



賽馬會 Jockey Club
Community Care and
STEM in Action Project

社區關懷與創意教育實踐計劃

主辦機構 Organised by



香港中文大學 學習科學與科技中心
Centre for Learning Sciences and Technologies
The Chinese University of Hong Kong

捐助機構 Funded by



香港賽馬會慈善信託基金
The Hong Kong Jockey Club Charities Trust
同心同步同進 RIDING HIGH TOGETHER

協作單位 Collaborated by



樂善堂余近卿中學
Lok Sin Tong Yu Kan Hing Secondary
School

主辦機構 Organised by



香港中文大學 學習科學與科技中心
Centre for Learning Sciences and Technologies
The Chinese University of Hong Kong

捐助機構 Funded by



香港賽馬會慈善信託基金
The Hong Kong Jockey Club Charities Trust

協作單位 Collaborated by



香港教育研究會
Hong Kong Institute of Educational Research

支持單位 Support Unit



香港工業總會轄下 A FHKI Council



賽馬會 Jockey Club

Community Care and
STEM in Action Project

社區關懷與創意教育實踐計劃

STEM in Action

(A 3-year Project)

成果分享

(從原型到產品)

Prof. Morris Jong, CUHK



Participating Schools 參與學校

樂善堂余近卿中學



Lok Sin Tong Yu Kan Hing Secondary School

基督教宣道會宣基中學



Christian & Missionary Alliance Sun Kei Secondary School

五旬節聖潔會永光書院



P.H.C. Wing Kwong College

佛教黃允畋中學



Buddhist Wong Wan Tin College

迦密聖道中學



Carmel Holy Word Secondary School

香港浸會大學附屬學校王錦輝中小學



Hong Kong Baptist University Affiliated School Wong Kam Fai Secondary and Primary School

Project' focus ...

STEM Education

X

Social-Service Learning





Core Objective ...

*Learn and apply **STEM** knowledge and skills for helping underprivileged in the community through **design thinking***

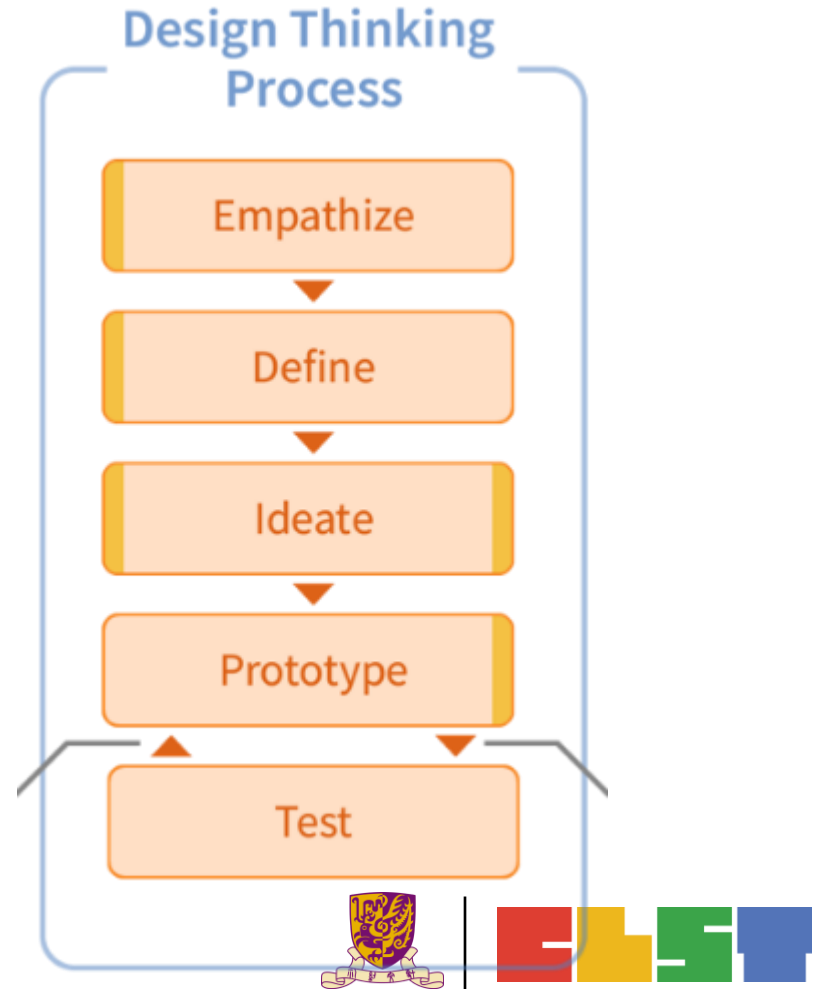


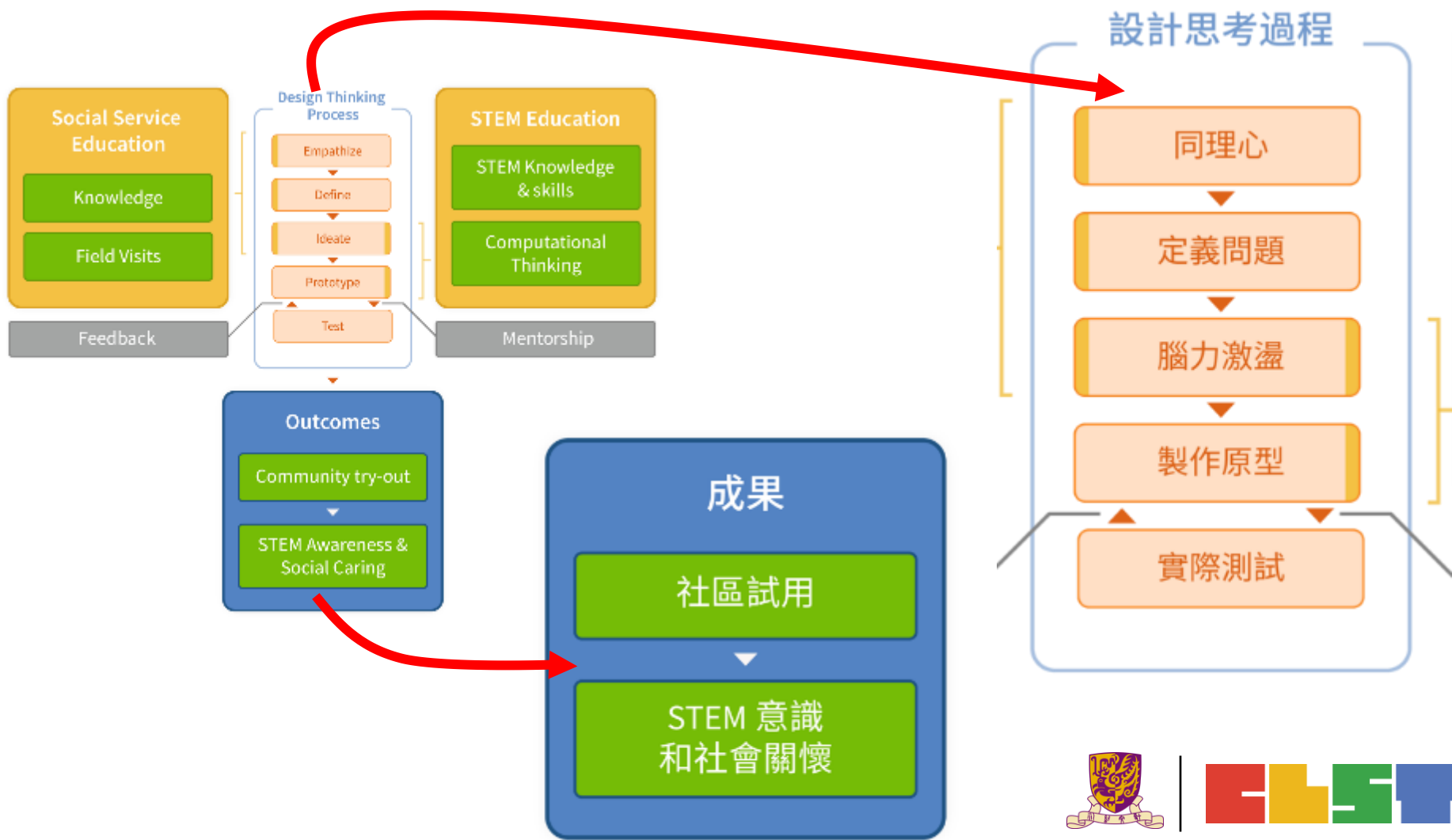
Underprivileged in the Community ...

1. 社會房屋居民
2. 視障
3. 聽障
4. 四肢殘障



Design Thinking





3-Phase Curriculum

In each project school ...

