

# The Maker Movement | Destination Singapore

## OUTLINE

In my presentation, I will be attempting to answer the question: What is the Maker Movement? It features three takes, namely:

- 1. The Maker Movement is about turning ideas into reality. (Joel)**
- 2. The Maker Movement is about doing something you love. (SL2)**
- 3. The Maker Movement is about empowering people. (E-nable)**

My vision is to convince the audience that there is no definite answer. The Maker Movement instead is a combination of the paths, and goals of different individuals, in making things possible. In doing so, I hope the audience will embark on their own individual paths of discovery.

## CALL TO ACTION

Call to action is facilitated by contrasts in color from slides #21 to #23.

## Repository

- <https://github.com/myrtleTree33/icists2014-presentation-makerMovement>

## Slides

- <http://www.joeltong.org/icists2014/#/>

## TODO

- <https://github.com/myrtleTree33/icists2014-presentation-makerMovement/issues>

## SCRIPT

#0

Good afternoon everyone! My name is Joel. I'm here to share the Maker Movement with you today!

#1

Before I begin, just a show of hands. How many of you have heard about the Maker Movement? (raises hands up). Well, the Maker Movement, and the art of "Making", is a term coined by Make in 2005.

According to Wikipedia, the Maker Movement is *"a contemporary culture or subculture representing a technology-based extension of DIY culture...", encompassing "activities such as metalworking, woodworking, and traditional arts and crafts... encouraging invention and prototyping", with "a strong focus on using and learning practical skills and applying them creatively."*

Such definitions are useful. But what *exactly* is the Maker Movement? What defines this culture of "Make"?

#2

Is it the collaboration of individuals, bringing the community together to solve problems?

#3

Or is it education? Teaching the young about electronics, design and green farming through kits such as the Arduino?

#4

Or perhaps it is simply just an exclusive community of – *tech geeks*?

#5

Or just maybe, a movement celebrating the spirit of innovation?

#6

And so – **What exactly is this Maker Movement all about?**

May I suggest three responses to the audience that answers this question.

**[45 seconds]**

#7

And so first up, is my personal involvement with the Maker movement. To me, **The Maker Movement is about turning ideas into reality.**

My personal journey into Making began when I was young. Being a Maker was epitomized by being “creative” in two disciplines – Lego and Programming. I was a fan of Lego. We bought kits and I was often reprimanded for cannibalizing them to create something new! Later, my mom introduced me to web development through a book.

I found these two hobbies really interesting. They were interesting not because they *were the sort of things that every guy does*. Rather, Lego was the *construction of physical objects*, and on the other, programming was the *fusion of virtual ideas*.

Both realms allowed me, to turn ideas into reality. They were a playground for ideas to come into being.

#8

One of these ideas was to combine art with music, on the web. This was important because many websites were using Flash back in 2009. However, most of these websites were lacking an easy way of including visualizations in their music, with minimal bandwidth.

To plug this gap, I created this plugin that deploys a drag-and-drop music visualizer on the web. And so here it is!

#9 (Demonstration of DingX, embedded on the page.)

#10

My Maker journey is shaped by others as well, and triggered by imaginative ideas that

we thought *impossible*.

Back in 2012, I was volunteering with this organization called the Singapore Academy for Young Engineers and Scientists (SAYES), from Science Centre Singapore. Science Center Singapore, and the club itself, were one of the pioneers in bringing the Maker Movement to Singapore.

#11

We had this crazy idea of creating an electrical blimp, lifting electronics with helium balloons. Totally unfeasible, you might think! However, we tried it and guess what! *It worked*, with 7 of these 32-inch mylar balloons! (*passes balloon around crowd*)

This blimp is unique because of its artificial intelligence. We wanted our blimp to interact with the crowd. Tweets to the blimp deployed “Natural Language Processing” techniques and were crunched through a Machine-Learning model. The blimp would then move according to where it sees fit.

Here is the blimp and a group photo during the First Mini Maker Faire in Singapore, in 2012.

