

# The Theremin and the Computer

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## ABSTRACT

This poster describes a project that combines the Theremin, a revolutionary musical instrument invented in 1924, music notation and sequencing software and robotic arms to produce synthesized music with some interesting visual effects. The Theremin and the software will be demonstrated at the conference.

**Keywords:** Theremin, automated music composition, robots, Indian classical music

## 1 THE THEREMIN

Leon Theremin invented the Theremin and its design eventually led to the development of the Moog synthesizer and electronic music in general. It produces unusual but interesting synthesized sounds. The sounds of the Theremin have been integrated into a number of musical pieces and sound and musical effects in movies. Some popular music groups use it. One often-quoted use was by the Beach Boys in the piece Good Vibrations. The Theremin is usually played by the player waving his or her hands near it.

## 2 ROBOTIC HANDS PLAY THE THEREMIN

In this project a set of robotics hands will be used instead of human hands. The hands will be controlled by an adapted version of the automated music composition software that is now in its third phase of

development using the extreme programming (XP) approach.

## 3 CONTINUOUS PITCH VARIATIONS

The Theremin, like a trombone has the ability to vary pitch continuously, and this is an absolute necessity in some genres of music. Indian classical music is one such genre. The software that is under development provides for this.

## CONCLUSION

This project takes an old invention and combines it with some leading edge technologies to produce automatically composed and synthesized new music in an old genre.