

Honours Project Plan
XB3992
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Content:

Page 1: Title page

Page 2: An introduction to the project

Page 2: Reasons for choosing the project

Page 3: Intended outcomes/ aims of the project

Page 3: Necessary actions

Page 4: Required software

Page 5: Schedule (Week 1 to First Continuing Development Week)

Page 6: Schedule (Week 6 to Week 11)

Page 7: Schedule (Week 12 to Week 16)

Page 8: Schedule (Week 17 to Week 21)

Page 9: Schedule (Week 22 to Week 26)

Page 10: Schedule (Weekly breakdown)

Page 10: List of project deliverables

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(Not including title page or schedule)

Introduction

The project will focus on creating an open-world puzzle adventure game, played within a first-person perspective, integrated within a vibrant environmental space in Unreal Engine 4. The project will mainly focus on level and puzzle design, in which players are free to explore a hand-crafted environment, heading to 8 distinctly coloured sub-sections in the landscape.

Within each sub-section, lays a shrine holding a new ability for players to master over the 3 ability exclusive puzzles held within, essentially creating a tutorial area. Once complete, players will receive a collectible and before freely roaming the environment with their new abilities to discover other shrines and engage in further gameplay.

Once all 8 collectibles and abilities have been uncovered and practiced, players will head to a newly unlocked final tower, placed as a central focal point, which will require all learned abilities to work in harmony to reach the summit, completing the game.



Reasons for choosing the project

This project is to illustrate and improve my skills and knowledge in the relationship between level design and mechanics, illustrating a mixture of interior, exterior and environmental level and puzzle design; using a method of players progressively learning abilities in an open-world setting.

Mainly aimed at achiever and explorer gamer types, the game will feature beautifully bright and colourful sections for the players to navigate around; the ground using more pastel colours to visually express if the player has explored this area. This colouring technique allows the world to become a navigational aid through its stylised aesthetic over using photorealism, allowing more time to be dedicated to the world's design and meaning in a simple and fun style, in preference to creating complex assets.

In terms of game inspirations, the Witness provided inspiration for the bright colour aesthetic, Zelda with the shrines, open discovery and world integrated puzzle systems and Pokémon providing the gym badge collecting progression system, inspiring the collection of collectibles from the shrines in this project. Referencing these influences, mixed with a passion for narrative, world building and level design, means this will be an exciting project, hopefully transpiring into a high grade.

The project will portray puzzle design skills currently lacking in my portfolio, requiring the method of planning, executing, honing and refining puzzles/ levels, as a lot of playtesting will be required, essential skills required by companies such as Sumo Digital in their level design job listings.



Intended outcomes/ aims

The aim is to create a professional flowing level design intertwined in an environment, using correct pacing to guide players to the shrines, before solving challenging but enjoyable puzzles within. To achieve this, I will need to research how to create puzzles efficiently and put the game through rigorous playtesting, with the intent of creating puzzles leading to a sense of accomplishment.

Creating thoughtful puzzles and an intriguing environment, allowing for deeper exploration with each solved shrine, will make players plan their actions and consider how to approach and solve challenges with new mechanics, in turn, immersing them into the gameplay.

The aim on a personal level is to learn UE4's landscape editor, get better with blueprinting and level design, learn how to effectively go through the level design workflow; running through paper, 2D and 3D level design and honing software skills such as Maya and Photoshop in a professional manner.

The main overall intended outcome is to place the project at the forefront of my portfolio of work. This project has been designed to cover aspects of level design I have not previously covered, or I feel requires strengthening, e.g. pure puzzle/ environmental design, and to portray my abilities in level design within environments, puzzles and interiors, in a way that follows real world job listings.



Necessary actions

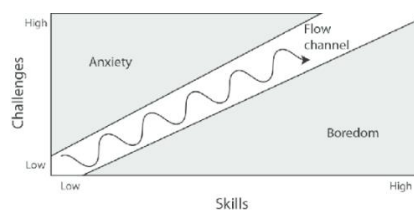
Although written in more depth in the schedule/ deliverables, the main actions necessary to achieve completion will include:

Pre- Production will consist of idea generation, researching and creating documentation, providing a sharper and detailed understanding of the project early on, leading to a consistent and achievable project and schedule.