- Phase I: STEM-Ed + SS-Ed (*All F.2 / F.3 students; around 4 students/group*)
- Phase II: Maker Ed (*10 groups, i.e., around 40 students*)
- Phase III: Mentorship Programme (*2 groups, i.e., around 8 students*)





Mr Kwan Chung Ho



Mr Leung Kwok Fai



Mr William Fung Wing Ho

My Partners Today



Event 1: Booth Exhibition - STEM in Action
Project

Date

7-9 Dec 2022 (Wed, Thur & Fri)

Time

Wed & Thur: 10:00 a.m. - 6:00 p.m.

Fri: 10:00 a.m. - 5:00 p.m.

Venue

Booth H01 (near "Main Entrance")

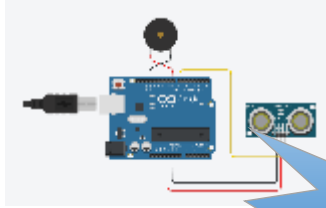
Hall 3CDE, Level 3,
Hong Kong Convention and
Exhibition Centre



Phase I

Module	Content
Module 1	STEM Education STEM 教育
Module 2	Social Service Education 社會服務教育
Module 3	Proposal for STEM in Action 創意教育實踐計劃書

Learning Technologies



Circuit Design



APP Design



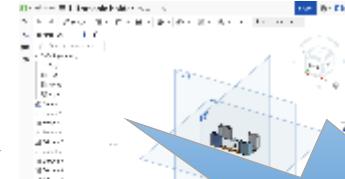
Automation Platform



