



# 工作坊

创意编程工作坊从创意的角度带给你对各类技术新的理解，通过工作坊的学习，来自不同背景的同学可以了解到国际流行的编程软件以及制作属于自己的电子交互设计作品。



# 创意编程

CREATIVE PROGRAMMING





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## 创意编程

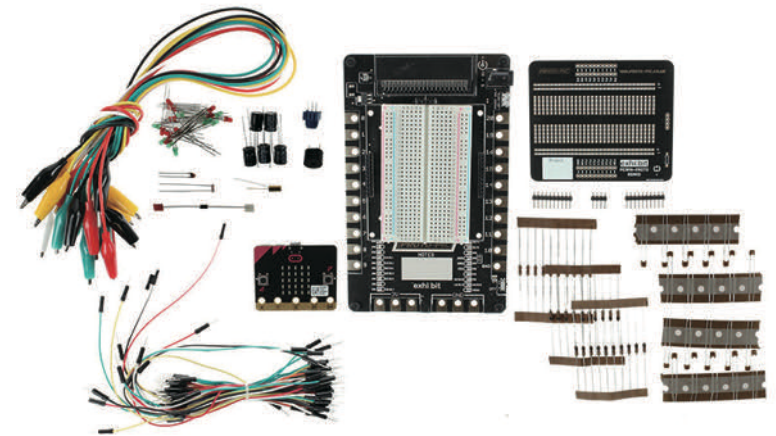
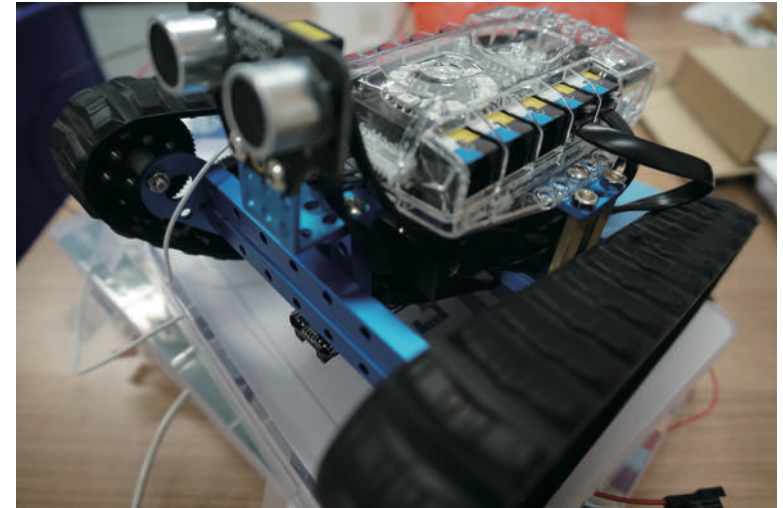
在此课程中，由Sean Clark教授和纪毅教授带领大家领略创意编程的乐趣。课程主要分为两个部分：一是Scratch的学习，二是BBC Micro:bit的学习。

创意编程工作坊的目标是为了激发大家的创意和想象力并以小组合作的方式完成一个创意编程作品。

# 课程简介

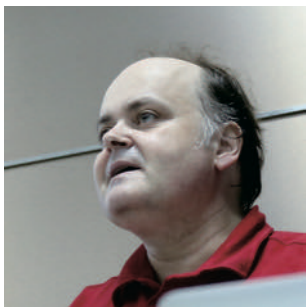


# INTRODUCTION



## CREATIVE PROGRAMMING

This course is led by Prof. Sean Clark and Prof. Ji Yi, who lead us to learn about the fun of creative programming. The course is divided into two parts: one is scratch learning, the other is arduino learning. The goal of the Creative Programming Workshop is to inspire everyone's creativity and imagination, and work together as a team to create a work.