Production begins with planning out puzzle, shrine, overall and sub-area map designs on paper, before being transferring into 2D and 3D spaces, beginning at week 6. Planning in different formats illustrates professional workflow and allows playtesting and iteration at each stage, providing a smoother design experience later. Iteration of the puzzle design provides a tighter balance between being too easy/ difficult. Using the skill-challenge engagement chart (below), getting this balance correct avoids players becoming bored or frustrated.

With the 9-core mechanics implemented early on in production, the game can be effectively tested with a lower cost to production. With the core mechanics created, production will run through 3 key prototype stages of white-boxing (block-out/ core gameplay), grey-boxing (models, UI, signposting, lighting, environment) and final art (narrative, bookending, audio, polish, each allowing crucial testing, creating a richer, more professional final piece.

Post-Production consists of creating final documentation (evaluative report, videos), an online portfolio and handing everything in, including presentations/ development log, with the final negotiated project files.



Required software

Although most of the software required has been used in previously undertaken projects, this project will require different methodologies and techniques. The software includes:

- Unreal Engine 4: Game Engine.
- RPG Maker VX Ace: Used to visualise the level design in a 2D space quickly, this can be useful for visualising the whole map, sub-areas and shrine interiors. This program shows a clean and more accurate look at the level design, following the paper design stage, also providing evidence of level design creation in RPG maker.
- Photoshop: Illustrations, PDFs, documentation, concepting.
- Maya, Substance Painter: Creating and texturing new/ previously created assets.
- Word, PowerPoint and other Microsoft Office products: Documentation and presentations.
- Wix: Creating the online portfolio.



In conclusion, the project is aiming to be a beautifully coloured and vibrant world, filled with exploration, puzzles and adventure, presenting my skills in level design in a range of areas using different techniques to achieve this goal to show to future employers.

Schedule/ Project planner

Week	Goals	Done?	Details
1 12/09- 19/09 Document Mechanic Research	Idea generation and concepting		Create the concept for the project and generate ideas to go along with this.
	Idea feedback		Collect peer feedback in a group
	Begin mechanic creation		Begin creating core mechanics for early testing
	Begin researching		Begin research around idea want to create
2 19/09- 26/09 Document Mechanic Research	Idea generation and concepting		Create the concept for the project and generate ideas to go along with this.
	Start documentation		Start working on the project plan, one sheet and project planner.
	Idea feedback		Gather peer feedback in group, discuss risks and get tutor feedback
	Continue mechanic creation		Continue creating the 8 core abilities/ mechanics for early testing
	Continue researching		Continue researching elements for game
3 26/09- 03/10 Document Research Present.	Idea generation and concepting		Create the concept for the project and generate ideas to go along with this.
	Project plan draft		Hand in the draft version of the project plan
	Project planner draft		Hand in the draft version of the planner
	One Sheet draft		Hand in draft version of one sheet
	Research document development		Begin working on the research document
	Core mechanics implemented		Core 8 mechanics implemented into level
	Presentation development		Work on presentation to show next week
4 03/10- 10/10 Document Present.	Project plan, planner and one sheet improvements		Work on project plan, planner and one sheet based on feedback given from draft.
	Research document draft		Get feedback on research document
	Idea generation and concepting		Create the concept for the project and generate ideas to go along with this.
	Cross- programme presentation		Deliver the presentation to the class about ideas and project overview
	Burndown chart creation		Begin creating a burndown chart
5 10/10- 17/10 Document	Project plan submit		Submit the final project plan
	Project planner submit		Submit the final project planner
	One sheet submit		Submit the final one sheet
	Research document created		Update research document with changes
	Burndown chart creation		Burndown chart completed
CDW 17/10- 24/10 Document Resource	Pre-Production document		Create pre-production document
	Development log		Create development log with all done
	All documentation drafts		Have all documentation drafts completed
	Gather models want to use		Put any previously made assets into folder