Real-time Monitoring

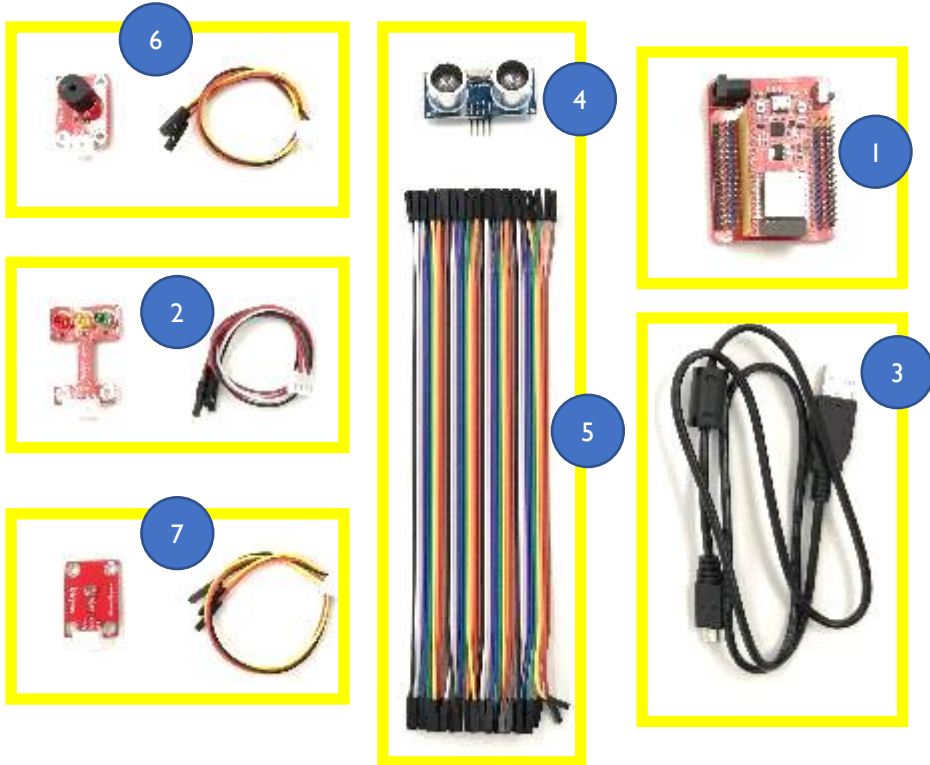


Micro-controller Control



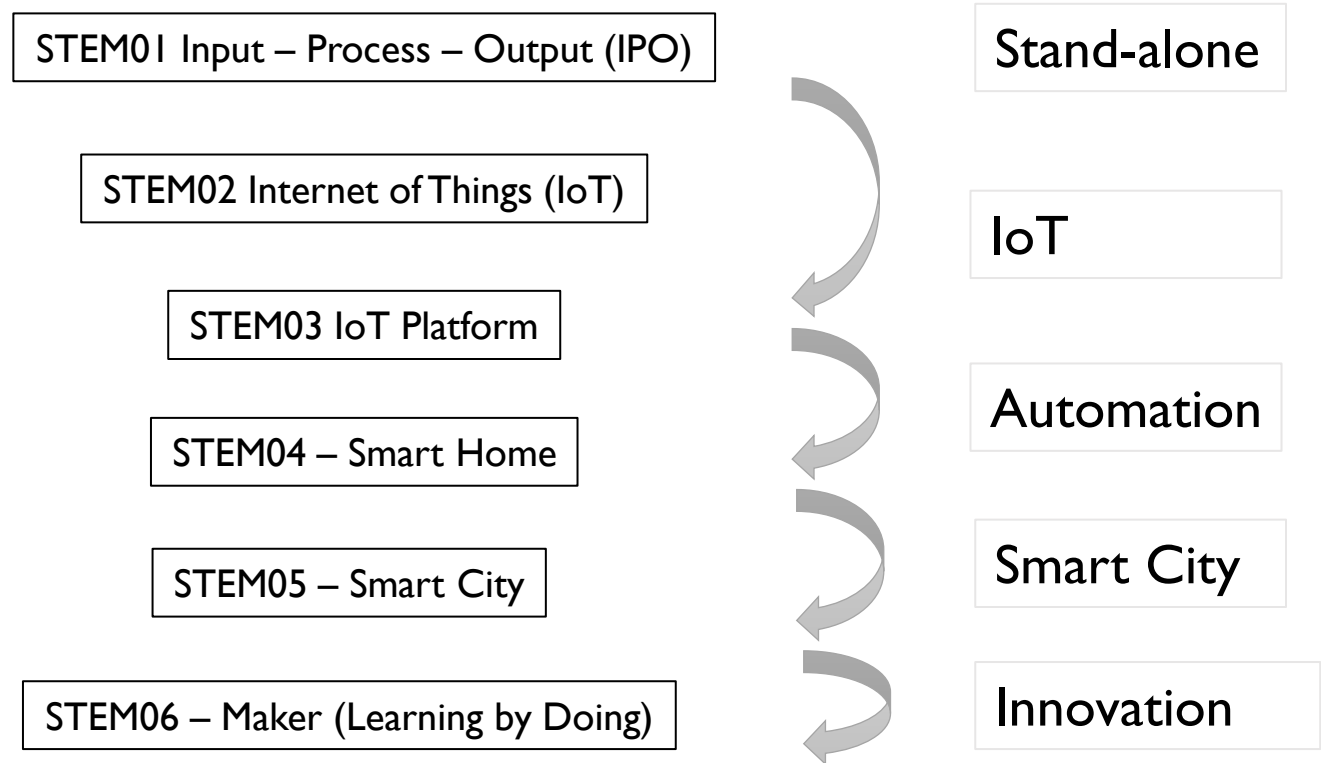
3D Drawing & Printing

ESP32 Teaching Kits



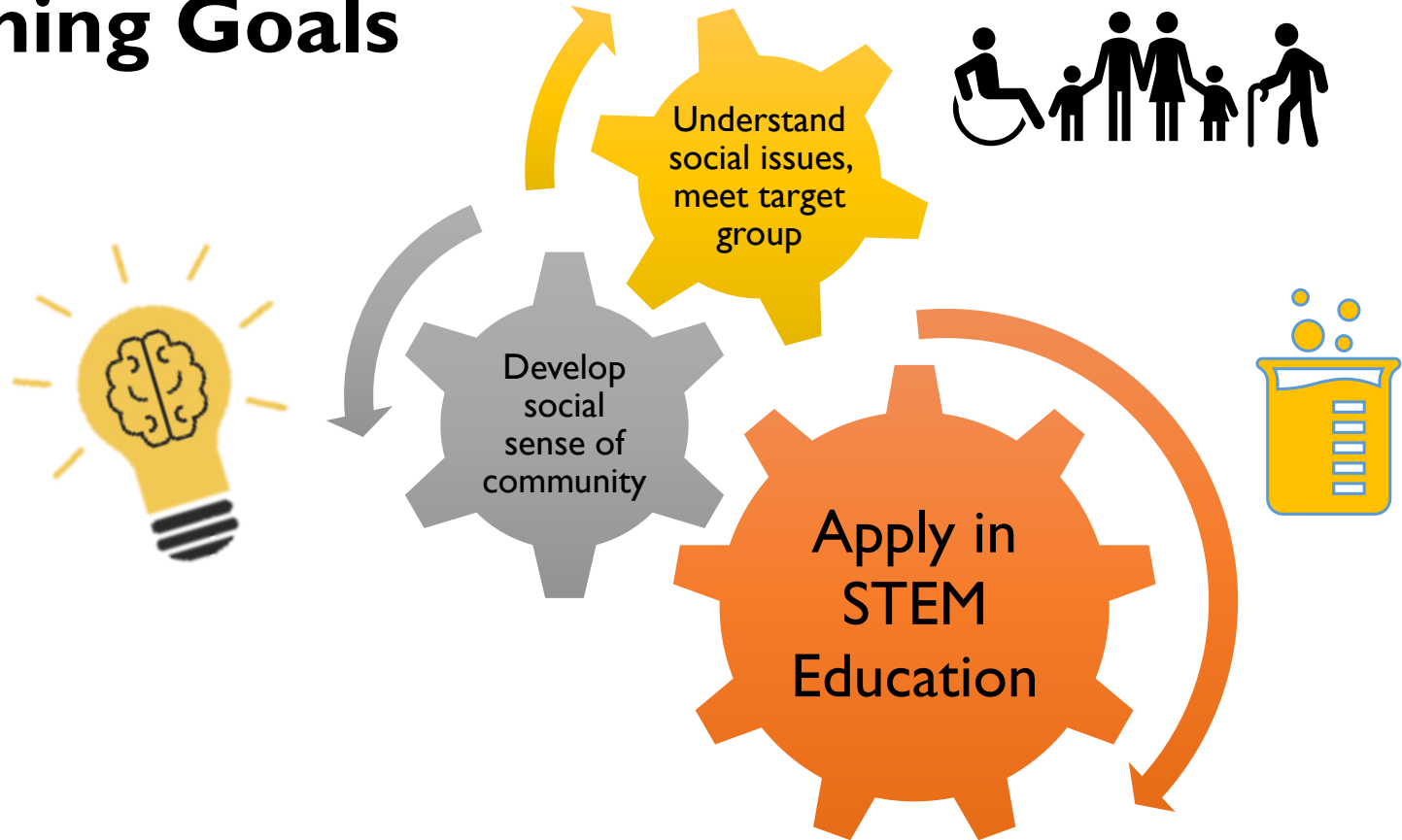
1. ESP32 + Extension board
2. Traffic Light + Connecting cable (4 wires)
3. USB cable
4. Ultrasonic sensor
5. Jumper wire
6. Buzzer + Connecting cable (3 wires)
7. Light sensor + Connecting wire (3 wires)

STEM Course Structure



Phase I: Module II - Social Service Education

Learning Goals



Learning Activities



Discussion



Experience activity



Learning journal and exercises



In-depth interview



Ideation



Group presentation

Phase I: Module 3 - Proposal for STEM in Action

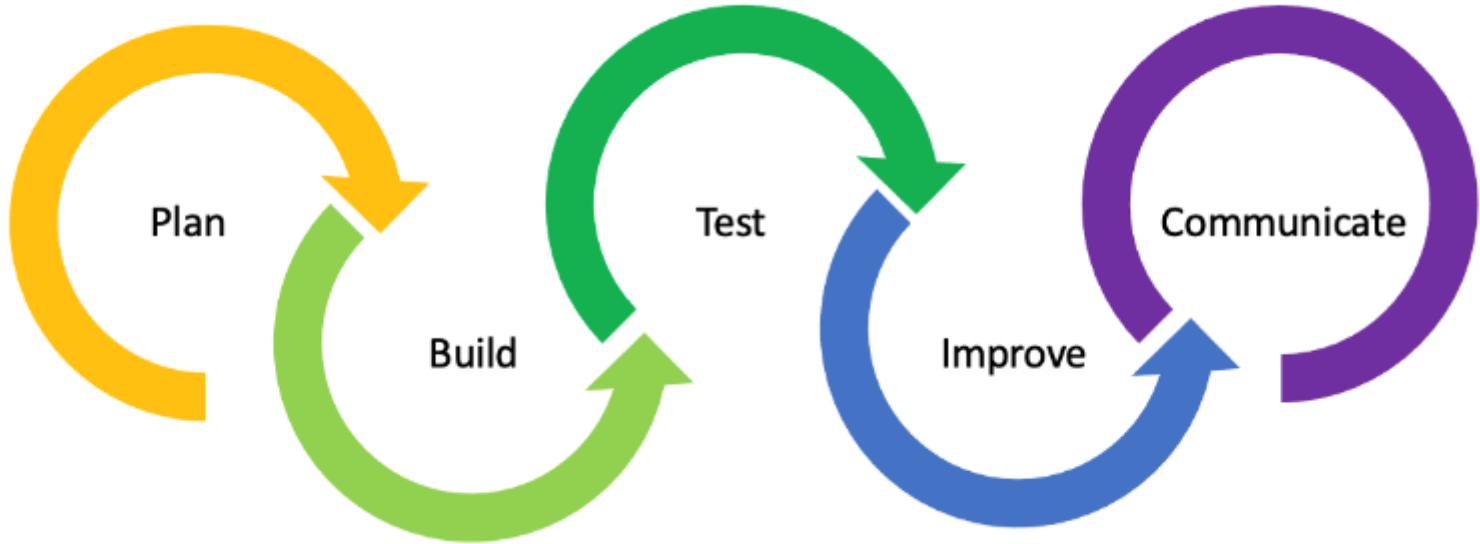
Code	Content
PSIA01	Basic Understanding for Drafting Proposal 計劃書撰寫的基本認識
PSIA02	Proposal Presentation – Video/Written Mode 計劃書匯報 — 錄像 / 文本模式