SEAN CLARK

著名数字艺术家

FAMOUS DIGITAL ARTIST

2016年国际交互大会艺术大奖获得者

WINNER OF INTERNATIONAL CONGRESS OF ART AWARD

2016年英国鲁文3D交互雕塑大奖获得者

WINNER OF 2016 LUWEN 3D INTERACTIVE SCULPTURE AWARD

广东工业大学艺术与设计学院副教授

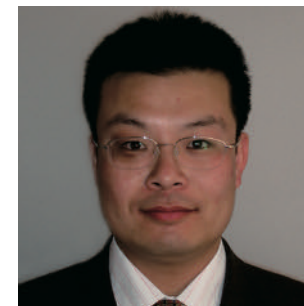
ASSOCIATE PROFESSOR OF ART AND DESIGN IN GDUT

交互媒体艺术家

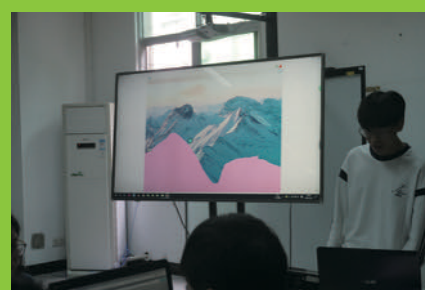
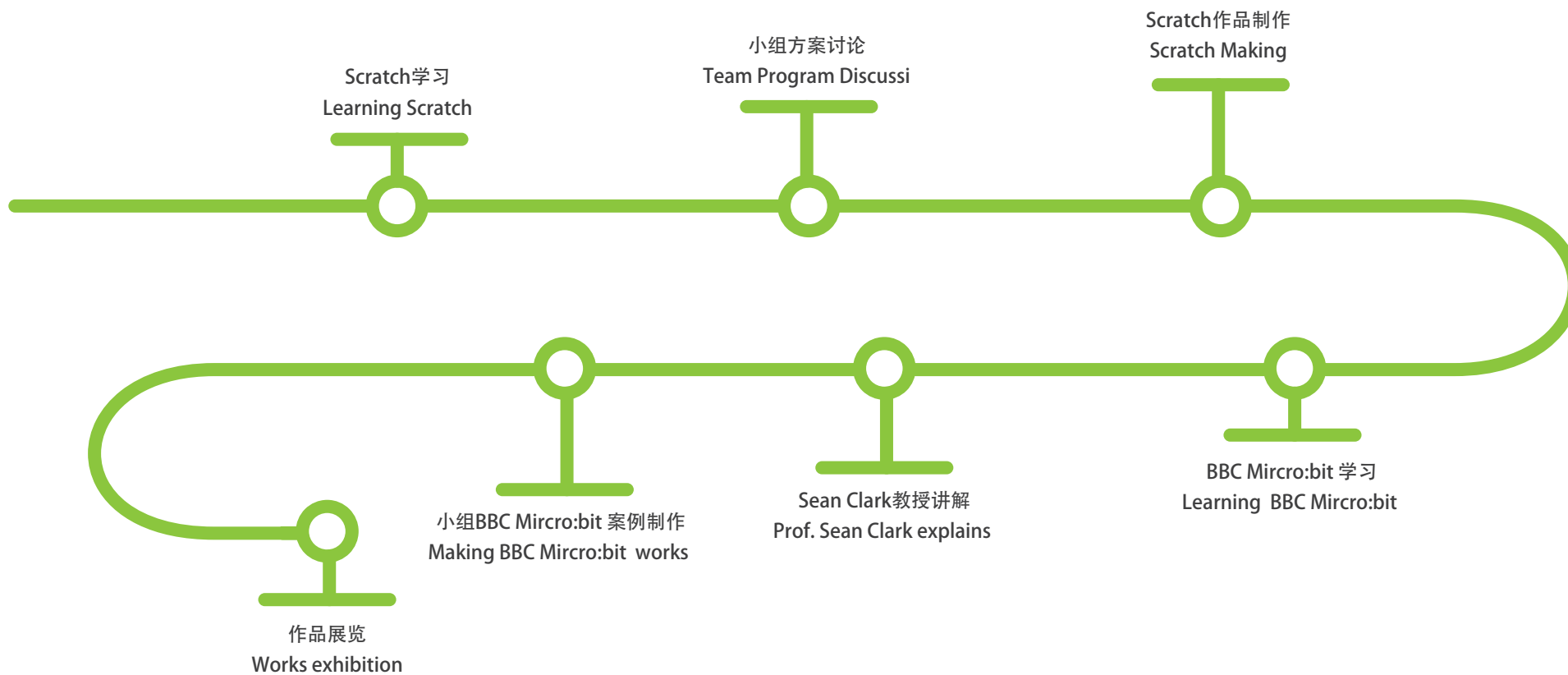
INTERACTIVE MEDIA ARTIST

