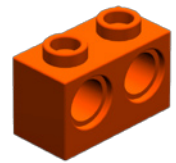


## GBC with character

### Interview with Akiyuki Kawaguchi



TechnicBRICKs

By TechnicBRICKs team members (Jetro, Fernando, Alexandre)

Pictures by Akiyuki Kawaguchi

- Name: **Akiyuki Kawaguchi**
- Age: 21
- Nationality: Japan
- Occupation/education: I'm a student of a college of technology.

**TB:** What is your favourite commercial LEGO® theme?

**AK:** Technic and Mindstorms.

**TB:** When did you first start building with LEGO?

**AK:** I started playing with LEGO when I was 2 years old. I started Technic at 8 years old. My first Technic set was #3000 Tribuggy. It is a very simple set (24 pieces in a polybag that was distributed with Kabaya sweets here in Japan) that uses a rubber band to give the trike suspension. After that, I became a fan of LEGO Technic. I now play with LEGO as hobby.

**TB:** When did you discover the GBC system and how did you start creating modules for it?

**AK:** I saw the GBC in a YouTube video for the first time 3 years ago. I was much impressed by the mechanisms for carrying balls. I thought that the GBC would be just right for the showpiece of my school festival. So I proposed a GBC layout as the showpiece for the school festival. My classmates and

I executed the plan and our GBC showpiece got favourable mentions at the school festival. After that I became quite fond of the GBC.