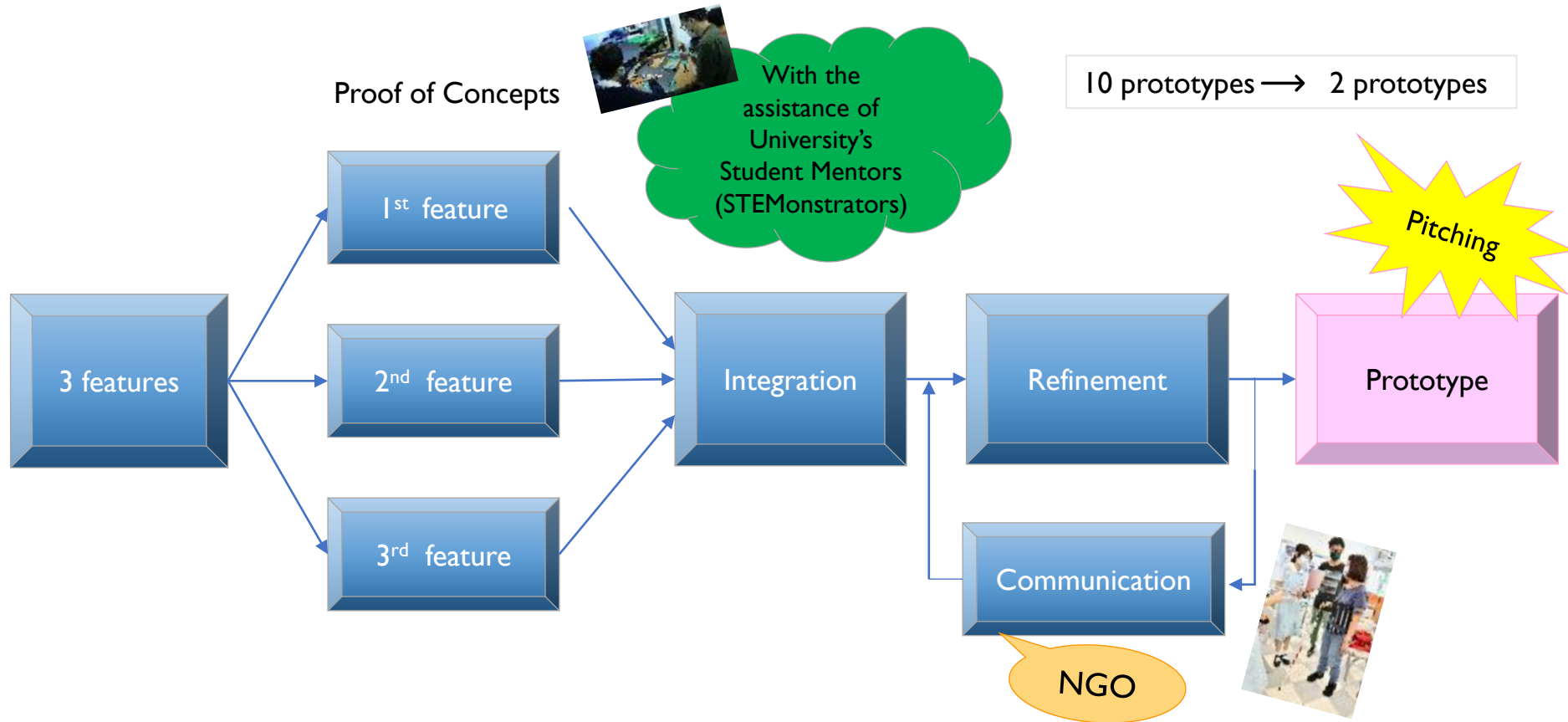
Phase II: Maker Education 創客教育

Code	Content
MEDU	Making Prototype 原型製作

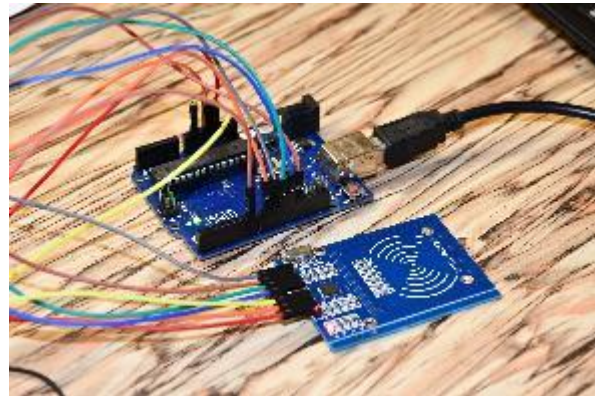
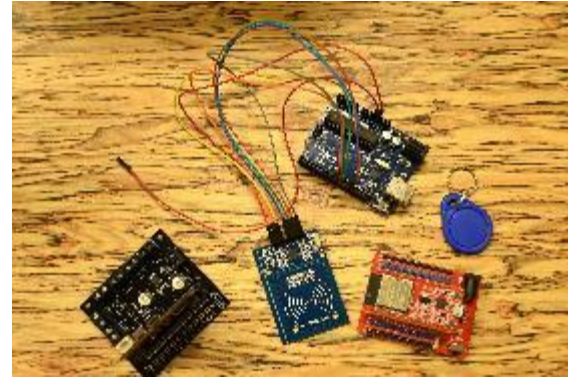
Prototyping



Phase II – Maker Programme (Prototyping)



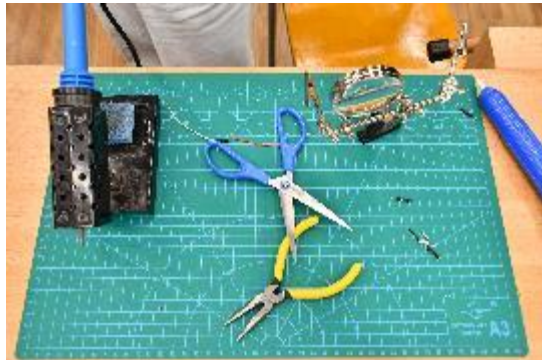
Phase II – Maker Programme (Hardware)



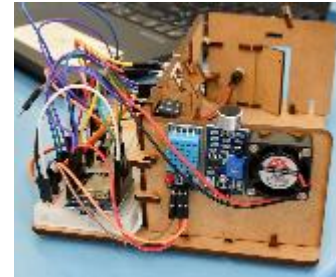
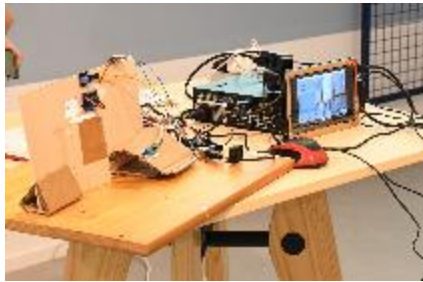
Phase II – Maker Programme (Tools)



Phase II – Maker Programme (Tools)



Phase II – Maker Programme (Prototype)



Pitching Day

Present prototype and ideas to judges



Phase III

Mentorship Programme 科創指導計劃

Code	Content
MTSP	Mentorship Programme 科創指導計劃

Phase III: Mentorship Programme 科創指導計劃



產品製作與改良



企業考察



產品市場調查



產品推廣與宣傳

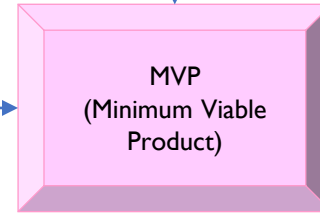
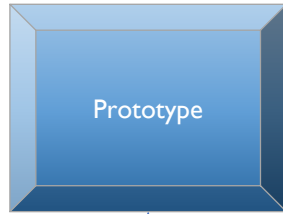
Phase III		建議最多時數
A	產品製作與改良 – 六個進程	30 – 45
B	企業考察	0 – 9*
C	產品市場調查	6 – 9*
D	產品推廣與宣傳	9 – 12
		64

Phase III – Mentorship Programme (Product)



Includes:

- Laboratory tour
- Mini lecture
- Enterprise & Start-up visits




項鍊





項鍊 - 原型
(Prototype)





項鍊 - 產品 (Product)



產品改良

- 加入掛繩孔洞
- 加入不同模式 (正常、排隊、靜音)
- 改用電池作為電源
- 重新編寫程式
- 外型重新設計
- 外殼改用精細的3D 列印



Medicine Giver

智能藥箱

例 2



SKSS-智能藥箱 (Medicine Giver)



SKSS-智能藥箱 (Medicine Giver)



智能藥箱 – 原型 (Prototype 2.0)



智能藥箱 – 產品 (Product)





產品改良

- 扇葉結構（加上微型開關）
- 加入計時晶片以準確計算時間
- 出藥口設計改良
- 加上凸字
- 改用電池以提供電源
- 外殼改用精細的3D 列印
- 金屬頂蓋以增加美觀感



Ventpro



Phase II 原型 - Prototype

YKH-Ventpro



Phase II

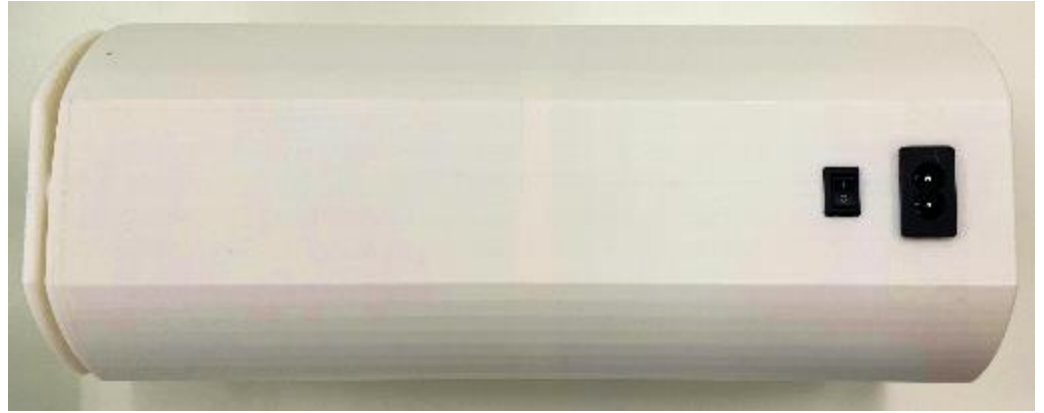
Ventpro – 原型 (Prototype 1.0)



YKH-Ventpro (Testing)

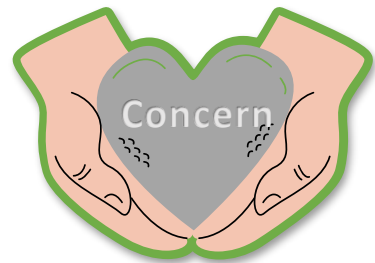


Ventpro – 產品



產品改良

- 更改風扇位置（抽風及送風）
- 更換風扇（更寧靜、更快）
- 加入開關功能
- 加入電線插座以接駁電源線
- 外殼改用精細的3D 列印



社區關懷與 創意教育實踐計劃

參與學校
五旬節聖潔會永光書院



五旬節聖潔會永光書院

賽馬會社區關懷與
創意教育實踐計劃
參與學校分享

五旬節聖潔會永光書院
梁國輝 副校長



學校簡介



- 五旬節聖潔會永光書院
- 創立於1973年
(來年為本校50周年金禧校慶)
- 黃大仙區一所基督教中學
- 主要取錄Band 2學生的中文中學
- 中一至中六,各級四班
- 2020-21, 2021-22兩年參與賽馬會社區關懷與創意實踐計劃
(Jockey Club Community Care and STEM in Action Project)

