To Do

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26/30 completed

✓		Date	Task	Notes
x	December	1/12	**Get Gear**: Install Windows (Bootcamp) and Visual Studio 2017 + Unreal Engine 4.14 - Test feasability of using Leap Motion	Borrow Leap motion From Pavel and test on dummy project (**OF** or **UE4**)
x		Ongoing	Winter Holiday Task: see notes	**** Each week from the 4th of December to the 20th of January both memebrs will draft 5 sketches of the interface design: object types, objects design, objects interaction features, and user controlling gestures ****
x		4/12	Play around with Leap Motion to create data interface and trial of input interpreting	
x		9/12	Explore UE4 and liaise with H. to create a shared UE4 3D environment that can receive Leap Motion data	Use gitLab to create version control track
x		16/12	Make sure the project can be streamed on a Google Cardboard phone using mobile app + PC client	E.G. - RiftCat's VRidge
x		23/12	Work on Leap Motion data data interpretation to achieve "floating" hand-skeletons in real time	
x		30/12	Catch up with any unfinished details + contingency time (in case of delays)	
x			**TARGET**: basic 3D Environment with hand-representations that can be streamed on a VR Google Cardboard Headset using external app	Note: Not fully anhieved due to complications in Working on Windows and matching Lepa Motion Data -- date actually achieved: January 20/2017
x	January	6/1	Study Unreal development thoroughly (focus on creation of apps using Leap Motion / VR / 3D games)	DECIDED TO SKIP - Not enough time -- I'll pick it up as I go along
x		13/1	Gestural recognition - explore how leap motion and pattern matching can link gestures with events -i.e.: create a "blob"	Gestural Part done - implementing reaction in Unreal is hard if it needs to go beyond triggering events and modifying parameters
x		20/1	Review of the interface design - a model is selected among the 5 prepared and basic objects/functions/gestures are code to form a simple working interface	Decision: I will try to achieve an AR experience -> A simpler version of what the holo lens can do with Leap Motion -> https://hololens.reality.news/news/control-synthesizer-with-hololens-make-music-mixed-reality-0174267/

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✗			~~TARGET: The initial 3D environment is now an independent project (not relying on default examples) and has at least one specific functionality using hand motion~~	~~Getting there but it's the 14th of February! Hurry UP!~~
✗		~~27/1~~	~~**Contingency week:** Debug and catch up~~	
✗	~~February~~	~~3/2~~	~~Use branching development to expand on basic feature: menu; trigger objects; hands-representation~~	~~2 Main choices: Leap Motion attached to headset or separate?~~
		10/2	Expanding on initial work for Technical Research, use OSC to control musical events on externa software (Ableton Live, Max or DJ interface)	SKIPPED
		17/2	Testing and debunnging the two parallel interface chains: "Hands->Leap->Application<=>Visuals" & "Leap+InGameActions->App->OSC->Music_Engine"	Postponed until after the UE4 Project is more stable -> I will probably use OSC4OSC plugin to achieve the integration of the sound engine (which I still need to build)
✗		~~24/2~~	~~Refine Gestural Control~~	
✗	~~March~~	~~3/3~~	~~Space for Extension, Testing and or Debugging~~	
✗		~~10/3~~	~~**Interface focus week**: how can usability be improved? What features to improve, delete, add?~~	~~Definitily going for AR -> The issue will be to create an interface where one can judge distance with one's eyes through the phone. Note: it would probably best to use a better phone than my iPhone 5 but it still works using TrinusVR and SteamVR for the straming~~
		17/3	Keep populating the 3D world by working on more sophysticated C++ based objects and menus	Refine In-Game elements, menus and actions
✗		~~24/3~~	~~Explore the possibility of having the app running completely on mobile by exporting it as a google Cardboard app (Leap M. would with hand tracking whilst Unreal and Android SDK packages would integrate head tracking)~~	~~If necessary split the project into 2: flat screen fallback and VR/AR prototype -> NOTE: DECIDED NOT TO AS WE ARE 3 WEEKS BEHIND SCHEDULE~~
✗		~~31/3~~	~~**Contingency week**: Debug and catch up~~	~~---~~
✗	~~April~~	~~7/4~~	~~Expand the project: now we should either be desparing or having a lot of fun. I bet the second ;)~~	~~Work on usability and objects design (BECOME DEBUG WEEK)~~

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✓		Date	Task	Notes
✗		14/4	Keep improving the usability by adjusting the features, the gestures and the interaction	User Test the app as it develops (STILL DEBUGGING: MAJOR WORK PROJECT IS FURTHR SLOWING DOWN THE PROGRESS)
✗			TARGERT: The app needs to have a precise musical scope and be an innovative, powerful but also user-friendly way to achieve its puropse	After reviewing the plan I am now set to achieve a working prototype to create an AR controller using a phone, leap motion on the headset, a webcam, a laptop and OSC. The problem is that all the software running in parallel is creating cpu issues on my macBook 2011. Usability issue: it's not the easist thing to grab and drag objects whilst keeping the AR marker in full sight.
✗		21/4	Final Project Run	It's the 27th of May and I broke my Leap :'(HELP?
✗		28/4	Contingency week: Debug and Test	Pawel saved me... keep debigging
✗	May	5/5	Collect together all resources and create blog post	After breaking Pawel's leap I thought I was lost -> I managed to get another one off a seller on ebay and finished the coding of the project "blindfolded"... When I get the leap I will test and adjust
✗			Clean up Submission and upload / make presentation video	After debugging it all works! The audio engine I code in openframeworks (C++) and the simple AR interface work together through OSC -> Speak with Simon and decide how best to present the project
		12/5	THE END!	