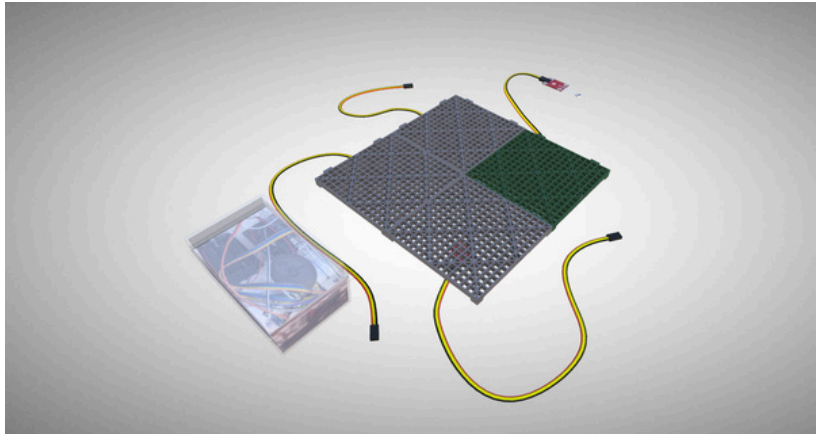


# 2020/21 Winning Entries

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## Secondary School Student Category- Gold



HKCWC Fung Yiu King Memorial Secondary School  
**E-mat**

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To improve the existing designs in the market, our design is installed with a pressure detector and a Wi-Fi device, which help detect the movement of the elderly. In case of a fall in the bathroom, E-mat will seek help from the users' family members or social workers once the sensing area of the pressure detector significantly increases and no movements are detected.

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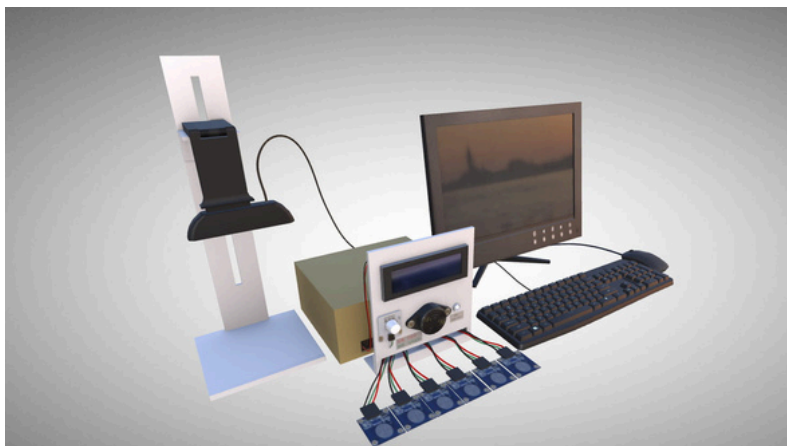
### Team List

Instructor: Cheng King Hang  
Students: Leung Tsz Yin, Chim Man Ho  
Secondary School Student Category - Gold (2020/21)

Video: <https://youtu.be/M8GxvOEewgc>

# 2020/21 Winning Entries

## Secondary School Student Category- Silver



**Heung To Secondary School (Tseung Kwan O)**  
**Parkinson's Disease Tester**

Elderly should seek medical advice when they find out that they have symptoms of this disease. However, the early symptoms of this disease are not obvious. Elderly can have body check at public hospitals, but it takes quite a long time to wait for the checking, and the results cannot be obtained immediately after the checking. They may miss the best treatment time. Therefore we have designed and prepared a device called the " Parkinson's Disease Tester" to help elderly conduct simple and reliable tests in clinics or social welfare institutions to determine whether they have early Parkinson's Disease symptoms based on "Deep Learning" technology

For the society:

- The tester can guarantee the health of the elderly, so that they will not miss the best treatment opportunity due to testing being delayed
- The tester allows nursing homes or social welfare institutions staff to carry out test for the elderly, reducing the troubles for elderly due to waiting in the hospital
- The tester can promote the importance of health and improve the quality of medical care
- The tester can awaken the society's attention to Parkinson's disease
- Although the tester cannot accurately diagnose Parkinson's disease, it can quickly identify early symptoms, allowing the elderly to seek medical treatment early, reducing medical costs and government expenditure

The production cost of the tester is about HK\$1,500 dollars. Due to low production cost, it is believed that companies are willing to make investment in mass production of the tester and the nursing homes, social welfare institutions, hospitals and clinics may make arrangement for medical test of elderly using this tester.

### Team List

Instructor: Wong Tung Shek

Students: Chu Tsz Ying, Ho Kai Yui, Wu Chi Sing, Lau Yu Hing  
Secondary School Student Category - Silver (2020/21)

Video: <https://www.youtube.com/watch?v=8sho6ILQVOK>

# 2020/21 Winning Entries

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## Secondary School Student Category- Bronze



**Christian Alliance S W Chan Memorial College**  
**Auxiliary Game for Stroke - Rehabilitation**

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Our design provides online medical consultation which saves travel time. The design also provides VR games which allow stroke rehabilitation at home. The game results will be sent to physiotherapists, who can then monitor the recovery progress.

