IMAGE GUITAR

A SKETCH OF HOW THE BRAIN CREATES MUSIC

01
ABOUT

Image Guitar envisions a new way to interact with images. It utilizes edge detection algorithms to render the contours of an image. These contours are metaphorically, strings on the guitar, and can be played. The image is now translated as a guitar that can generate music simply by the tap of a finger. You can now create beautiful customized interactions with your images and simply have fun!

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02
GOALS AND OBJECTIVES

Image Guitar is fun, interactive, and simple. Its goal is to give individuals in all age groups a fresh and fun perspective on the world around them and create tunes of their own. Music has the innate property of making people happy and teaching them how simple it can be to create your own. Image Guitar is an outlet for one to express themself and be creative.

Neurologically our brain processes music on a very deep emotional level. Music can incite both sadness and happiness. Music has a big impact on memory as our mind has the ability to make associations between music and emotions within the context of places. Our Image Guitar helps you be the composer and it objectively seeks to test how people create tunes and if these tunes are indications how they ultimately feel about the photo that they play or if its for the just the sake of creating music. The educational value is that younger children can start to create tunes and with the various associations they make with music it can help them learn about what the image represents, remember it, and be able to communicate it in their own way.

03
RESEARCH

As stated by the **Harvard Gazette:**

"Your inner ear contains a spiral sheet that the sounds of music pluck like a guitar string. This plucking triggers the firing of brain cells that make up the hearing parts of your brain. At the highest station, the auditory cortex, just above your ears, these firing cells generate the conscious experience of music. Different patterns of firing excite other ensembles of cells, and these associate the sound of music with feelings, thoughts, and past experiences."

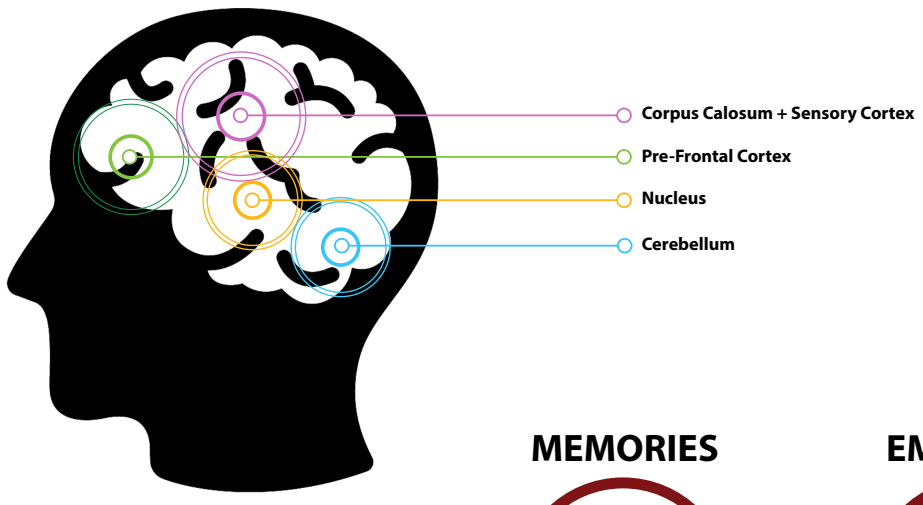
If we observe this effect on the brain we come to learn about the brains capability to understand and process music. We can understand that the brain processes sound through the inner ear where the sound is broken down into a series of frequencies similar to the way music is broken into a series of notes."

We can then understand that music is processed the fastest in the Brain

MUSIC ACTIVATES MOST PARTS OF THE BRAIN

04
FINDINGS

Music is very powerful in activating many parts of the brain. The parts of the brain that are activated reveal how music can directly have an affect on memories, emotions, relationships, and movement(dance).By activating these parts of the brain we are sending auditory signals to our brain that that increases our awareness and memory.



Corpus Calosum + Sensory Cortex

The Corpus Callosum connects both sides of the brain while the Sensory Cortex controls the tactile feedback while playingan instrument or dancing

Pre-frontal Cortex

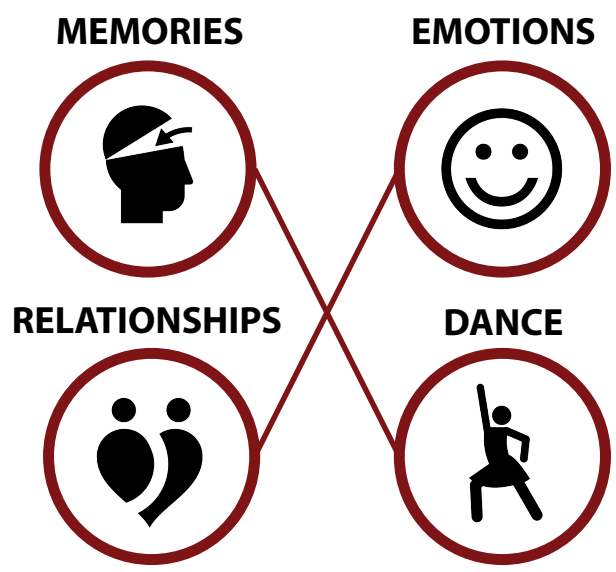
The Pre-Frontal Cortex controls behavior expression and decision making

Nucleus

The Nucleus Accumbens and Amygdala are involved with emotional reactions to music. The Auditory Cortex lies in the center of the nucleus and listens to sounds and perceives and analyzes tones

Cerebellum

The Cerebellum is activated by movement from dancing or playing an instrument. It can easily be incited by emotions



Playing an *instrument* can help you assess the **relevance** and **predictability** of information in an **auditory signal**.

When performing other auditory tasks, *like learning a new language*, musicians usually **remember more** than non-musicians

05
PROCESS

As we began the process, simple wireframing was done for the mockups so that we could understand how the application would possibly look.