

## CWSF 2018 - Ottawa, Ontario



### Claire Le Donne

#### **Encryption... And All That Jazz: Text-to-Music-to-Text Encrypted Communication**

**Challenge:** Information

**Category:** Junior

**Region:** Bay Area

**City:** Hamilton, ON

**School:** Corpus Christi

**Abstract:** I created a program that allows a user to type a text message which is then converted into a musical format using an encryption key. The musical message is transmitted as sound, received by a listening device, and then decrypted back into the original text message. The project is a successful proof of concept for text-to-music-to-text encrypted communication.

#### Biography

My name is Claire Le Donne. I am a grade 8 student at Corpus Christi School in Hamilton, Ontario. I am a 3rd-degree black belt in karate and a former Ontario Legislative Page. I enjoy math and science and I also love the Arts. I enjoy drawing and animation and have recently submitted some of my work to international competitions. I also have a passion for music? I play the guitar, piano, and sing. I am honoured to have received my school board's Director's Award of Excellence in Science and Technology and a scholarship to attend McMaster University's Engineering Camp. The inspiration for my project emerged from my love of music and listening to TED-Talks about music's relationship to math and language. I was intrigued and began to wonder what connections I could form with music and communication. My project is a successful proof of concept for text-to-music-to-text encrypted communication. I would like to continue developing my project to the point where it can be used in a real-world application. My advice to other students is to be curious. The best projects come from asking questions and working hard to find the answers.

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