专注于个性化交互设计研究与实践

FOCUS ON PERSONALIZED INTERACTION DESIGN RESEARCH AND PRACTICE



纪毅





SCRATCH是麻省理工媒体实验室开发的一套电脑程序开发平台，旨在让程序设计语言初学者不需先学习语言语法便能设计作品。

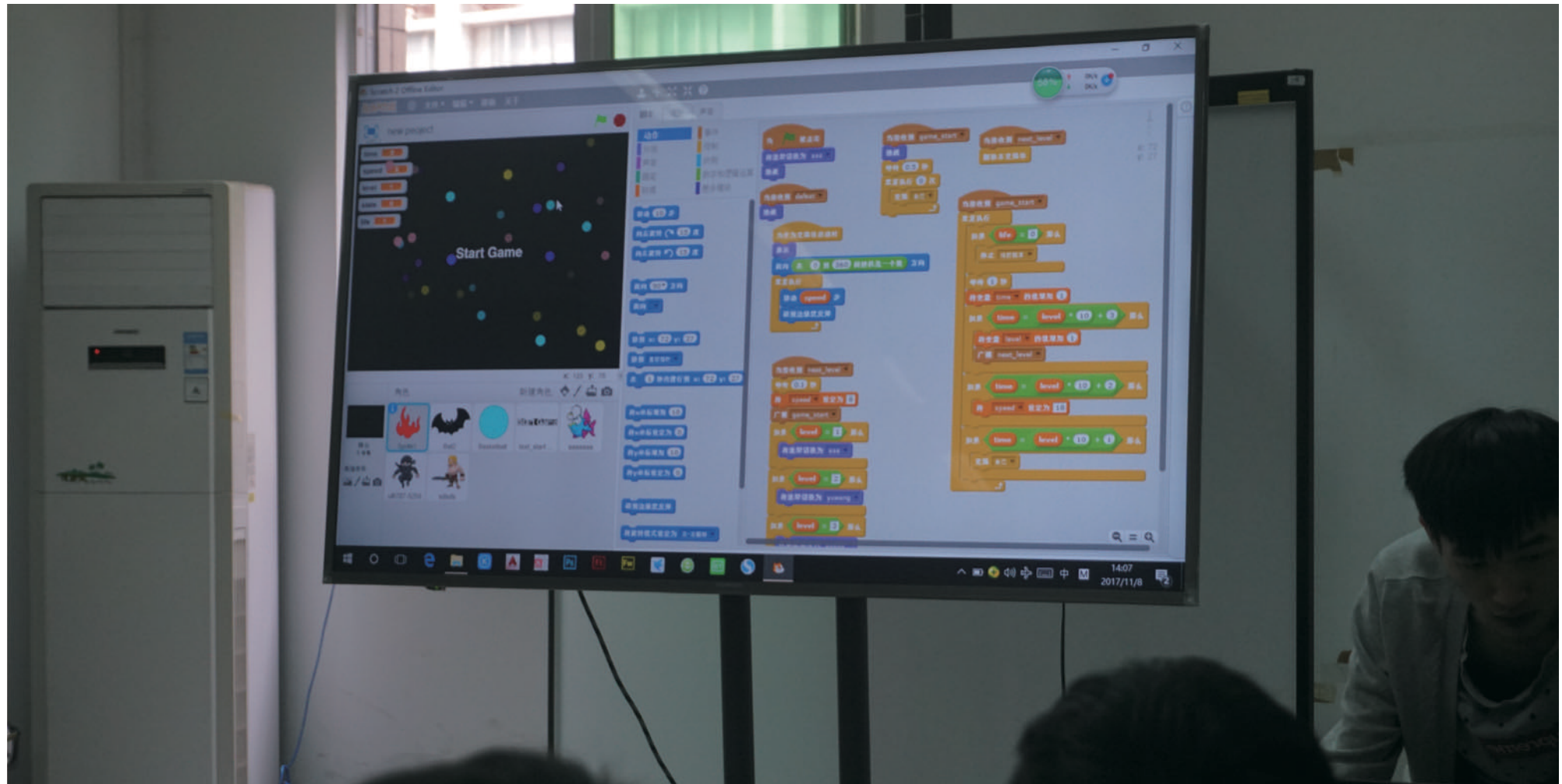
Scratch is a computer program development platform developed by MIT Media Lab to enable programming language developers to design their products without having to learn the language syntax first.

