

## 2019 IEYI 世界青少年發明展金牌作品簡介

獎項	代表學校	作品名稱	作品簡介	參賽學生	指導老師	指導老師 聯絡電話	指導老師 e-mail
金牌	<p>高雄市小港區港和國民小學</p> <p>高雄市立五福國民中學</p> <p>臺南市立後甲國民中學</p>	傾斜式行李箱	<p>When we travel, we often encounter a frustrating situation. Many hotels have small rooms, with little space to walk around when a suitcase is laid on the ground. When you need to take things out of the suitcase, you must open the bag, taking up even more floorspace. In order to solve this problem, we have created a tilting suitcase.</p> <p>Our design had movable kickstands on each side of the bag, so that the bag takes up as little space as possible while remaining functional. When room space is limited, you can save up to 50% of the space by using the tilting suitcase. Further, our tilting design reduces the chance of luggage surface scratching, keeping your suitcase in better condition for longer. It is convenient whenever and wherever you need to access your luggage.</p>	<p>顏琳</p> <p>林軍彥</p> <p>許庭睿</p>	顏志昌	07-8131506	saysoldier@yahoo.com.tw
金牌	宜蘭縣五結鄉學進國民小學	防水插座插頭組	<p>Heavy rain or typhoons can cause flooding. Electrical sockets closer to the ground can therefore be swamped by rainwater, soaking the plugs and possibly causing leaking current. Waterproof socket covers commonly found on the market require unplugging plugs from</p>	<p>蔣秉晏</p> <p>簡雋</p>	陳榮政	03-9653801	cjchotln@gmail.com

			sockets and then covering them manually. However, flooding can happen when people are asleep or when no one is at home, so we wanted to invent a new device to solve these problems.				
金牌	高雄市立鹽埕國民中學	雞蛋保鮮印章	<p>Consumers usually throw away the packages of the eggs after they buy them. They think eggs won't be rotten if stored in refrigerators, so they eat the eggs even after the use-by dates. In order not to eat non-fresh eggs to affect our health, we invent the eggs' expiration stamp. We use the stamp on the eggs, and the color of its ink will change if the egg is spoilt.</p> <p>As for the material of the ink, we try to look for natural acid-base indicators from a related course. When the eggs are past the use-by dates, they will release a kind of acid gas --- hydrogen sulfide (H<sub>2</sub>S). As a result, we choose solutions which will change colors under acid conditions. In the process, we experimented with turmeric, clitoria ternatea(butterfly pea flowers), dragon fruit, black beans, and among them, the color changing reaction of black beans was the most obvious. The original color of black bean water is black-purple, and it will</p>	久保勇氣 洪銘蕙 朱培薰	董巧琦 方美華	07- 5211283	woodstocky77@sp ec.kh.edu.tw

			<p>change to orange-red under acid conditions. We use it to make the eggs' expiration stamp, and stamp it on the eggs.</p> <p>When the color of the stamp changes, we can know that the eggs are spoilt.</p>				
金牌	臺北市立大學附設實驗國民小學	「醬」出不困難、 「膠」擠真方便—方便傾倒液體的容器	<p>The invention is "A container which is easy to pour out liquid." Most of you might use such sauces as steak sauce, chili sauce, fish sauce and Ketchup. You might also experience shaking or taping hard a sauce container when you cannot get the sauce easily. Besides, you may have the difficulty in using the glue when it is little left inside, and you may wait for a longer time until you can use it. In order to solve these everyday problems, I design two types of inventions to overcome these kinds of problems.</p>	劉研軾	劉聰穎 李梅慈	02-23110395	ying322322@gmail.com
金牌	高雄市三民區東光國民小學	定時餵藥音樂器	<p>Elderly people often forget to take medicine, which affects their health. This invention adds a radio MP3 player on a pill dispenser. It can not only remind the elderly to take their medicine on time but also make them relaxed with music.</p>	李少博 陳憶名 張之綺	楊宜倫 莊文昭 李宜倫	07-3839350	yilun@dgps.kh.edu.tw

金牌	臺北市松山高級工農職業學校 臺北市松山高級工農職業學校 國立臺中科技大學 資訊工程系	應用社交軟體 拓展娛樂互動大平台	<p>The smartphones, being popularized nowadays, became an indispensable part of human's life. Applications such as LINE can instantly send text, images and other multimedia messages to other users without additional cost. Since March 2016, LINE has been used by more than 1 billion people worldwide, including up to 215 million active users. On the other hand, Facebook, Instagram and other social applications provided platforms where users can either share photos and videos of life on or follow other users' posts which were loved by many users. We developed a system for public events that combines the feature of LINE, quickly spread messengers, and the advantages of social platforms, instantly sharing of multimedia messages. The users can not only post the message by scanning the QR code provided by the organizer, but also post on the social platforms with a hashtag, then it will be automatically post to the system. The event organizer can also use the online management system which based on the web page to manage the posts. In addition, with the automated inspection system, even a large</p>	陳鴻文 林聖祐 楊承勳	林敬堯 余耀銘	02- 27226616	eugene@saihs.edu .tw
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金牌	新北市立三民高級中學	高速型多人 互動式跳繩 組	<p>Rope jumping is a very popular activity that it can be practiced indoors or outdoors, and that it facilitates the teenagers to grow tall and strong. The activity is usually insipid, however. If we integrate interactive games into rope jumping, that must be more interesting.</p> <p>The idea is that we operate a toy car through rope jumping and a remote controller. Namely, only by jumping rope to which a specific designed device may be attached can we control the toy car at ease. For example, in this new game, a toy car can run in a maze or many people can participate in the toy car racing. In this way, rope jumping can bring a lot of fun.</p>	陳冠綸 尤俊淳 洪承好	吳致甄 劉亦恭	02- 22894675	ognppxcyw@gmail. com eagle619.tw@yaho o.com.tw

金牌	新北市財團法人南山高級中學	IOT 結合手機監看多路段路燈節能裝置	<p><b>This research uses Traffic Flow indicators, Car Sensors,Road –Enty Sensors,,Off-Road Sensors, and Street Lighting Control Module to make a set of devices called“IOT-Combined and Smartphone-Monitored Multi-Sectional Street Lighting Energy Saving Device.”</b></p> <p><b>The main hardware device of this system adapts ATMEL AT89552,produced by the electricity company of ATMEL,as its CPU Module and uses Wi-Fi Communications Module (ESP8266) to transmit the information to the Cloud.</b></p> <p><b>Besides,it uses the smartphone to connect to the Cloud database in order to achieve the goal of data analysis and management as well as safe driving.</b></p> <p><b>The design method and the structure of the hardware will be described in detail in this article.The main software used in this system is written in combination language.The design method and the software process will be described in this article,too.</b></p> <p><b>We plan to use the Traffic Flow indicators, Car Sensors,Road –Enty Sensors,Off-Road Sensors, Street Lighting Control Module,and counter to optimize energy conservation and the auto-</b></p>	高秉聖 王柏淵 林思維	林政煌 蔡梅桂	02- 22453000	link@mail.nssh.ntpc.edu.tw
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			control of street lighting.				
金牌	臺北市大橋國民小學	互動星球, 宇宙一家親	Nowadays, the resources on earth are continuously destroyed and land resources and water resources are constantly depleted. The average temperature of the Earth is rising due to global warming. As a result, there are less and less suitable place for human living. In the near future, we will eventually have no choice but to live on other planets and make friends with the aliens! Therefore, here comes my topic for this picture: <b>Universal Family on Planet Interactive.</b>	林亮宇	江美惠 林傳能 王思涵	02- 25914085	cici157@hotmail.com