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### Team List

Instructor: Lee Kin Long

Students: Cheung Sau Nam, Chow Wan Yui, Lau Wei Bong  
Secondary School Student Category - Bronze (2020/21)

Video: <https://youtu.be/60a5CS44Egc>

# 2020/21 Winning Entries

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## Tertiary Students Category- Gold



**Hong Kong Institute of Vocational Education (Chai Wan)**  
**Outdoor Smart Fitness Station (FIT)**

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Aiming at raising the elderly's interest in doing outdoor exercises, we have adopted 3D printing technologies to create the 3D buttons. The buttons equipped with lighting functions are placed at the fitness equipment in park. The lighting is rhythmic, allowing users to press the buttons in time with the rhythm and stretch their bodies. The buttons are user-friendly that users can easily create their own fitness station wherever they want.

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### Team List

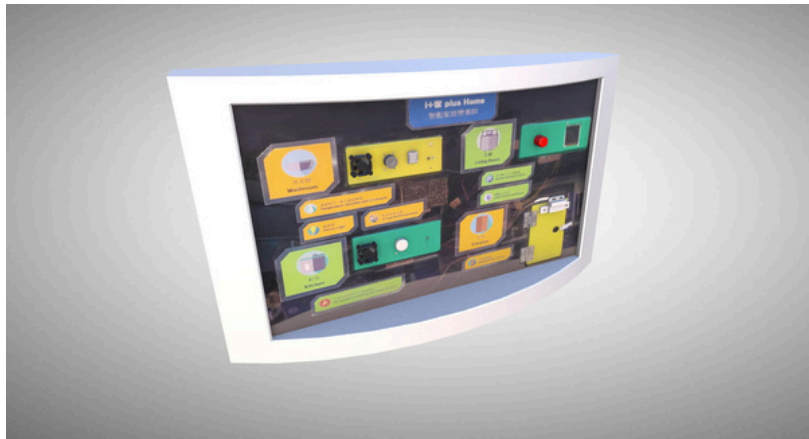
Students: Ho King Hei, Fu Wai Chun, Cheung Yat Lon Simson, Cheung Tsun On, Wong Tsun Yat  
Tertiary Students Category - Gold (2020/21)

Video: <https://youtu.be/azD1QHvVNi8>

# 2020/21 Winning Entries

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## Tertiary Students Category- Silver



**Hong Kong Institute of Vocational Education (Sha Tin) /  
(Kwai Chung)**

**i+home**

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The design is a “aging-in-place” system with IoT technology adopted. The design hopes to enhance the living standard of the elderly and to reduce the incidents at home.

Major functions:

1. The detectors installed in the kitchens will alert the elderly to turn off the cooking pots or will seek help from caregivers when abnormalities detected.
2. The detectors installed in the bathroom can adjust the ventilators, lights, and U-traps.
3. The magnifying detectors installed on the door can remind the elderly to turn off the oven or water tap before going out. It also records their in- and out-time so that the caregivers can understand more of their habits.

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Team List

Students: Cheng Tsz Chun, Wong Yun Jing, Ho Kar Man, Ng Ting Yuet, Ren Chan, Yeung Hoi Ki  
Tertiary Students Category - Silver (2020/21)

Video: <https://youtu.be/UxmWo7nal9o>

# 2020/21 Winning Entries

## Tertiary Students Category- Bronze



Technological and Higher Education Institute of Hong Kong  
**E-walker**

The problem of the aging population in Hong Kong is gradually getting worse. The number of elderly living alone is increasing. The elderly will encounter various difficulties in daily life. As their physical conditions are gradually deteriorating, the elderly need to walk the stairs carefully and have difficulties bending over, etc. Therefore, our target users are the elderly who cannot take the heavy things, need to cook, and live alone. It enhances the self-care ability of the elderly so that they can live easily and have the ability to take care of themselves.

There are five main concepts-5E, "Easy to walk", "Easy to carry", "Easy to use", "Easy to storage" and "Easy to walk up and downstairs". It is a multifunctional foldable trolley. It is equipped with a 360-degree rotating handle for users to adjust which can conveniently push trolleys and hang heavy stuff. The chair can solve the exhaustion of standing and walk for a long time. The rotating three-wheel design helps the elderly push heavy things easily when they walk up and downstairs. The foldable trolley and its foldable parts such as storage boxes, cover, and seats can help the elderly store them. Also, it has two modes: First of all, in "Outing Mode" it becomes a trolley that can walk stairs, which can be stored and rest. There are stop and lift buttons on the trolley to help the elderly use the product. Secondly, in "home mode" the product is equipped with a seat that can be reliably used while the user is cooking, reducing the pressure from standing for a long time. The storage box can be raised and lowered to decrease the frequency of bending.

### Team List

Students: Kan Po Yi, Wan Wai Kuen, Li Wai Ling, Lam Kwai Ho, Kwok Sheran  
Tertiary Students Category - Bronze (2020/21)

Video: <https://www.youtube.com/watch?v=3USfOXqYyts>