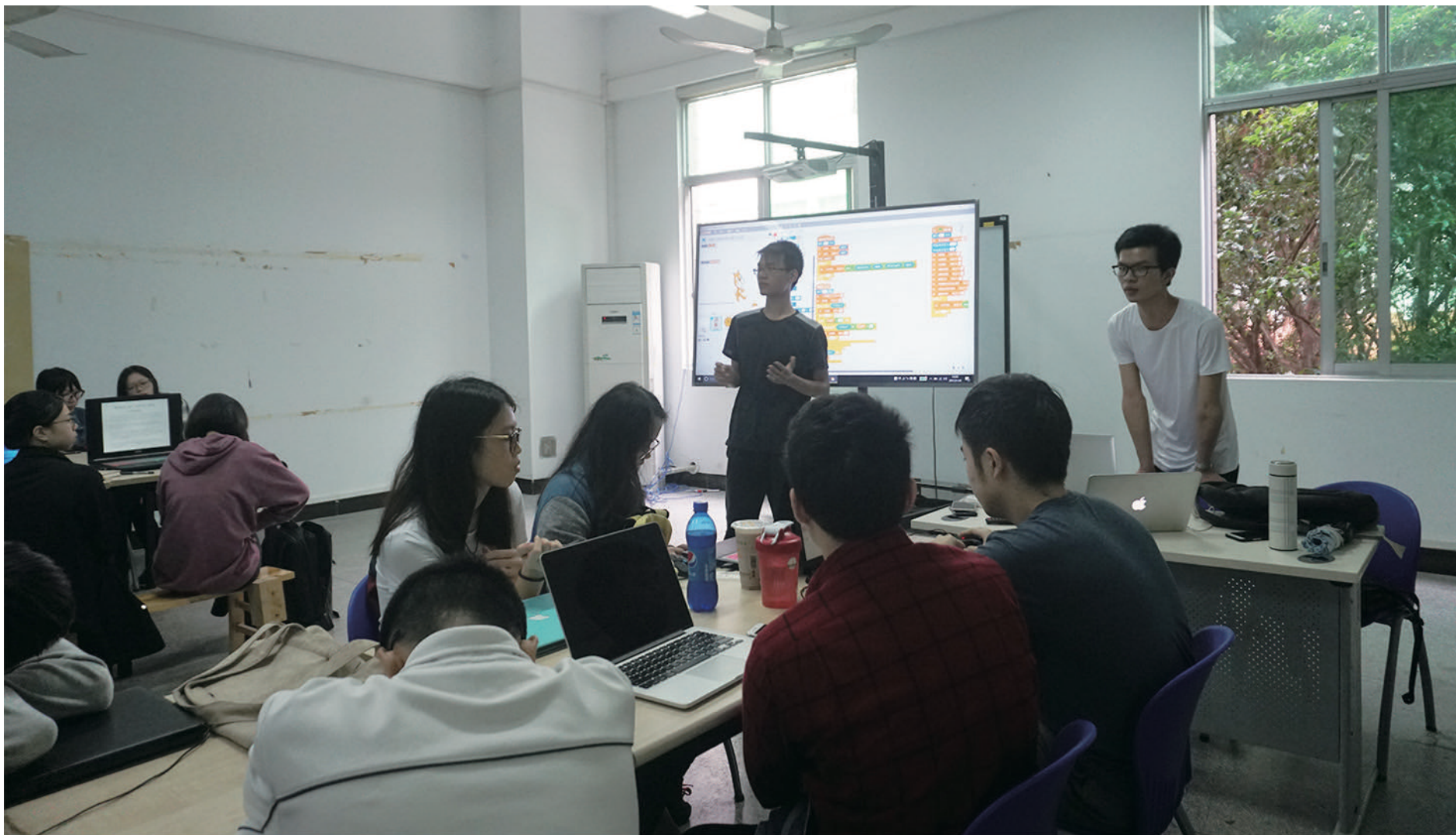


Scratch官网 <https://scratch.mit.edu/>

期望通过学习SCRATCH，启发和激励学生在愉快的环境下经由操作（如设计交互故事）去学习程序设计、数学和计算知识，同时获得创造性的思考，逻辑编程和协同工作的体验。

By learning Scratch, developers are expected to inspire and motivate users to learn programming, math and