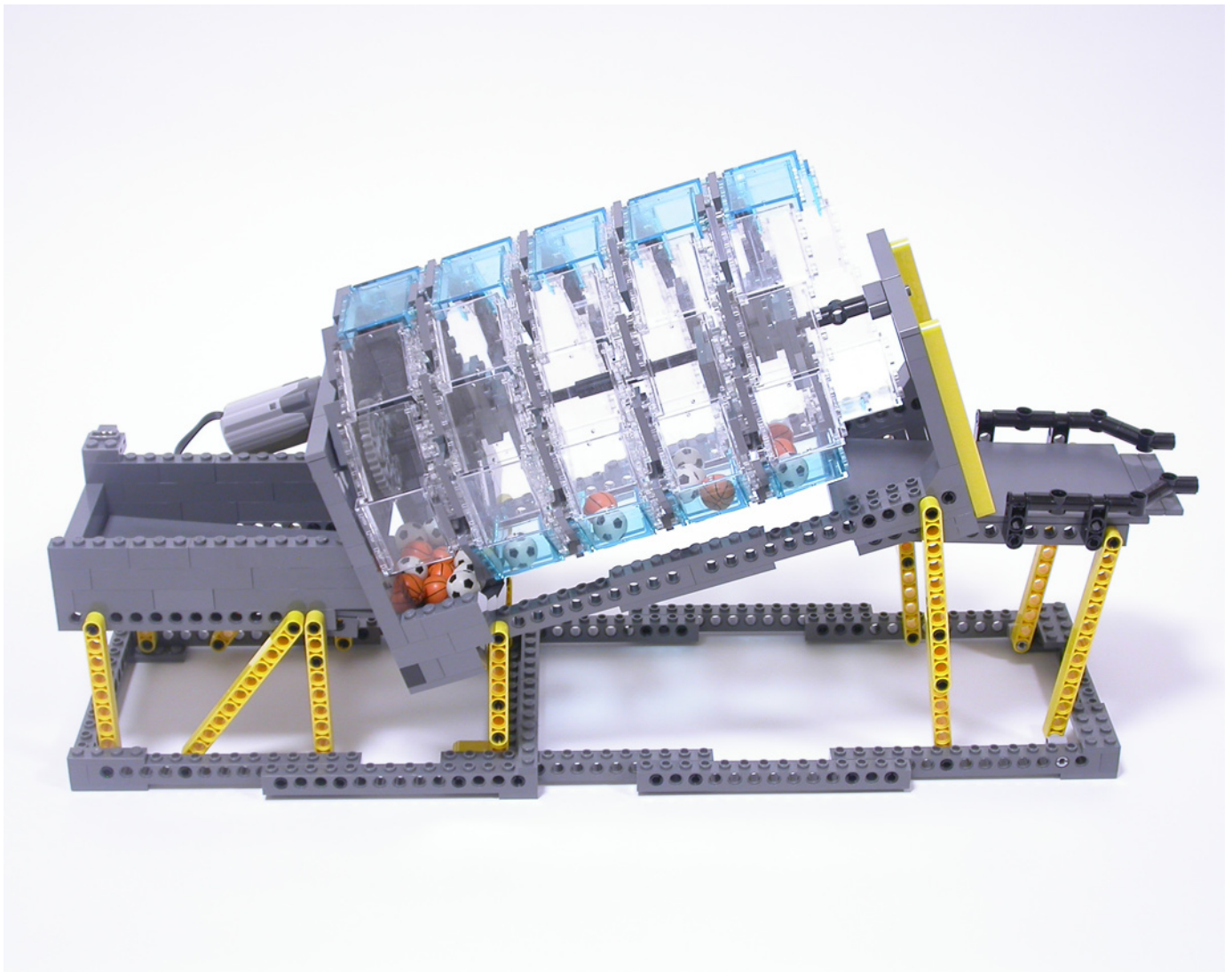
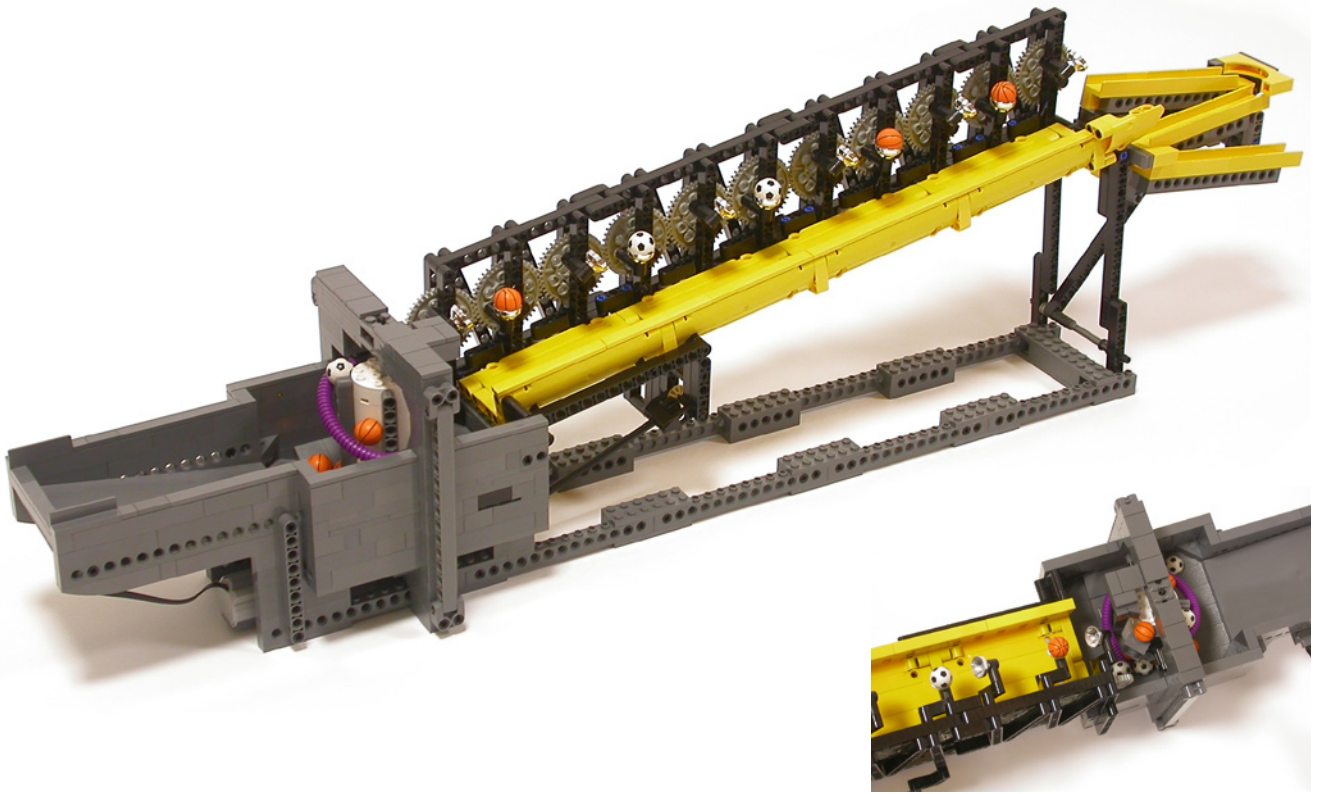
**TB:** Your GBC modules always show something unique, innovative and something suggesting you have an outside-the-box way of thinking. Where do you get inspiration for your modules?

