

Artemis Proposal

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Introduction

Artemis prior towards this proposal is a collaborative art installation which allows users to turn their drawings into music. The installation was originally designed to help users learn an easy to use instrument which cuts down the long hours it takes to learn traditional instruments. Although the design of ARTEMIS was to be used as a learning tool. It became more of an installation that allows users to collaborate and perform to other users.

Within DECO3000 students are tasked to further implement their music based installations to explore and produce results to their chosen research topic. As a student of DECO3000 I will be tasked to further implement ARTEMIS. The following document contains the details on the research topic that will determine what direction ARTEMIS will be implemented towards.

The overall goal within this course is to recognise and analyse a research topic that entails to retrieve any relevant data when designing instrument based technology that uses unconventional methods of interaction (in ARTMEIS' case, drawing on a white surface). These systems shall imitate what musicians with a wide variety of expertise would interact with any conventional instrument. With the means to learn, and compose with said system.

Research topic

The research topic that will be explored throughout the course will be: The process of designing an alternative instrument. This will contain research on the process ARTEMIS will go through when being introduced to students within a musical based course. The students jobs will be to use the system as if they were to learn or compose an instrument. This feedback will be used to implement or modify features that will improve the way ARTEMIS is used. All further project development decisions will be implemented to produce results that will positively or negatively impact the research topic. As long as the builds contain change that is able to gather data.

Process

The process of implementing and obtaining research within the specified domain will be mainly using agile methodologies. Where there will be a hierarchy on what implementations will yield the research required for the overall project to be successful (explained within research topic). Initially the sprint will begin by designing and implementing features, then testing it on the given musicians. If the feature needs to be modified for it to positively impact the system itself, then another print will be allocated. The feature will be considered successful when all design iterations are deemed less effective towards the domain than the current implementation. The following implementations are the current features being implemented/ modified within ascending order of said hierarchy: Note: Throughout this process the feature and hierarchy might be modified to benefit the overall build. Also a description of why and what prior research has been done to said feature below (within the first paragraph):

LED Lights

Making the LED show where the ARTEMIS is reading was one of the most crucial aspects of the system that made ARTEMIS successful. This was due to the ARTEMIS only having audio feedback which is hard to distinguish when it came down to how the ARTEMIS read the whiteboard. This confused most users as all they could do is randomly draw and stand back to interact. So the addition of a visual feedback (LED's strip) which showed where and what colour the ARTEMIS is reading: made the users understand how to interact with the system in a less random like fashion. Further allowing them to learn and compose with the system.

Drawing Interaction

The first implementation for improving the drawing interaction is by making the circular whiteboard resemble sheet music or its own intuitive design. Instead of its current build which only resembles a simple circular whiteboard. The next iteration will include a more sheet music like fashion. Where musicians are able to compose more easily when interacting with ARTEMIS.

Introducing More Colour

As for a stretch goal. Implementing more colours to further increase the amount of instruments that the user is able to compose with, opens up new possible compositions with ARTEMIS. This does not impact whether the system is easier to learn and compose with.

Note: Implementations giving the alias as "stretch goals" are features that are only going to be implemented when all prior features that are not stretch goal