computational knowledge in a pleasant environment via operations such as designing interactive stories while gaining creative thinking, logic programming, and collaborative experience.



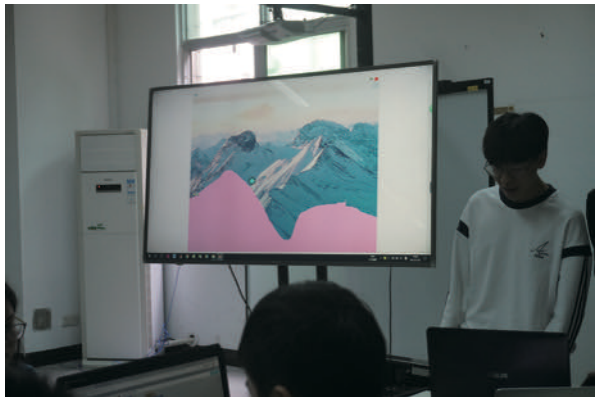
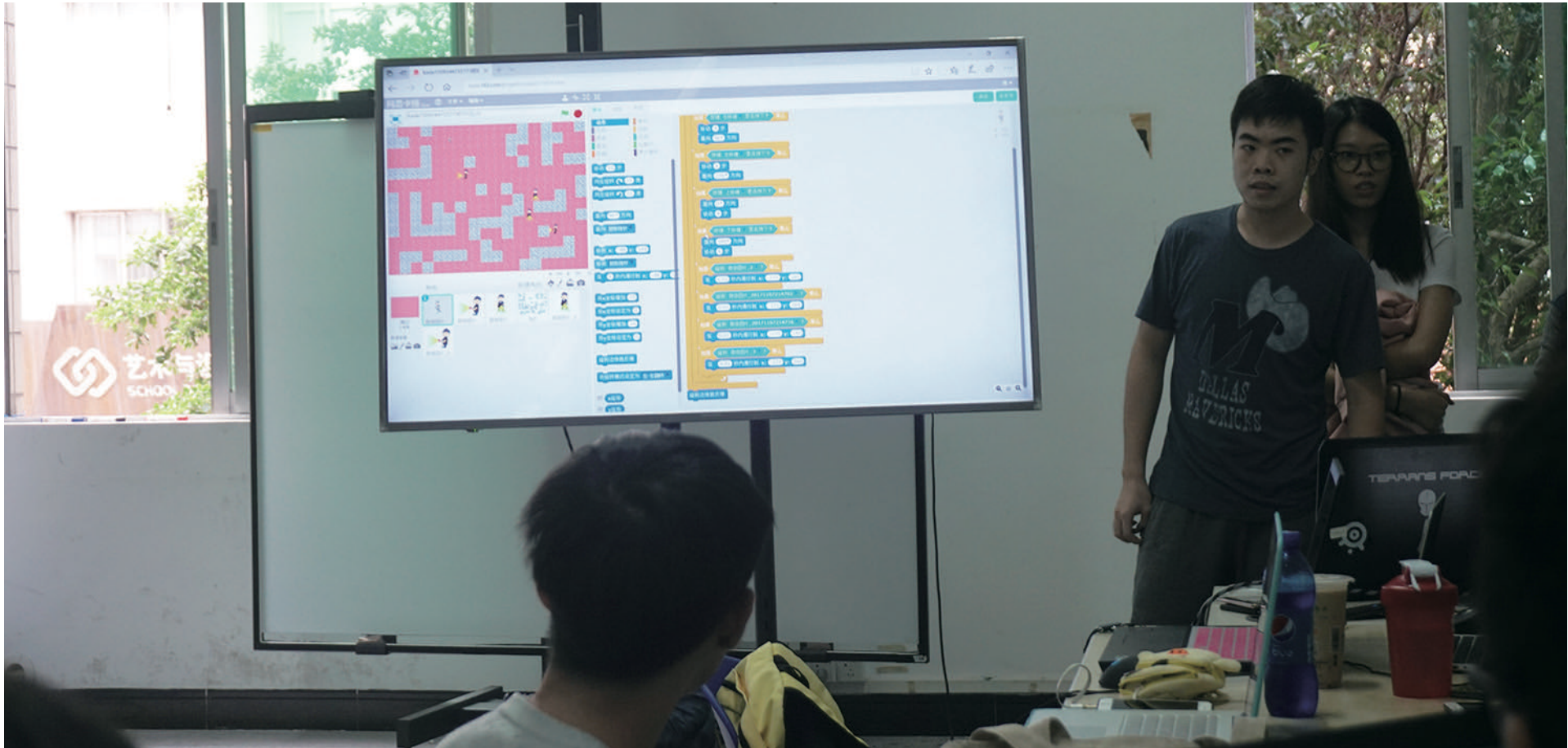