分享內容

如何進行

01



04

困難

亮點

02



05

相片分享

我們從中的得益

03



06

計劃的持續性

如何進行

計劃的『持分者』

- 中二級學生
分為**30**個小組
- 電腦認知科
- **Life and Society** (以英語為授課語言)
任教老師為英文科老師
- 視覺藝術科**(20-21)**
- 梁國輝副校長
協調、安排**Schedule**、調堂等等的行政處理

如何進行

計劃的『持分者』

- 中文大學 學習科學與科技中心(CLST)的團隊
技術、財政、人脈的等等支援
- 中文大學的學生

Mentors

- 企業
顧問、提點、『補鑊』
- 社福機構
視障人仕、肢體傷殘人仕連同社工們，
給予建設性意見、第一身感受

20-21 PHASE I

Date	Day	2A		2B		2C		2D		S2	
		Life and Society 12:30-13:30	Computer Literacy 11:50-12:30	Life and Society 12:30-13:30	Computer Literacy 08:30-09:10	Life and Society 12:30-13:30	Computer Literacy 10:10-10:50	Life and Society 12:30-13:30	Computer Literacy 10:50-11:30		Others
Feb	24	Wed	4		SSED 1: Basic Understanding to Social Services		SSED 1: Basic Understanding to Social Services				
	25	Thu	5	SSED 1: Basic Understanding to Social Services		STEM1A: 運算思維和編程技巧					
	26	Fri	6					SSED 1: Basic Understanding to Social Services			
Mar	1	Mon	7					STEM1A: 運算思維和編程技巧			
	2	Tue	1	STEM1A: 運算思維和編程技巧						STEM1A: 運算思維和編程技巧	
	3	Wed	2								
	4	Thu	3								
	5	Fri	4		SSED 2: Non-profit Organizations		SSED 2: Non-profit Organizations				
	8	Mon	5	SSED 2: Non-profit Organizations		STEM2A: 物聯網概念與應用 (I)					
	9	Tue	6						SSED 2: Non-profit Organizations		
	10	Wed	7					STEM2A: 物聯網概念與應用 (I)			
	11	Thu	1	STEM2A: 物聯網概念與應用 (I)						STEM2A: 物聯網概念與應用 (I)	
	12	Fri	2	<i>Parents Day</i>							
	15	Mon	3								
	16	Tue	4	Proposal Writing (2A) 15:50 - 16:50 <i>Meet Physically at school</i> Kwok WY, Lee KL		Proposal Writing (2B) 15:50 - 16:50 <i>Meet Physically at school</i> Ho WY, Leung KF		Proposal Writing (2C) 15:50 - 16:50 <i>Meet Physically at school</i> Law TW, Chen KY		Proposal Writing (2D) 15:50 - 16:50 <i>Meet Physically at school</i> Chin CY (pending), Chow SO	
	17	Wed	5			STEM3A: 物聯網概念與應用 (II)					
	18	Thu	6								
	19	Fri	7						STEM3A: 物聯網概念與應用 (II)		
					STEM 4: IFITT 與智能家居裝置 以 Flip Classroom 形式 於3月份進行		STEM 4: IFITT 與智能家居裝置 以 Flip Classroom 形式 於3月份進行		STEM 4: IFITT 與智能家居裝置 以 Flip Classroom 形式 於3月份進行		STEM 4: IFITT 與智能家居裝置 以 Flip Classroom 形式 於3月份進行
	22	Mon	1		STEM3A: 物聯網概念與應用 (II)						STEM3A: 物聯網概念與應用 (II)
	23	Tue	2								
	24	Wed	3								
25	Thu	4		SSED3: Basic concepts and skill for developing product for target group (I)		SSED3: Basic concepts and skill for developing product for target group (I)					
26	Fri	5	SSED3: Basic concepts and skill for developing product for target group (I)		STEM 5A: 创客教育專題研習						
29	Mon	6						SSED3: Basic concepts and skill for developing product for target group (I)			
30	Tue	7					STEM 5A: 创客教育專題研習				
31	Wed			<i>Easter Service & S6 Farewell</i>							Ideation 11:00-12:30 (pending)

Date	Day	2A		2B		2C		2D		S2	
		Life and Society 12:30-13:30	Computer Literacy 11:50-12:30	Life and Society 12:30-13:30	Computer Literacy 08:30-09:10	Life and Society 12:30-13:30	Computer Literacy 10:10-10:50	Life and Society 12:30-13:30	Computer Literacy 10:50-11:30	Others	
Apr	12	Mon	2								Ideation 11:50 - 13:10 (5th, 6th period) MPA (6/F)
	13	Tue	3								
	14	Wed	6								
	15	Thu	7								
	16	Fri	1		STEM 5A:創客教育專題研習 Rm 51, 54					STEM 5A:創客教育專題研習 Rm 51, 54	
	19	Mon	2								
	20	Tue	3		STEM 5B:創客教育專題研習 3:10 pm - 3:50 pm Rm 54 (whole class) Chen KY					STEM 5B:創客教育專題研習 3:10 pm - 3:50 pm Rm 51, 18 (2 groups) Lee KL, Chow SO	
	21	Wed	4			SSED 4: Social Services Rm 22	Video Taking Visual Arts Lesson (11:50 - 12:30) Tsui WS+Leung KF	SSED 4: Social Services Rm 23			
	22	Thu	5	SSED 4: Social Services Rm 21			STEM 5B:創客教育專題研習 Rm 51, 54	Video Taking Visual Arts Lesson (10:10 - 10:50) Tsui WS+Chen KY		Video Taking Visual Arts Lesson (08:30 - 09:10) Tsui WS+Leung KF	
	23	Fri	6						SSED 4: Social Services Rm 24		
26	Mon	7		Video Taking Visual Arts Lesson (11:00 - 11:40) Tsui WS+ChowSO				STEM 6A:STEM教育小型專 題研習 (whole class) Zoom Chow SO			
27	Tue	1		STEM 6A:STEM教育小型專 題研習 (whole class) Zoom Chow SO					STEM 6A:STEM教育小型專 題研習 (whole class) Zoom Chow SO		
28	Wed	2									
29	Thu	3									
30	Fri	4									
May	3	Mon	5			STEM 6A:STEM教育小型專 題研習 (Whole class) Zoom Chen KY					
	4	Tue	Staff Development Day								
	5	Wed	6								
	6	Thu	7					STEM 6B:STEM教育小型專 題研習			

Date	Day		2A		2B		2C		2D		S2	
			Life and Society 12:30-13:30	Computer Literacy 11:50-12:30	Life and Society 12:30-13:30	Computer Literacy 08:30-09:10	Life and Society 12:30-13:30	Computer Literacy 10:10-10:50	Life and Society 12:30-13:30	Computer Literacy 10:50-11:30	Others	
May	7	Fri	1	STEM 6B: STEM教育小型專題研習						STEM 6B: STEM教育小型專題研習		
	10	Mon	2									
	11	Tue	3									
	12	Wed	4									
	13	Thu	5			STEM 6B: STEM教育小型專題研習						
	14	Fri	6									
	17	Mon	7					STEM 6C: STEM教育小型專題研習		STEM 6C: STEM教育小型專題研習 11:50 - 12:30		
	18	Tue	1	SSED5: Concepts and skill for developing product for target group (II) 15:10 - 16:10	STEM 6C: STEM教育小型專題研習 13:40 - 14:20	SSED5: Concepts and skill for developing product for target group (II) 15:10 - 16:10		SSED5: Concepts and skill for developing product for target group (II) 15:10 - 16:10		SSED5: Concepts and skill for developing product for target group (II) 15:10 - 16:10	STEM 6C: STEM教育小型專題研習	
	19	Wed		<i>Holiday</i>								
	20	Thu	2									
	21	Fri	3									
	24	Mon	4				STEM 6C: STEM教育小型專題研習 12:30 - 13:10					
	25	Tue	5				STEM 6C: STEM教育小型專題研習					
	26	Wed	6									
	27	Thu	7					STEM 6D: STEM教育小型專題研習				
	28	Fri	1		STEM 6D: STEM教育小型專題研習						STEM 6D: STEM教育小型專題研習	
	31	Mon	2									
Jun	1	Tue	3									
	2	Wed	4									
	3	Thu	5			STEM 6D: STEM教育小型專題研習						
	4	Fri	6									
	7	Mon	7									
	8	Tue	1									
	9	Wed	2									
	10	Thu	3									
11	Fri	4										

