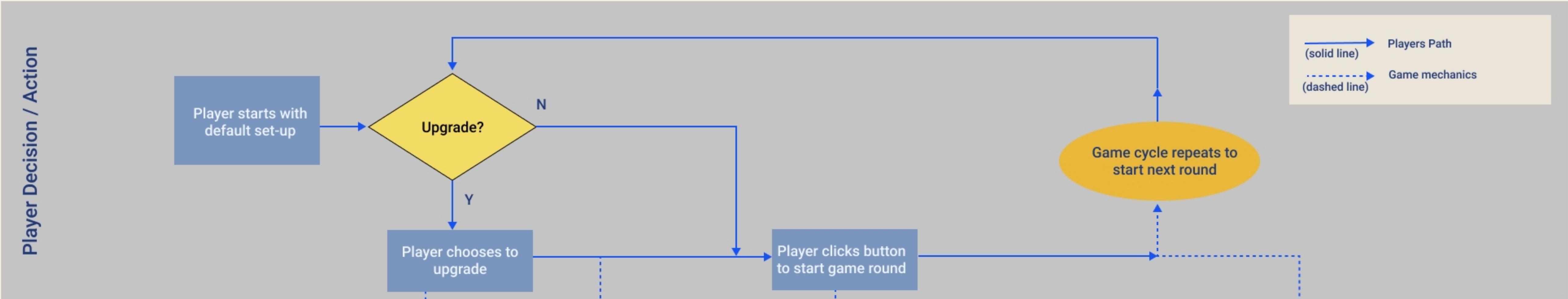


Concept Development Overview

		Baseline	Potential Expansions	Notes
Working Title	Mine Your Luck			
Gametype	Strategic (Chance Based)			Whilst outcomes are randomised these are directly related to player's decisions which influence probability of success / failure.
Objective	Obtain high score (in £ value) through representation of mining for cryptocurrency	Single game-mode - unlimited time / score (user determines when to end game)	<ul style="list-style-type: none"> multiple cryptocurrencies additional layer of conversion of crypto to £ 	
Gameplay	User starts with default PC equipment - has low associated costs but also low success rate. Through combination of upgrading equipment (improve likelihood of success) but balancing with associated costs (power consumption) which increase with tiers.	<p>Single device which can be upgraded to increase probability and / or mining speed but at increased costs.</p> <p>Power supplied at fixed rate and unlimited</p>	<p>Mining Device;</p> <ul style="list-style-type: none"> multiple upgradeable parts allow multiple mining devices reliability factor (i.e. cheaper device less reliable) resale price <p>Power (either);</p> <ol style="list-style-type: none"> upgradeable / swappable power generation energy suppliers <p>Both can introduce factors of different power consumption costs, whilst self-power generation also introduces cap (i.e. need to purchase more equipment to meet consumption)</p>	
Style	Simplistic User Interface	Majority gameplay through single screen with grid style layout of information panels and action buttons	<ul style="list-style-type: none"> additional screens (e.g. upgrade 'shop') improved animation enhanced information (e.g. graph tracking financial information) 	Enables baseline game to focus on gameplay and functionality UI presenting information to user. Modular development allows for additional screens and / or additional content on main UI if developed.
Events	Randomised events linked to players decisions which result in positive, negative or neutral outcomes.	Player enters Y/N or numerical value to pre-written event. Outcome could have an even 50/50 positive vs. negative outcome or lower associated risk vs higher risk / reward.	<p>Link events to other in-game player actions, examples;</p> <ul style="list-style-type: none"> player opts to pay premium for virus protection - in the event of occurrence results in neutral impact vs. unprotected losses £ and or mining operation player opts to pay for cheapest power provider but has higher risk of reliability issues. 	Need to be carefully balanced so as outcomes do not nerf or buff to the point that these ruin the game and / or become the main source of income / costs (perhaps capped by percentage as opposed to a fixed income / cost).

Concept Development Gameplay (Baseline)

Process map outlining summary of game mechanics



[Component]	[Gaming Factor]	[Default Set-Up]
Mining Device	Likelihood Success	1:25
	Power Consumption	10 k/w
Power	Cost per Unit	£1 per k/w
Balance	Coins / £**	£100

Upgrade; Improves likelihood odds increases power consumption no impact on power / cost per unit cost to purchase upgrade

[Post Upgrade 1]
1:22
20 k/w
£1 per k/w (no change)
£50

[Round Completed]
(no change)
(no change)
(no change)
£50 + / - Round Outcome

*Values shown above for illustrative purposes only. Actual values / ratios used in game will be balanced through gameplay testing.

**Baseline game 1crypto-coin (Ξ) = £100

Runs upgrade;
+ likelihood factor
+ power consumption
- balance

JS cycles through gameplay stages

Stage	Core JS Logic	Variables
A: Random Number Generated	Random()	Max. number linked to device probability
B: Determine Success	Random() === Device ID?	TBD user selects ID or pre-associated?
C: Calculate Costs	Power Consump. x Cost per Unit (k/w)	Consumption per device performance. Fixed unit cost
D: Calculate Outcome	Sub total; +£ coin(s) mined - £ power cost	Prior balance + round sub-total = new balance

Update balance

Gameplay Handled by JavaScript

Proof of Concept : version 1.0 (Baseline)

Game Title

How to Play

Game Title
Lorem ipsum dolor sit amet, consectetur adipiscing elit.
Phasellus dapibus tellus sed mi eleifend
condimentum.um.

Mining Device Info

Field	Value

Gameplay

Upgrade Play

Balance	£ / Coins
Field	Value

Game Title

How to Play

Mining Device Info

Balance	£ / Coins
Field	Value

Gameplay

Upgrade Play

Game Info

Field	Value
Field	Value

Concept Development Gameplay Mechanics (Baseline)

Process map outlining core sequence steps and an example of how this could play out over 2 rounds;