I have just shared my definition of the Maker Movement with you. But, the Maker Movement is more than my journey. It is also about the journeys of others.

**[3 minutes]**

#12

Some have classified the Maker Movement differently, and I believe the next definition might resonate with some of you. **The Maker Movement is perhaps about doing something you love, something that interests you.**

#13

Let me introduce you to Veera and the folks from Sustainable Living Lab. (This is Veera, who heads this initiative, at the first Mini Maker Faire.) Sustainable Living Lab is a social enterprise that helps individuals kick-start Green initiatives, with the intention of serving the community, the environment and doing something meaningful.

#14

Besides engaging in Making, projects bring the community together. In Singapore, we have this longing for village camaraderie summarized as the "*Kampung Spirit*".

In Malay, this is termed "*gotong royong*". Sustainable Living Lab nurtures this "*Kampung Spirit*" by bringing both the young and old, people from all walks of life to bond over "Making".

#15

And there's more to it. Does anyone in the crowd know what this is? It's a hand-cycle! The hand-cycle was an outreach project to make therapy devices for an aged home, the Bishan Home for the Intellectually Disabled.

Unlike traditional devices, these are designed to be more interesting for the elderly to use.

I have summarized two definitions of this concept of "Making". Yet, some of you here are aiming to impact not just the local community, but also the global community around you.

Perhaps "Making" is defined as what you and the community can do, to make a difference to the lives of people *beyond* you.

**[3 minutes]**

#16

This leads me to my third definition – **The Maker Movement is about empowering people.**

#17

Now, here's a picture of the work that e-ENABLE does to empower people.

Can you guess what this is?

Yes, those are hand prosthetics! They are not just any particular prosthetics though – they are 3D-printed prosthetics.

Their work is significant, because having these parts 3D-printed, outsourced and assembled by volunteers worldwide enables the cost of prostheses to be dramatically

reduced. E-NABLE was started by John Schull, a research Scientist hailing from the Rochester Institute of Technology.

Schull aimed to help a South African carpenter regain the use of his fingers. However, the project has since scaled as an open-source initiative, helping those born without fingers or limbs as a result of Amniotic band syndrome. In their words, to “give a helping hand”.

#18

There are many wonderful stories. I highlight the story of one such individual who benefited from this project.

This is Tully. Tully was born with a little paw just under his elbow to do tasks. However, together with his mom and a volunteer under e-NABLE , they developed a prosthetic arm for him.

This is Tully opening the fridge with his new prosthetic arm.

There are other stories. One family was brought together through assembling an e-NABLE prosthetic arm. An eight-year-old making an arm for a person 2,000 miles away from home. The list goes on.

#19

Just last month, I had the privilege of meeting the pioneers of e-NABLE Singapore at a Maker’s showcase called Makers’ block. This is Yuanjun, Benjamin and Jeremy.

Yuanjun brought the project to Singapore a month ago. I understand that they first met Yuanjun at the corridor of Simpli3d, a 3D printing shop in Singapore. And that’s how they got started – two months back!

**[3 minutes]**

#20

Now I have brought you through three aspects of the Maker Movement. I am excited on what’s next in Singapore. We held our first Maker Faire in 2012, with many initiatives taking root since.

Our first Maker exhibition, Makers’ Block, was held just last month at a mall. Recently,

we concluded our Maker Faire at a Community Centre.

Currently, our major Maker start-ups in Singapore are centralized at the National Design Centre this month, in a public building.

**[30 seconds]**

#21

So back to my question.

**What, exactly, is the Maker Movement?**

And the short answer is - **there is no definite answer**. The Maker Movement is a collection of journeys, with each journey being unique and different.

#22

The question we should be asking ourselves instead is – **What is your Maker journey?** What drives you? Each of us is blessed with God-given talents and abilities to impact the community. What are you doing about it? What exactly defines your Maker journey?

**Let your Maker journey, begin, today!**

#23

Thank you!

**[30 seconds]**

**TOTAL TIME ELAPSED: 0.75 + 3 + 3 + 3 + 0.5 + 0.5 = 10.75 minutes**