20-21 PHASE II

第二階段的上課及工作坊日期及時間如下：

7月6日 9:00 - 12:00

7月12日 9:00 - 12:00

7月13日 9:00 - 12:00

7月16日 9:00 - 12:00

7月19日 9:00 - 12:00

7月20日 9:00 - 12:00

7月30日 9:00 - 12:00

8月2日 9:00 - 12:00

8月3日 9:00 - 12:00

8月4日 9:00 - 12:00

21-22 PHASE I

21-22 PHASE II

8月2日(TUE)	9:00 AM - 12:00 NOON
8月4日(THU)	9:00 AM - 12:00 NOON
8月6日(SAT)	9:00 AM - 12:00 NOON
8月8日(MON)	9:00 AM - 1:00 PM
8月9日(TUE)	9:00 AM - 1:00 PM
8月10日(WED)	9:00 AM - 12:00 NOON
8月12日(FRI)	9:00 AM - 1:00 PM
8月13日(SAT)	9:00 AM - 12:00 NOON
8月15日(MON)	9:00 AM - 12:00 NOON

如何進行

- ◆ 期間涉及許多課堂的調動、安排，人手調配
- ◆ 需要不同科目、同事配合調動
- ◆ **Life and Society**以及電腦科同事的協調
 - ◆ **Phase I:** 主要由**Life and Society**同事跟進
Project 及 Proposal, 電腦科同事作支援及諮詢
 - ◆ **Phase II:** 由電腦科同事跟進
 - ◆ **Phase III:** 由梁國輝副校長跟進
- ◆ 全校同事，以及校長都十分支持、欣賞及讚賞這個計劃

亮點

STEM與社區服務的結合

- 同學在考量STEM的產品時有明確的服務對象
- 同學有用家的第一身的回饋，使產品在設計上更『現實』
- 價值教育也藉此能得以滲內，同學的產品是可以『幫人』的

企業的『Backup』

- 業界的分享以及提點，開拓了同學的視野，知道在現實生活中如何考慮問題
- 尤其在Phase III，同學可以有企業的『後援』，能有信心去做他們的設計；並且企業也提供了不同的參觀，讓同學們有不同的體驗

亮點

大專界的支援

- 在技術層面，得到許許多多的支援
- 尤其在Phase II中，同學與作為Mentor的中文大學學生有更多接觸，可以有更貼身的學習
- 中大CLST提供的技術指導、課程設計，也給了同事們在專業上的發展

多元的『持分者』

- 這種合作是一般中學不容易辦得來的
- 計劃的規模也是很『龐大』的，僅憑一間中學也是不可能成事
- 這種經驗，對老師們，對同學們是難得的

我們從其中的得益

- ◆ 課程
- ◆ 器材
- ◆ 與企業、NGO的夥伴關係
- ◆ 經驗
 - ◆ 學生真真正正做一次具意義的習作，從釐清問題、擬訂計劃、實踐、完成計劃，其中得到回饋後再作修訂這種過程體驗，是一種寶貴的學習歷程
 - ◆ 同事從教授課程、跟進習作的過程，也有一次很好的體驗

困難

時間

- 正因這個計劃規模不小，要花上很多時間，兩個主要科目在課程上要作出調動來配合
- 老師們要這樣跟進一個長時間的習作，也是不容易，他們除了日常教學外，也要顧上這個習作，是有一些消耗
- 同學們要這樣跟上一個花上他們數十小時的時間，有時會有放棄的念頭，也考驗了同學的毅力，也考驗老師的『魅力』來鼓勵、推動同學堅持到底
- 尤其第一年(20-21)，對計劃認識不深，要許許多多的適應的時間、瞭解的時間

困難

不同的調動配合

- 課堂調動，如要全級在同一時間有Ideation Session、業界及NGO義工分享等
- Pitching Day、暑期Phase II、Phase III的工作坊等時間的配合，要用上同學許多課餘時間

疫情的打岔

- 面授課的影響
- 要用Zoom替代

相片分享



相片分享



相片分享



相片分享



相片分享






相片分享





計劃的持續性


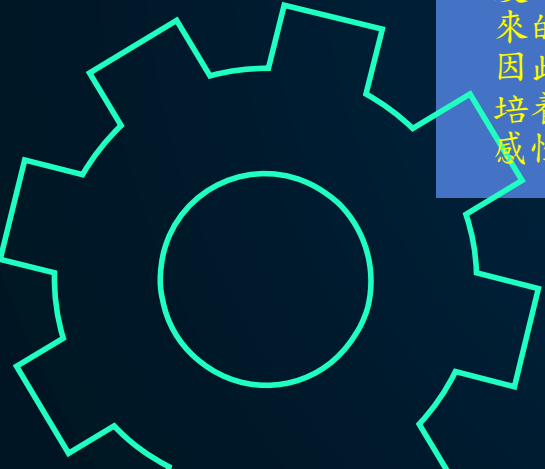

- 計劃所給與學校的課程/教材、器材等，都成了學校的資源
- 來年未必能依照同樣規模作出同樣的習作安排，但會作出調適、『瘦身』，以讓同學們能夠有『同樣』的體驗



面臨科技蓬勃發展，智慧型時代來臨，社會產業結構和工作型態逐漸改變，未來將有數百萬工作被機器取代，STEM教育也正好成為因應產業轉型的解套，更是吸引先進國家爭相效仿。

有句名言叫「科技始終來自於人性」。STEM教育雖然培養了完備的邏輯能力與實作技巧，卻缺乏了人的溫度，或者缺乏創意、藝術與美感，似乎也難以適應未來的世界。

因此在2015年後，STEAM成了教育界的主流趨勢，除了培養孩子邏輯思維，還要培養藝術美感，結合理性與感性，成為一項全人教育



賽馬會社區關懷與創意教育實踐計劃成果分享 (從原型到產品)

Theory into Practices: Jockey Club Community Care and STEM in Action Project (From Prototype to Product)

- FUNG Wing Ho, William
- Head of IT in Education and ICL/ICT Panel Head,
- HKBUAS Wong Kam Fai Secondary and Primary School



賽馬會 Jockey Club
Community Care and
STEM in Action Project
社區關懷與創意教育實踐計劃





FUNG Wing Ho, William (馮穎豪)

Head of IT in Education and ICL/ICT Panel Head

STEAM Education and 21st Century Learning Design - IC

HKBUAS Wong Kam Fai Secondary and Primary School
(Secondary Division)

Microsoft Innovative Educator Expert



Grade 9 ICL Curriculum



Computer
Networks



Mobile App
Design



Internet of
Things



Artificial
Intelligence

Grade 9 PBL x STEAM

- **Term P (Post-assessment period)**
- PBL incorporated Design Thinking and interdisciplinary approach in the design of its learning activities since 2021. At the end of G7-9 PBL, students are expected to be equipped with 5Cs:
 - Critical thinking
 - Creativity
 - Communication
 - Collaboration
 - Confidence/ Courage

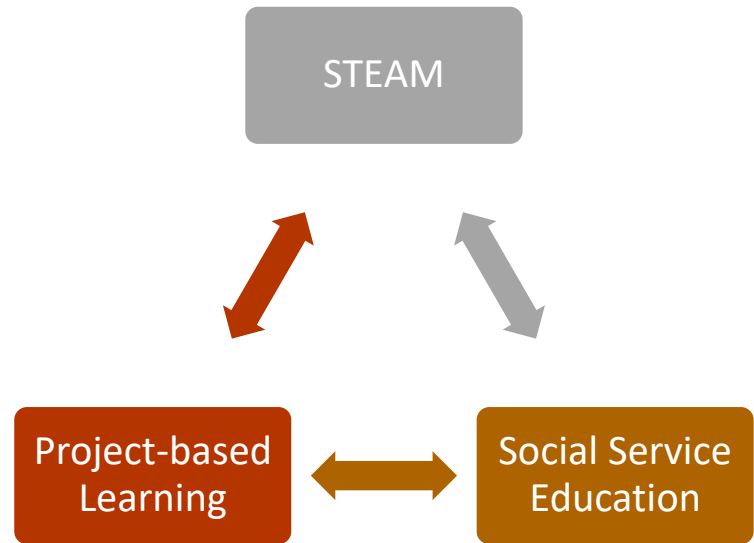
Grade 9 PBL x STEAM

- **Learning Activities of PBL in A-School**

- In PBL, students have to work as a group to:
 - Identify a group of people in need and their pain points in daily life
 - Design a solution to improve their life
 - Make a prototype to visualize and improve their solution
 - Present their solution to different stakeholders