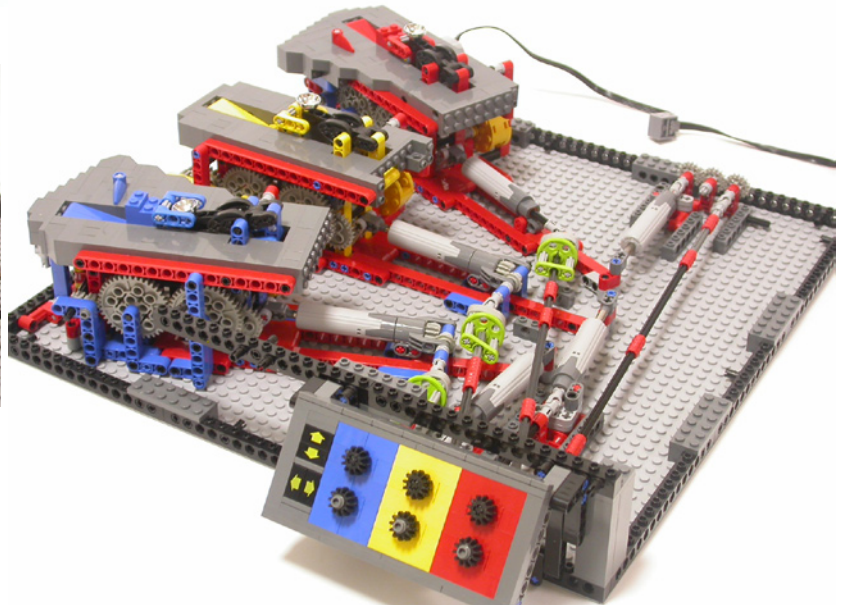
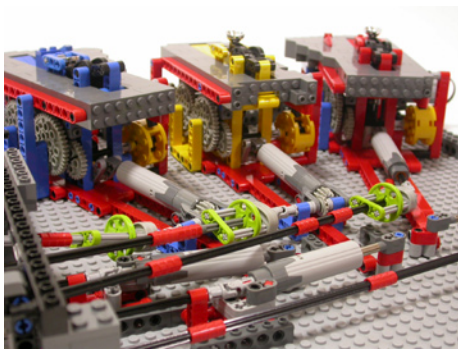
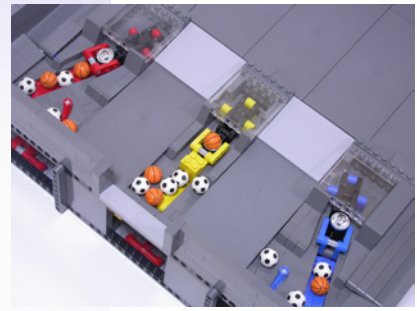
**AK:** I do not think that I am unique, but I think about mechanisms night and day. I like to watch videos of industrial machines and GBC modules on YouTube. I thank GBC fans uploading their videos to YouTube. In making the ball factory module, special thanks go to YouTube user superbird28. I was much inspired by his videos. If I had not watched his videos, I could not have made the ball factory module.

**TB:** You show a singular capacity to think and build complex mechanisms while these may also appear extremely simple at the same time in many cases.

**AK:** I think a complicated mechanism is combination of simple mechanisms in many cases.

**TB:** Another aspect we really appreciate in your work is the clean design and careful combination of colours. Very Japanese I'd say.





**AK:** I have recently started to use Dark Bluish Gray bricks as base colour, adding red, yellow and lime as accent colours. I place a lot of importance on the visibility of the movement of the balls. Many clear parts were used for to show this even better. I also prefer a mechanical solution for movements rather than computer programming and servo motors. It may be related to the Karakuri doll of the Edo Era. Karakuri is a Japanese traditional automata. A well-known Karakuri doll could automatically serve green tea.

**TB:** Your constructions denote a very careful planning in parts acquisition/selection and also on the preparation of what you intend to do. Can you estimate how many parts you have, or do you buy them on purpose for each new module you work on?

**AK:** I have approximately 100,000 parts in total. 70% are Technic parts. Usually after deciding the module composition I buy the necessary parts for completing the module. On the other hand, I often buy parts without a specific purpose when

I feel interesting in them or I feel they have the potential to be used for GBC.

**TB:** Do you take your modules apart after completing them, or do you keep them so you can show us an incredible and huge GBC chain later on?

**AK:** I keep some my favourite modules, most part of the modules, which I would like to use for my next GBC Layout. Other modules are taken apart and go back into the parts collection.

**TB:** Some of your modules are quite complicated, and certainly weren't trivial to design. On average, around how many tries and fine tuning sessions does it take for a new module to work just the way you like?

**AK:** It takes about 7-40 hours to complete one module through trial and error. Adjustment for a stable running of the GBC module are delicate and time consuming. The final completed

module is often different from my first image. There are many unfortunate ideas that I gave up.

**TB:** What model/module are you most satisfied about and why?

**AK:** I am most satisfied with the ball factory version2 module. I was deeply influenced by superbird28. His videos taught me another possibility of LEGO® Technic. My most favourite factory module shows complicated movements, but the movements completely synchronize. I spent a lot of time to smoothing the acceleration/deceleration of linkages. I think no other block toy can make crank-slider mechanism as easily and smoothly as LEGO. Next to the ball factory Ver.2 I like the catch & release module. I'm fond of the mechanism releasing a ball.

**TB:** Is there any part/element you wish LEGO would make?

**AK:** The NXT's I/O ports are too few. I would like a new Mindstorms system which enables a single computer brick to control more than 20 servo motors.

I also wish LEGO would make shim ring parts.

#