Week	Goals	Done?	Details
6 24/10-31/10 Document Paper design	Clean up and complete any outstanding documentation		Get feedback on documentation and fix anything which is required to be fixed.
	Begin paper design of map		Start sketching where elements will be placed
	Begin paper design of sub areas		Start sketching where the shrines will be placed inside the sub areas and POI around the area
	Decide puzzles for each ability/ shrine		Start drafting ideas of different puzzles which can be inside the shrines which require solving
7 31/10-07/11 Test Paper design	Get feedback on puzzles		Get feedback on improvements to the puzzles
	Get feedback on paper designs of environment		Get feedback on improvements to the paper designs of the map or sub sections
	Work on rectifying above with feedback		Begin working on improving and iterating the puzzle and paper design using feedback given.
	Paper design shrines around puzzles		Begin sketching how the shrines will be laid out using the puzzle designs
8 07/11-14/11 Test Paper design 2D design	Get feedback on puzzle design		Get feedback on improvements to the puzzle design after first round of iterations.
	Get feedback on shrine design		Get feedback on improvements to the shrine design using the puzzle designs.
	Get feedback on environment design		Get feedback on improvements to the designs of the map and sub sections design
	Begin creating 2D layout of above using RPG Maker		Begin creating a 2D layout of the shrine, sub sections and map designs using RPG Maker.
9 14/11-21/11 2D design Begin white box End of pre-prod.	Complete creating 2D layout		Finish designing the 2D layout of the shrine, sub sections and map designs using RPG Maker.
	Get feedback on 2D layout		Get feedback on the 2D layouts created
	Improve 2D layout		Using feedback, improve the 2D layout design
	Begin blocking out spaces in UE4 using 2D designs		Begin white boxing the space in UE4 using the paper and 2D RPG Maker designs
	Begin creating environment		Begin creating the landscape, areas and POI
10 21/11-28/11 White box Implement puzzles Test and iterate	Continue creating environment layout		Continue creating the landscape, areas, POI, shrine locations and sub areas using 2D designs
	Continue blocking out space in UE4		Continue white boxing the space in UE4 using the paper and 2D RPG Maker designs
	Start implementing puzzles		Begin implementing puzzles into the level
	Implement crouch and sprint puzzles and test		Implement the puzzles for the crouch and sprint abilities and test these
	Iterate puzzles from feedback		Iterate the implemented puzzles using feedback
11 28/11-05/12 Implement puzzles Test and iterate	Giving and receiving feedback		Giving and receiving feedback lecture
	Test crouch/ sprint puzzles		Test the crouch/ sprint ability puzzles again
	Implement grab/ jump		Implement the grab/ jump puzzles and test
	Iterate puzzles from feedback		Iterate the implemented puzzles using feedback

