

How STEM activities
are integrated into
the contest of
subject teaching
HKUST



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傑出教學獎得主

STEM is

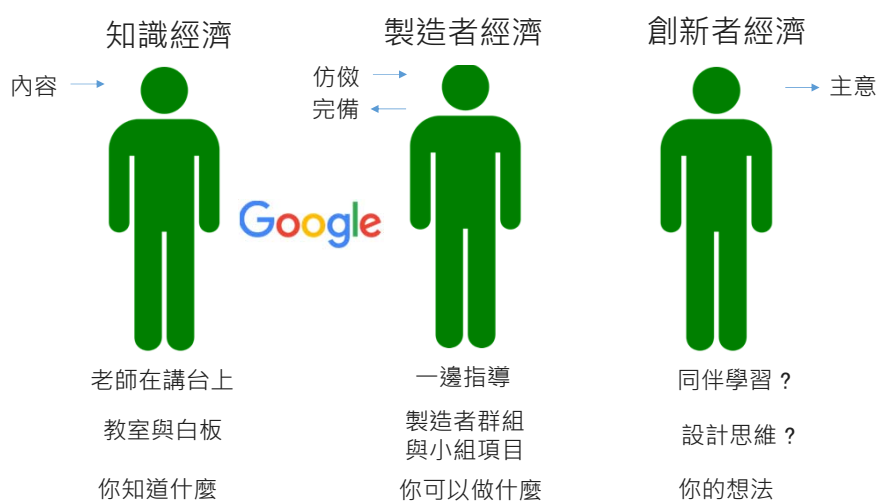


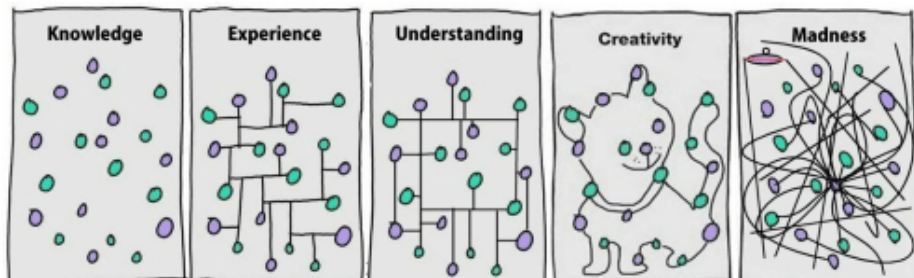
Stems have four main functions which are:

- **Support** for and the elevation of leaves, flowers and fruits.
- **Transport** of fluids between the roots and the shoots in the xylem and phloem.
- **Storage** of nutrients.
- **Production** of new living tissue.