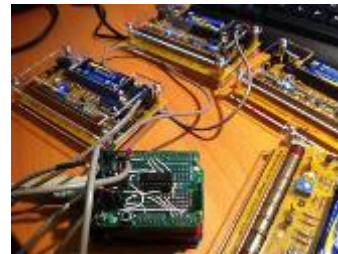
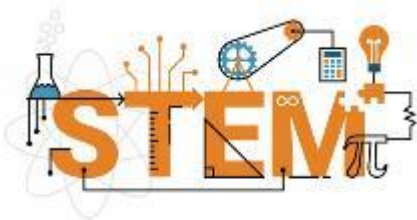
Core objective

*Learn and apply **STEM** knowledge and skills for helping underprivileged in the community through design thinking*

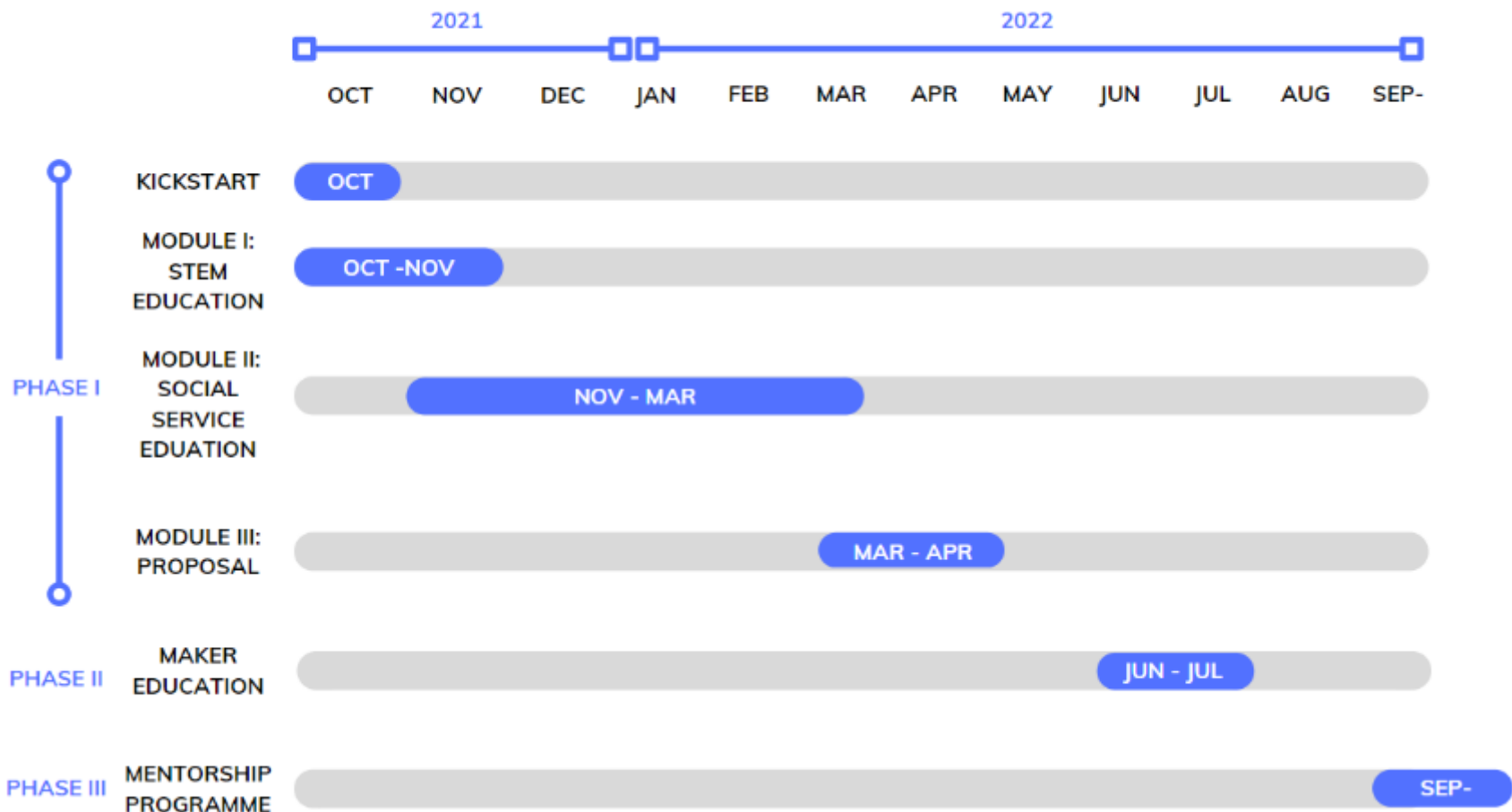


3-phase Project Design

Phase	Curriculum	Facilitate during
I	Module 1: STEM Education	ICL lesson
	Module 2: Social Service Education	OLE Time
	Module 3: Proposal for STEM in Action	OLE Time
II	Maker Education	PBL period
III	Mentorship Programme	After school



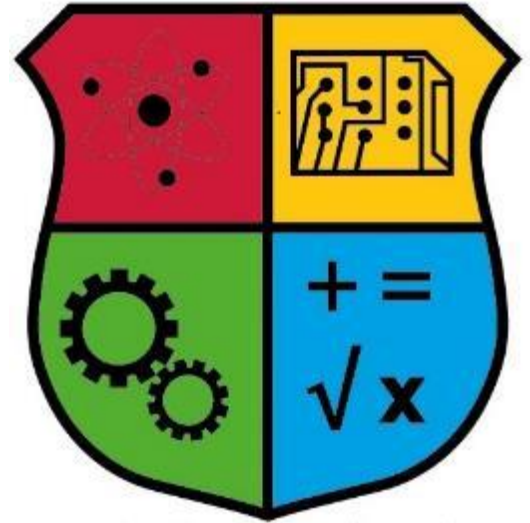
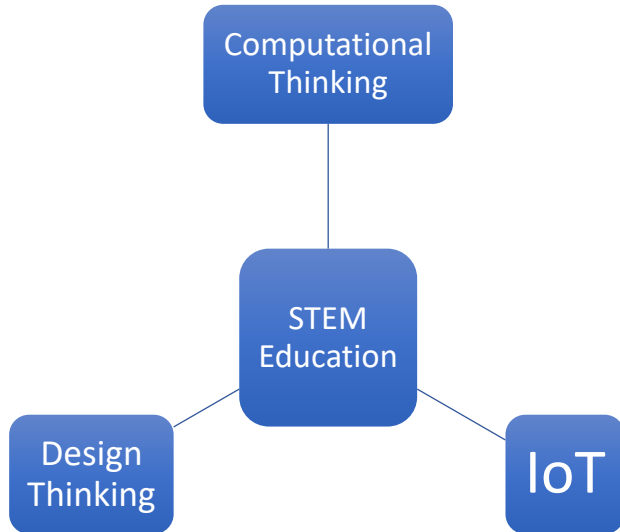
JC STEM IN ACTION PROJECT TIMELINE



Preparation

- Preparation meetings with CUHK and JC
- Lesson Co-planning with CUHK
- Lesson content provided by CUHK and adopted with our existing modules

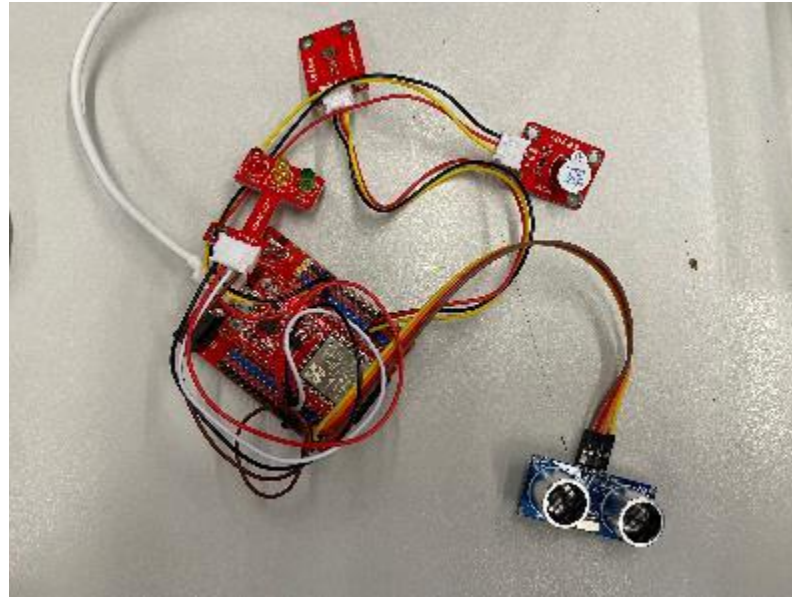
Module 1: STEM Education



Module 1: STEM Education

- Hardware, software and platform used
 - - ESP8266
 - - Sensors and Actuators
 - - TinkerCAD Circuit
 - - Thunkable
 - - IFTTT
 - - Google Assistant
 - - Blynk

