



GTPI302 Guided Learning My Learning Contract

to be included in E-Portfolio
(revised on Oct 2024)

Name of Student:	Perakam Jayadithya	Admin No.: 2300355A
Name of Learning Facilitator:	Zhao Hong Lau	
Learning Project Title:	Virtual Reality Game Development	
Brief Description of your project	I will be creating a virtual reality game using the Unity game engine. I will have to come up with my own plan and theme based on my learning and research to figure out what is feasible. I will also learn create and animate my own 3D models using Blender for at least the important assets (e.g. the player the character). The game will likely be a prototype or MVP to demonstrate the skills I learnt, potentially to showcase in my professional portfolio.	
My Learning Goals	<ol style="list-style-type: none"> 1. Learn more about 3D modelling such as making and rigging humanoid characters 2. Learn more about mathematics and physics through the Unity game engine 3. Learn about interactions the player can make to the virtual world 4. Learn about implementing a third-party SDK (e.g. Meta XR SDK, SteamVR SDK) 	
	<div> <input checked="" type="checkbox"/> Self-directed <input checked="" type="checkbox"/> Problem solving <input type="checkbox"/> Character & citizenship </div> <div> <input type="checkbox"/> Resilient <input checked="" type="checkbox"/> Digital & information literate <input type="checkbox"/> Leadership </div> <div> <input type="checkbox"/> Competent <input type="checkbox"/> Innovative & entrepreneurial <input type="checkbox"/> Communicative & collaborative </div>	
	<p>Self-directed: I will have to learn everything about the game development process, 3D modelling process and game design considerations by myself. I will also have to make my own feasible plan based on my own research.</p> <p>Problem Solving: Game development involves programming hence I need to be able to figure out how to implement features through code. I also must figure out where to find help or answers if I cannot figure something out by myself. I will also improve my troubleshooting ability through debugging code.</p> <p>Digital & Information Literate: I will need to know which sources I need to go to for help or learning. I will also need to be able to properly read documentation and apply it to my project. Since this project is very programming heavy, I will also have to learn about doing certain operations (e.g. setting variables to PATH) in Windows that is required for using libraries or SDKs.</p>	
Target beneficiary/ beneficiaries (if applicable):	None	

Plan your learning; how do you achieve your own learning goals?	<ul style="list-style-type: none"> • I know the basics of modelling a humanoid character. • I know the basics of rigging. • I can do hard surface modelling using a reference picture. • I know the syntax for the C# programming language. • I know the concepts for object-oriented programming. • I know the basic concepts for programming in games. • I know a little bit about using the Unity API. 		
	<p>New knowledge needed:</p> <ul style="list-style-type: none"> • More knowledge about the Unity API. • Knowing how to use a virtual reality SDK. • Game and level design principles. • Design choices to reduce nausea while playing the game. • I might need to learn about accessibility in virtual reality. 		
	<p>New Skills needed:</p> <ul style="list-style-type: none"> • Properly creating and rigging a humanoid character for virtual reality. • Optimising 3D models for virtual reality. • Programming with a virtual reality SDK. • Properly using the physics engine in Unity. • Creating or finding SFX for games. • Creating a user interface for a virtual reality game. 		
	<ul style="list-style-type: none"> • I might spend too much time to learn which would give me less time to develop my idea. • Since virtual reality development is still somewhat niche, I might not be able to find answers to some problems I face online. • I might find out that my scope is too big too late. • I might face performance issues while trying to test the game. 		
	<p>I plan to get help from:</p> <div> <input type="checkbox"/> Partner departments in TP: </div> <div> <input checked="" type="checkbox"/> Partner Schools in TP: <div> Zhao Hong Lau, lecturer for IIT/IT, 67806919, zhaohong@tp.edu.sg </div> </div> <div> <input type="checkbox"/> External Partner Organisation: <div></div> </div> <div> <input type="checkbox"/> External Resource People: <div></div> </div> <div> <input type="checkbox"/> Others: <div></div> </div>		
	<p>I plan to use these learning resources:</p> <div> <input type="checkbox"/> Books/newspapers: </div> <div> <input checked="" type="checkbox"/> Online learning/courses: <div>LinkedIn Learning, Unity courses</div> </div> <div> <input type="checkbox"/> Internet journals/articles: <div></div> </div> <div> <input type="checkbox"/> Experiential learning: <div></div> </div> <div> <input checked="" type="checkbox"/> Documentaries/videos: <div>YouTube tutorials</div> </div> <div> <input type="checkbox"/> Others (e.g. seminars, interviews, performances, lectures, workshops) <div></div> </div>		
Action Plan Timelines & Deliverables	<div> <div>Week</div> <div>Actions</div> <div>Deliverables</div> </div>		
	<div> <div>Week 1</div> <div>Contact facilitator for consultation to refine proposal and learning contract.</div> <div>Refined proposal</div> </div>		
	<div> <div>Week 2</div> <div>Learn about game development in Unity, through a course or tutorials.</div> <div>Practice projects</div> </div>		
	<div> <div>Week 3</div> <div>Learn about virtual reality game</div> <div>Practice projects</div> </div>		

	development in Unity, through a course or tutorials.	
Week 4 (Flex Week 1)	Play around and get used to the Unity game engine so that I can create a plan.	Development plan
Week 5	Consultation with facilitator to refine plan and clarify doubts. Learn about 3D modelling for a virtual reality environment.	Refined plan, practice projects
Week 6	Continue learning about 3D modelling and start creating the assets required for the game.	Practice projects, game assets
Week 7	Start development on the game and continue any learning if still ongoing.	Practice projects, status update for development.
Week 8	Continue development on the game.	Status update
Week 9 (Term Test Week)	Continue development on the game. Start adding things to the e-portfolio.	Status update
Week 10 (Term Break)	NIL	NIL
Week 11 (Term Break)	NIL	NIL
Week 12 (Term Break)	NIL	NIL
Week 13	Continue development on the game.	Status update
Week 14	Continue development on the game.	Status update
Week 15	Continue development on the game.	Status update
Week 16 (Flex Week 2)	Continue development (should be mostly done) and start refining the e-portfolio.	Status update
Week 17	Complete development with some finishing touches (SFX, music). Start on reflection and a demonstration for the game.	Status update, reflection, pictures, and demonstration of the game
Week 18	Complete the e-portfolio.	E-portfolio

Plan your E-portfolio;

Learning evidence for E-portfolio

Since throughout the project I will be following tutorials, I can show videos and pictures of the mini projects I did and explain the skills I learnt from them. I can show pictures of the assets I made. I can use a version control software such as Git to showcase the development process of the code, then I can provide a link to the online repository such as GitHub. I can include comments/documentation for the code to show that I understood what I was doing. Furthermore, I can have a writeup to show what knowledge I utilised while making the final deliverables. Then, I can have a short video to demonstrate the gameplay. Lastly, I can create a playable executable of the game.