Week	Goals	Done?	Details
12 05/12-12/12 White box Implement puzzles Test and iterate Present.	Test crouch/ sprint puzzles		Test the crouch/ sprint ability puzzles
	Test grab/ jump puzzles		Test the grab/ jump ability puzzles
	Implement time manipulation/ reverse time		Implement the time manipulation (slow down/ speed up time) and reverse time ability puzzles
	Implement teleport/ grapple		Implement the teleport and grapple ability puzzles into the level.
	Iterate puzzles from feedback		Iterate the implemented puzzles using feedback
	Prepare for presentation		Get material together to show in presentation
13 12/12-19/12 White box Implement puzzles Test and iterate Present.	Test crouch/ sprint puzzles		Test the crouch/ sprint ability puzzles
	Test grab/ jump puzzles		Test the grab/ jump ability puzzles
	Test time manipulation/ reverse time		Test the time manipulation (slow down/ speed up time) and reverse time ability puzzles
	Test teleport/ grapple		Test the teleport/ grapple ability puzzles
	Iterate puzzles from feedback		Iterate the implemented puzzles using feedback
	In-class presentation		Present the work undertake so far and plan
CHRISTMAS 19/12-16/01 Complete white box UI Document Update	Puzzles thoroughly tested		All puzzles tested and should be nearly completed
	Shrine Whitebox complete		The layout for the shrines should be complete
	Work on white-boxing		Continue white-boxing the map and sub-areas
	Work on UI		Start working on developing the UI players will see
	(Level) Design document		Create a Level Design document
	Whitebox complete		At this point, the level should be white boxed
14 16/01-23/01 Test and iterate	Test environment Whitebox		Allow players to explore/ test the environment
	Iterate on environment		Find any flaws in the exploring and fix
	Test UI and iterate		Get players to comment on the UI and fix issues
	Test puzzles and shrines		Get players to test the shrines and puzzles again
	Iterate on puzzles/ shrines		Fix any issues/ bugs found in the puzzles/ shrines
15 23/01-30/01 Test and iterate Signposting Resources	Test puzzles and shrines		Test the puzzles and shrines with new iterations
	Iterate on puzzles/ shrine		Fix any problems which are still found with these
	Work on signposting		Work on guiding the player towards the shrines
	Environment white boxed		The environment should be completely mapped
	Shrines white boxed		The shrines should be completely mapped out
	Gather models		Gather the models from previous projects to use
16 30/01-06/02 Modelling Test	Begin making models		Begin creating any other models want (Characters)
	Test any weak areas		Test and fix any areas currently causing issues
	Model modular pieces		Model some modular pieces to make the shrines
	Implement models in level		Place the models into the level in place of blocks
	Puzzles complete		The puzzles should be complete now

Week	Goals	Done?	Details
17 06/02- 13/02 Test Environment Flow Lighting Modelling	Playtesting session w/ year 1 and 2		Get students from first and second year to playtest the game
	Work on environment		Work on grey boxing the environment
	Work on flow of game		Work on getting the flow correct by testing
	Iterate on signposting		Build on the signposting to make it better
	Work on lighting		Work on more efficient, correct lighting.
	Continue creating models		Carry on creating any models want to make
18 13/02- 20/02 Modelling Testing Lighting Signposting Iteration	Finish any models		All models for the game should now be made
	Implement all models		Implement the untextured models into level
	Test environment		Test the environment to ensure no bugs found
	Test flow of game		Let players explore as they wish to see game flow
	Finish and test lighting		Make sure the lighting is finished and works well
	Test signposting/ focal points		Let players explore the world as they wish and see if they spot the shrines and can find way around
	Iterate on above points		Iterate on any section this week find an issue with
CDW 20/02-27/02 Grey box Texture Environment Signposting Flow	Grey boxing complete		The grey boxing of the level should be finished
	Texture assets		Begin texturing the assets and place in when done
	Fix anything need to		Fix anything which is causing problems in the level
	Work on environment elements		Work on the final art for the environment, ensure everything is in correct place and looks correct
	Work on signposting		Work on ensuring players know exactly what to do
	Work on flow of game		Work on ensuring the game is not too fast or slow.
19 27/02- 06/03 Texture Test Narrative Audio	Texture assets		Continue texturing the assets and put into level
	Test game and iterate		Let people play the game and see if any bugs arise
	Implement start narrative		Begin working on the introductory narrative/ story
	Work on environment		Continue working on final art for environment
	Begin implementing audio		Begin finding audio and implementing it
20 06/03- 13/03 Texture Test and iterate Narrative Audio	Texture assets/ environment		Continue texturing the assets and environment
	Implementing audio		Continue finding audio and implementing it
	Testing and bug fixes		Test the game personally and fix any bugs
	Test game and iterate		Allow others to test the game and iterate on play
	Continue adding narrative		Continue adding the narrative into the game which is required for story/ plot.
21 13/03- 20/03 Texture Audio Bookend Narrative Test	Texture assets/ implement		Continue texturing the assets and implementing
	Finish implementing audio		Finish finding audio and implementing it
	Bookend experience/ pause		Add a main menu, pause menu and end screen
	Add end narrative		Add some narrative to wrap the game up post level
	Test game and iterate		Test the game and iterate on anything find