Source from Wikipedia

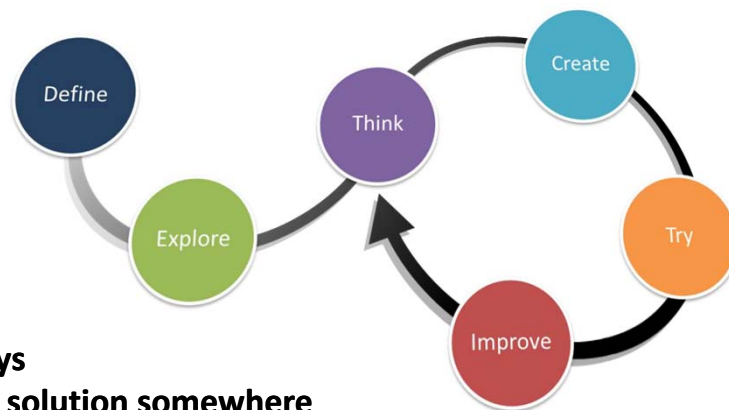
學習模式





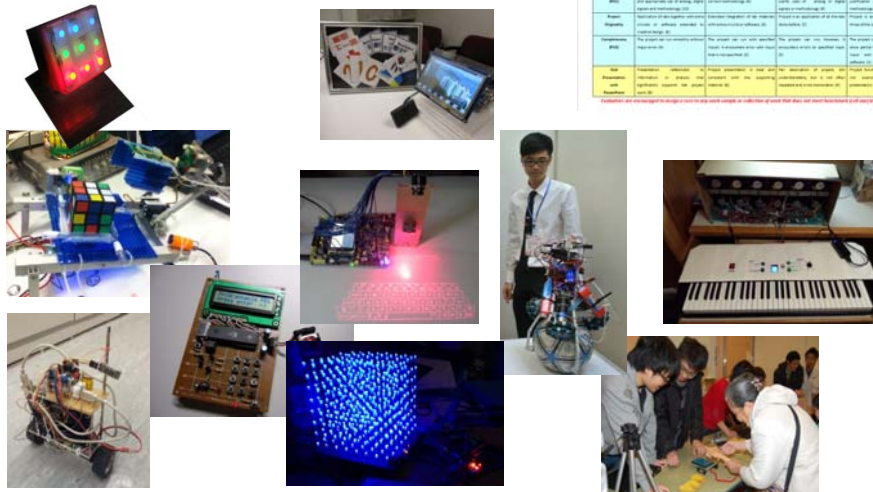
Source: <http://me.me>

Design Process



**There is always
a better solution somewhere**

嵌入式系統課程

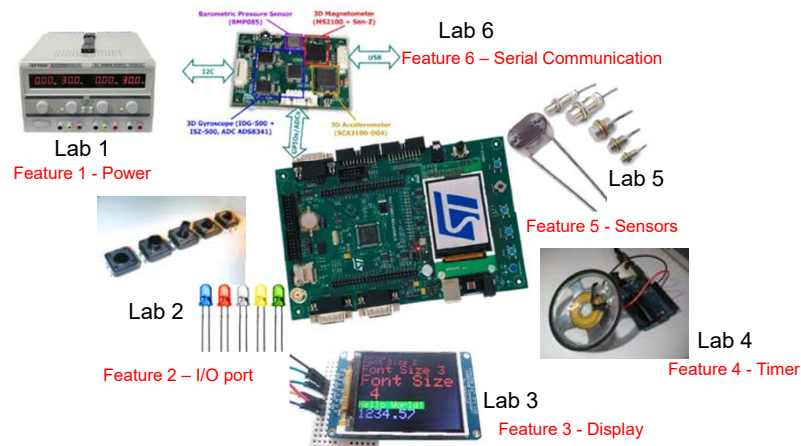


嵌入式系統課程

- Integrate with a digital clock widget
- Features
 1. Power up by the battery
 2. Set the clock information by using buttons
 3. Display the texts, numbers and graphics
 4. Provide real-time clock
 5. Sense the temperature and display its values
 6. Keep the historical data
- Let's see how this course helps



Design architecture of an embedded system



學生的評論

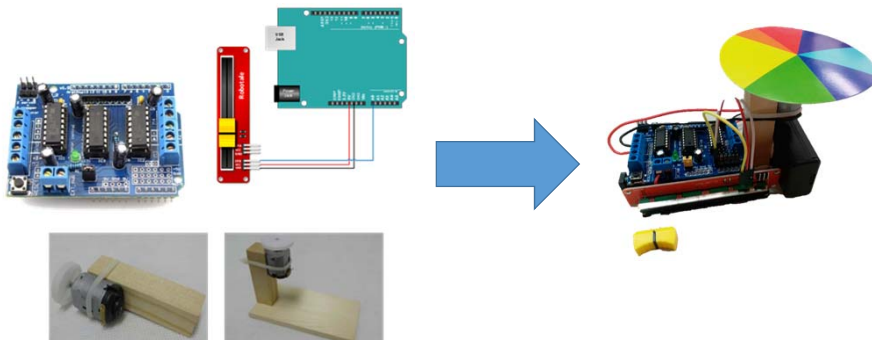
- “Hands on experience to **boost your creativity**”
- “Projects! I love projects. And **lecture videos**~”
- “ you are an excellent teacher and have **inspired me to continue learning with an open and positive mind. ...**”
- “**Provide a great freedom** for student to work on the project they interested in”
- “This is a dream-landing course for us to do whatever we want, and better still, it encourages **engineers to care for the community.**”

Videos



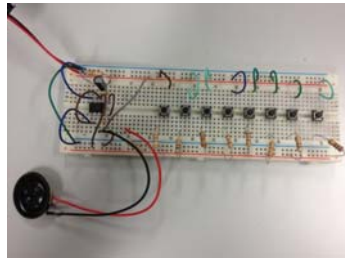
Another example: A course for secondary school students

- This course is designed to illustrate the interesting link between science, mathematics, engineering and daily life to secondary students.