Students' work



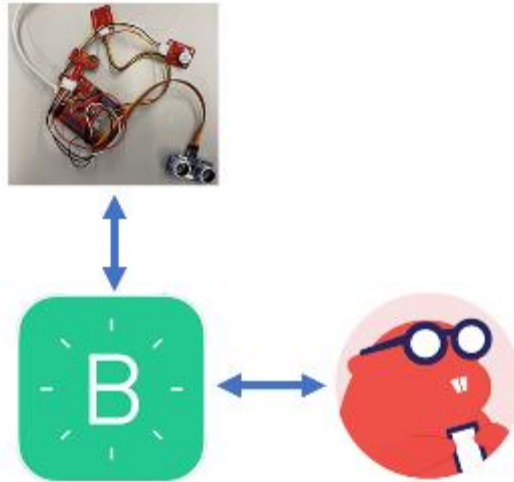
Modified lesson materials



- **ESP32 x Blynk x Thunkable**
-
- You'll learn to
- Use WebAPI to receive ESP32 sensors Datastream data from Blynk IoT
- Create an app in Thunkable to display and update the Blynk IoT data using API

Modified lesson materials

- You have learnt Mobile App Design on Thinkable, connect sensors and actuators to ESP32 and Blynk IoT platform in Term 1. It's time to try integrating these three platforms and tools together!!
-
- **Objective**
- Create a **Thinkable app** which can read and write **Blynk IoT** live data from sensors and actuators connected to **ESP32**.



Modified lesson materials

- Add **labels, images and WebAPI** component to create the above light screen
- You may download the picture **turnon.jpg** and **turnoff.jpg** in the Teams assignment **T1 Cycle 11 (Enrichment)**
- The light bulb should **turn on** when the environment is **dark (light intensity < 1000)** and it will **turn off** if the environment is **bright**.

- Add 3 **switches** for **Red, Yellow and Green LED**
- The switches are able to toggle the corresponding LED on/off connected to ESP32



PBL x STEM in Action



STUDENTS ARE SPLIT INTO
30 GROUPS



RESEARCH ON SOLUTION
TO HELP VISUALLY
IMPAIRED PERSON



ALIGN WITH STEM IN
ACTION MODULE 2

Module 2: Social Service Education

- Co-work with OLE Team
- Seminars and virtual visits via Zoom
- NGO and VIPs visits and immersive experie
- Facilitate discussions



Module 3: Proposal for STEM in Action

- A brochure to introduce their product
- Include:
 - - Researches
 - - Skills learnt in Module 1 and 2



B. Main Functions & Features

Temperature Remote Control
Family members could manage water temperature and shower time outside the bathroom using the remote control.

Constant temperature device

This device monitors the current and past records of temperature of the water and set the heater's temperature accordingly, maintaining a constant temperature to have the water stay constant for ease of access to a comfortable showering environment.

The shower chair has voice prompts to remind the elderly of shower steps. When the shower time exceeds the normal range and the elderly doesn't respond, the chair will emit a warning sound.

Well-equipped with anti-slip devices

The chair has a seat belt and arm support, coupled with grab bars mounted on the bathroom walls, to ensure the elderly are safe whilst showering.

Provide safe and comfortable shower space

4. Product's Novelty Upgraded operating procedure

Compared with other products, our product is easier to set up and handle in a small environment by using intuitive methods to open up the chair.

Space saver

Compared with other products, this one is directly retrofitted to the existing sitting toilet which neither interferes with toileting nor takes up too much space.

Sit & Shower Chair

1. Goals

Through the integration of science and technology, the **Sit & Shower Chair** is designed to eliminate the elderly's risk of falling in the shower, relieve caregivers' workload, and reduce the effort require to exert to shower for the elderly.

2. Needs of Society

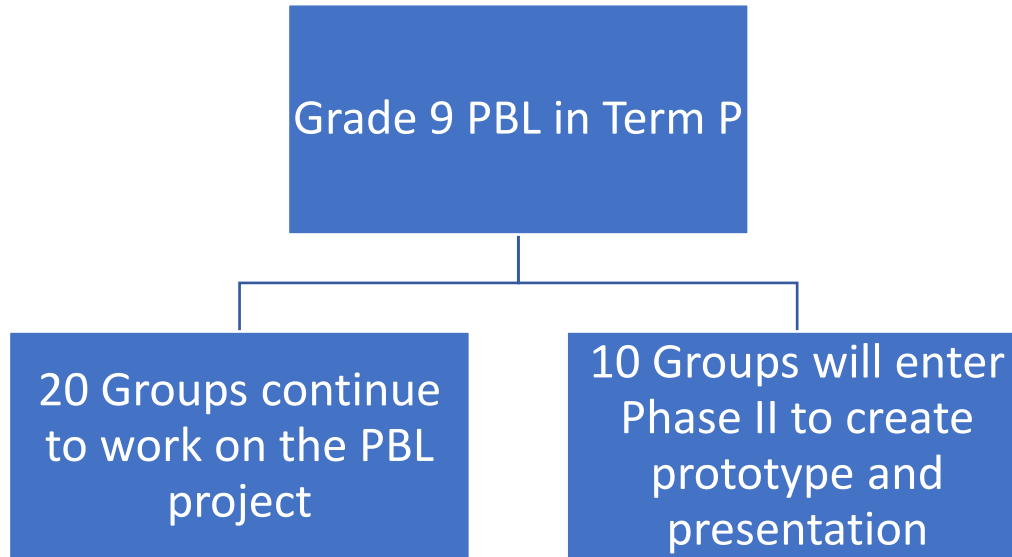
Addressing elderly's demand for care

(1) According to the survey on the risk of falls by the Hong Kong Housing Society and the Hong Kong Polytechnic University, home accidents among the elderly mostly occurred in the shower. Our product is designed to allow elderly to shower without standing up.

(2) Interviews with the elderly and caregivers revealed that the most troubling day-to-day task is assisting the elderly with showering.

Phase II: Maker Education

- 30 Groups → 10 Groups in Phase II





Phase II: Maker Education

Student and teacher mentors from CUHK and WKF work together with students on the prototype

Hardware and cost support from CUHK



Phase II: Maker Education

Pitching Day

Groups need to present to Professor Jong, NGO representatives, Entrepreneurs and A-School teachers

The judging group select 2 Elite groups to enter Phase III.

A product that assist visually impaired elderly to take medicine

Med-chine

HKBUAS G920

Chan yoyo

Cheung Holan

Liu Ana

Tsu Matthew



產品



retaining exceptional health and vigor a hale and hearty old man

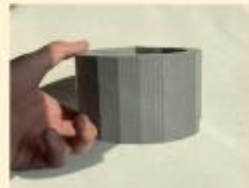
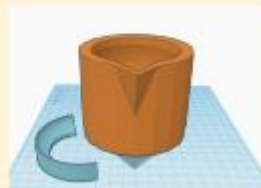
Tableware

HALE-WARE

Help vip elderly who need assistance and have trouble eating on long term.

BOWL'S FEATURES

- Slanted bottom of the bowl allows food and soup to naturally gather and collect on one side.
- And it has a concave corner to scoop more precisely and easily
- The bottom of the cup is made with non-slip material, reduce food spills or the cup overturning probability. That acts as a stabilizer
- A long hole at the bottom to provide a firm grasp to the bowl yet for consistent use
- Contains a cover





Phase III: Mentorship Programme



Student groups meet with CUHK and Entrepreneur regularly to further enhance their product



Actualize their product ideas in to real product



It's an amazing experience!

Support from CUHK

- Coordination of the whole project
- Lesson plans and contents
- Hardware for STEM Lesson (ESP8266, sensors and actuators, platform)
- Student and teacher mentors for Phase II
- Entrepreneurs and staff support for Phase III
- Subsidy for purchasing 3D printer

Thank you

Survey form

Q & A





賽馬會 Jockey Club
Community Care and
STEM in Action Project
.....
社區關懷與創意教育實踐計劃

<https://jc-cc-stem.hk/>

Scan to connect
and discover more



賽馬會社區關懷與創意教育實踐計劃

