Transcription of Enterprising Australians video
Mark Havryliv – AirSticks

The video for this transcript can be found on the Questacon YouTube channel at: https://www.youtube.com/watch?v=lm8JtQ8_9AA

Transcription from video:

[Image of Bec and Mark sitting in a warehouse]

Bec: Hi Mark!

Mark: Hi Bec!

Bec: Hi! So Mark, you are a musician –

Mark: Yes.

Bec: A software engineer –

Mark: Yes.

Bec: And co-founder of AirSticks –

Mark: Yes.

Bec: What do you do for AirSticks?

Mark: I write all the software I write all the software that lets Alon talk between the hardware controllers and the synthesis that makes all the sounds.

Bec: What was your original idea?

Mark: We wanted to be able to make music in a way that people hadn't made music before and we have access to electronics and electronic music and we have access to motion controllers that can sense what you're doing. We've been developing algorithms for making sounds morph from one to the other.

[Image changes to Bec and Mark sitting in a warehouse]

Mark: We've been developing algorithms to measure what you're doing so we can interpret that and make that a sound.

[Image of Alon playing the AirSticks while Bec and Mark watch on]

Mark: And we've been just fine tuning that over and over as Alon performs with more and more people.
When you made your first prototype, what did it look like?

The first prototype was a hat that Alon used to wear while playing drums and he'd shake his head around to control an effect whilst he was playing drums.

Wow...

And that kind of was the seed of the idea of can I create something that lets him control the sounds he's making whilst he's playing the drums.

So then we moved on to sensing position using electromagnetic sensors. And that's where we use these game controllers that we've kind of hijacked and hacked the software to, to interpret their movement. So I was able to use that data to understand where the hands are, where they are in coordination to each other, where they are in a 3D world and then you can start building a 3D world and say ok I'm half way in this space now I'm half way in this space and then you can so ok this space is a bass drum or this space is a snare drum and go from there.

When you're refining your software what are some of the challenges that you face?

One of the main challenges that we face when we're writing software and developing things in this iterative way is that when we add a new feature, which we're doing all the time because Alon is doing a new performance or he's performing with a dancer and he wants it to work a certain way that I don't break old features that he depends on and that's a really classic problem in software development and it's called regression testing - you don't want to add a new feature and have another feature regress and not work.

What's your advice for anybody else who's looking to create something new?
Mark: My advice is to work with as many people as possible because you never know where an interesting idea is going to come from

and get into the habit of taking feedback constructively and developing from there and you'll go much further than if you sit around in your bedroom tinkering on your own for hours.