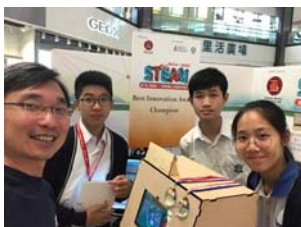
Extension of electronic piano

Any online resources?



Any creative application?
Social innovation?

Projects for secondary school students





HKUST Robotics Team

香港科技大學機械人競賽團隊



A family of ...

Creativity
Knowledge
Hands-on experience
Problem Solving Skills
Team Work
Research Work

Our website: <http://robotics.ust.hk/>
: HKUST Robotics Team



<https://www.facebook.com/ustrobotics>



School of Science

School of Engineering



HKUST Robotics Team

香港科技大學機械人競賽團隊





他們現在在幹什麼？



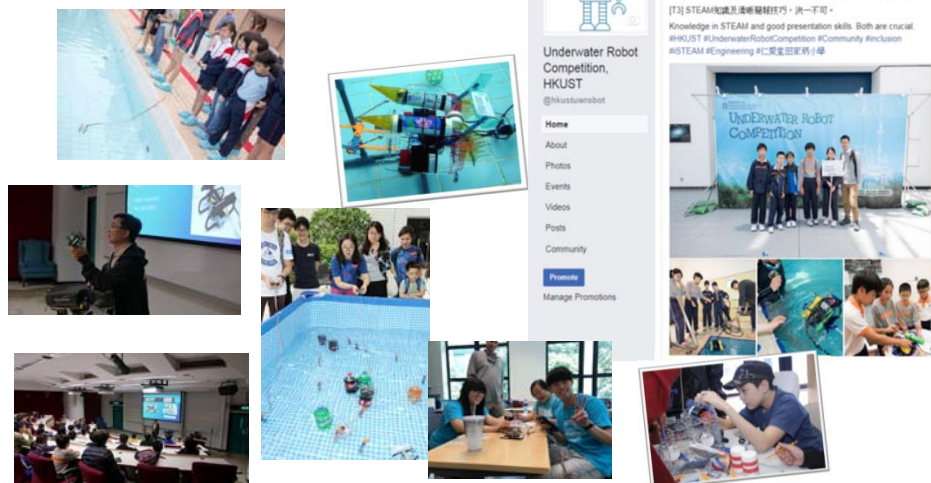
HKUST Robotics Team 香港科技大學機械人競賽團隊

Visit the video in the following link:

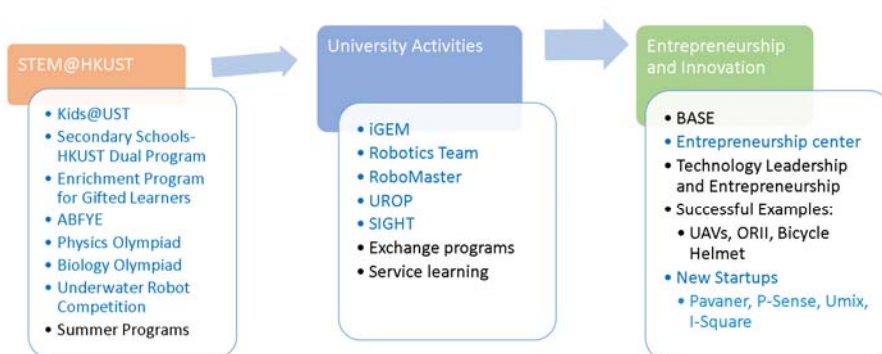
<https://www.facebook.com/ustrobotics/videos/560390514378929/>

為社區做出貢獻

通過我們的知識賦予同理心



為大中小學生培養人才





University Activities



iGEM

- International Genetically Engineered Machine Competition



UROP

Undergraduate Research Opportunities program



HKUST Robotics Team



SIGHT Student Innovation for Global Health Technology



Entrepreneurship



BASE



Entrepreneurship Weeks



Technology Leadership and Entrepreneurship (TLE)





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