Week	Goals	Done?	Details
22 20/03-27/03 Texture Present. Bookend Narrative Test	Texture assets		Continue texturing the assets and implementing it
	Prepare for presentation		Prepare material for the cross-programme presentation
	Continue with bookending		Continue adding in main/ pause menus and end screen
	Finish adding end narrative		Finish adding in the narrative to wrap the game up
	Test game and iterate		Test the game and fix any issues find with it
23 27/03-03/04 Texture Narrative Bookend Present.	Finish texturing assets		Finish texturing all the assets and implement them
	Finish narrative		Finish creating the narrative (start/ end especially)
	Finish bookending		Finish adding the main/ pause menus and end screen
	Finish anything required		Finish anything have not managed to finish yet
	Cross-programme presentation		Present presentation to the class on what have managed to create and what is left
24 03/04-10/04 Testing Fixes Polish Website End of production.	Final art complete		The game should have final textures and placement
	Final testing and iteration		Have the game tested and fix anything find wrong
	Finish anything required		Finish anything not yet managed to complete
	Polish		Add any extra sounds, visuals, textures etc to make the game look and feel better in the end.
	Work on website portfolio		Prepare a website portfolio to present work on
Easter 10/04-24/04 Testing Polish Finishing Document Prep for hand in	Final testing and polish		Have a final testing session and fix anything wrong
	Finish anything required		Finish anything which is not yet completed
	Preparing for hand in		Ensure everything is on the final stage and ready
	Work on website portfolio		Prepare a website portfolio to present work on
	Documentation, video		Begin creating the trailer and walkthrough videos and evaluative report/ any other documentation
25 24/04-01/05 Prep for hand in Final pres. Document	Preparing for hand in		Export the game as a .exe file and prepare for hand in
	Creating final presentation		Create the final presentation ready to show off work
	Work on website portfolio		Finish the website portfolio to present work on
	Documentation, video		Finish the videos and documentation for hand in
26 01/05 Final presentation Hand in	Final presentation		Present the final overview of the project and what created
	Hand in/ submission		Hand in the project.

Weekly breakdown

Day/ Mod.	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
Honours	3 Hours	3 Hours	5 Hours (Class) + 3 hours		1 Hours		7 Hours
Games Proposal	3 Hours	3 Hours		4 hours (Class) + 1 Hour	3 Hours	7 Hours	
Contingency	2 Hours	1 Hour		2 Hour		1 Hour	1 Hour
Total	8 Hours	7 Hours	8 Hours	7 Hours	4 Hours	8 Hours	8 Hours

Total hours per week: 50 Hours

Honours (XB3992): 22 Hours (including 5 hours class)

Games Proposal (XB3001): 21 Hours (including 4 hours class)

Contingency: 7 Hours

Overall hours: 50 hours x 31 weeks = 1,550 hours (*includes designated time over CDWs, Christmas and Easter*).

Honours (XB3992): 22 hours x 31 weeks = 682 hours

Games Proposal (XB3001): 21 hours x 31 weeks = 651 hours

Contingency: 7 hours x 31 weeks = 217 hours (*+ allocated hours in schedule e.g. finish anything required*).

Deliverables list:**Pre-production**

- Project plan/ schedule
- One Sheet
- Research document
- Burndown chart
- Pre-Production document

Production

- Paper designs of puzzles, shrines, sub-sections and overall map layouts
- 2D RPG Maker designs of shrines, sub-sections and overview
- (Level) Design document
- Negotiated portfolio: Final UE4 level (.exe) file

Post-production

- Walkthrough/ gameplay video
- Trailer video
- Website portfolio link
- Evaluative report

Throughout

- Research and process journal (Development log) and any presentations.