### 游戏展示

向肖恩教授展示自己小组的SCRATCH成果，游戏的灵感来源与操作。

THE GAMES SHOW

Each team presented their results to professor, introducing the design and operation of the game



## 创意编程 BBC MICRO : BIT

BBC Micro: bit 是一款由英国BBC设计的ARM架构的单片机，板载蓝牙，加速度计，电子罗盘，三个按钮，5 x 5 LED点阵，主要用于青少年的编程教育。

The BBC Micro:Bit is an ARM-based embedded system designed by the BBC for use in computer education in the UK. The board is 4 cm × 5 cm and has an ARM Cortex-M0 processor, accelerometer and magnetometer sensors, Bluetooth and USB connectivity, a display consisting of 25 LEDs, two programmable buttons. powered by either USB or an external battery pack.

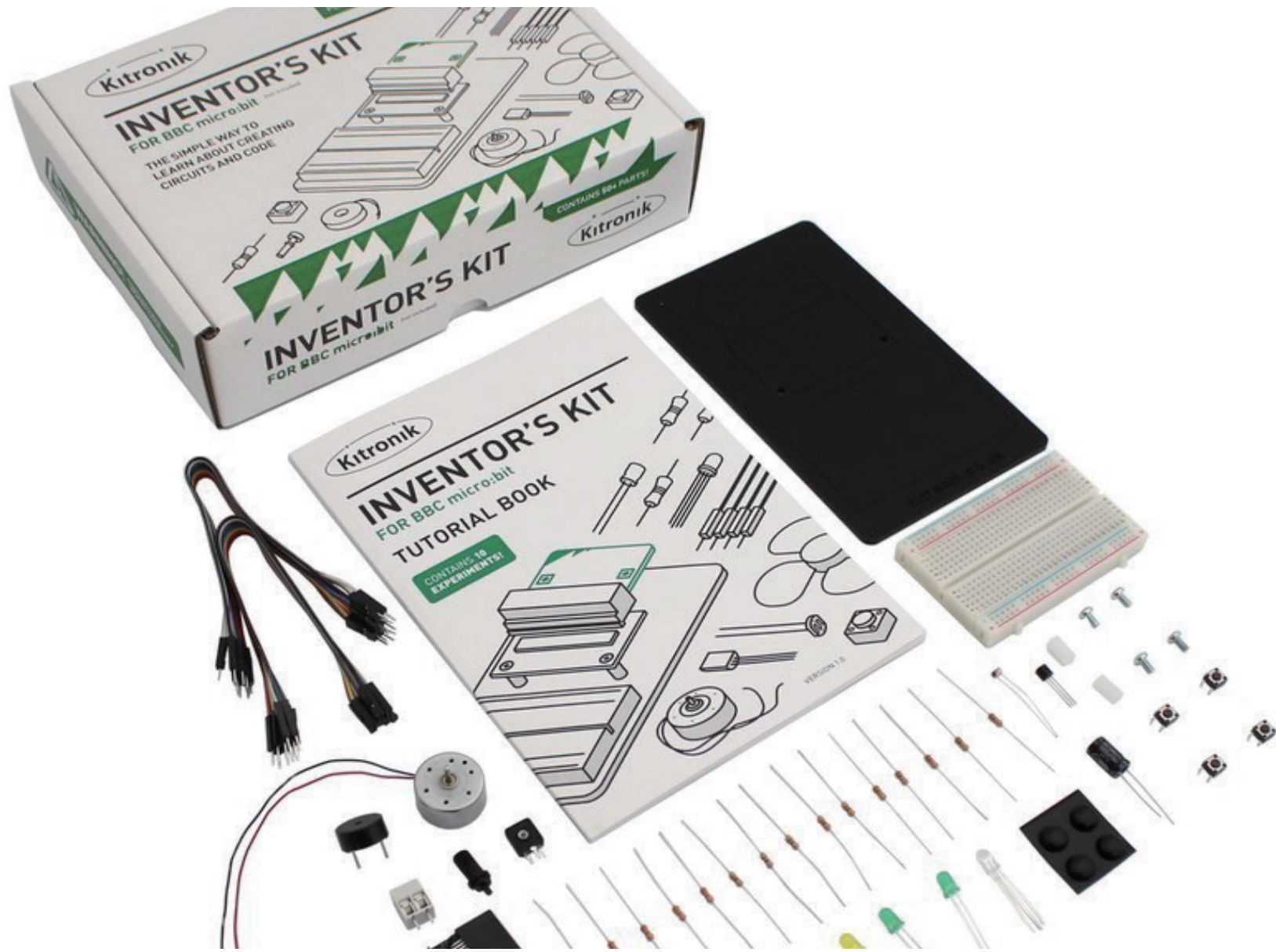


Micro : bit 官网 : <http://microbit.org/>

BBC Micro :Bit大小只有一个火柴盒这么大，方便学生随身携带，随时练习用Python, TouchDevelop, Blockly和JavaScript开发应用程序。

The size of a BBC Micro :Bit is just as big as a matchbox, making it easy for students to take the time to practice developing applications in Python, TouchDevelop, Blockly and JavaScript.

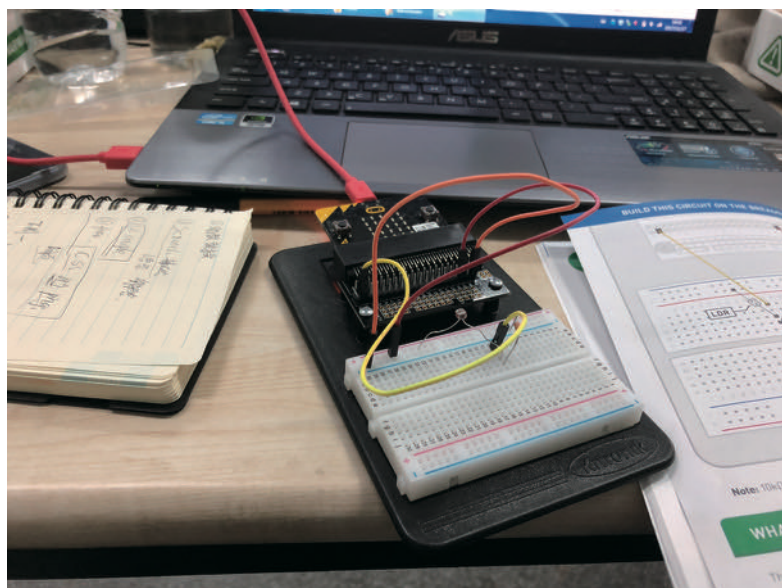




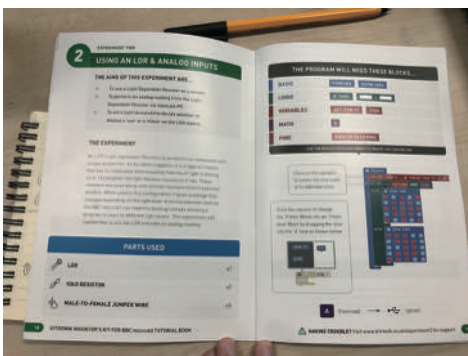
## BBC MICRO:BIT的配件

有马达、传感器、LED灯、电阻、风扇、开关等配件  
可以自由组合

同学们积极尝试，自己动手设计

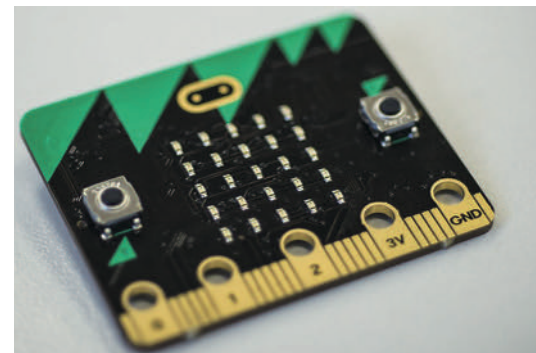






编程学习  
肖恩教授结合教材的案例  
来教授BBC MICRO : BIT的实际运用

PROGRAMMING LEARNING  
Professor Sean Clark use the textbook case  
To teach BBC Micro: the actual application of bit

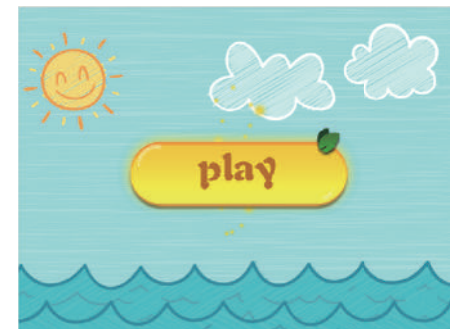
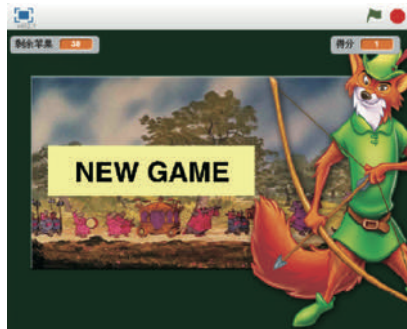
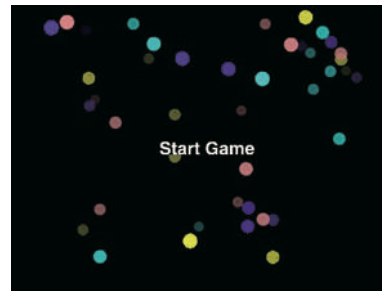




搭载了类似于BBC MICRO : BIT的  
ARDUINO的机器人

## 作品介绍 WORKS

最终的Scratch小组作业展示。  
Final group work presentation.





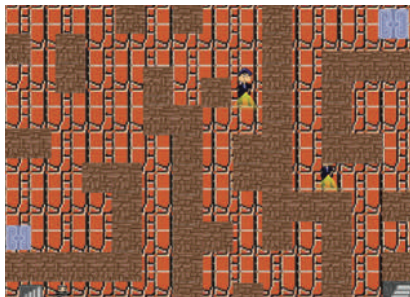
# 倒霉的小明



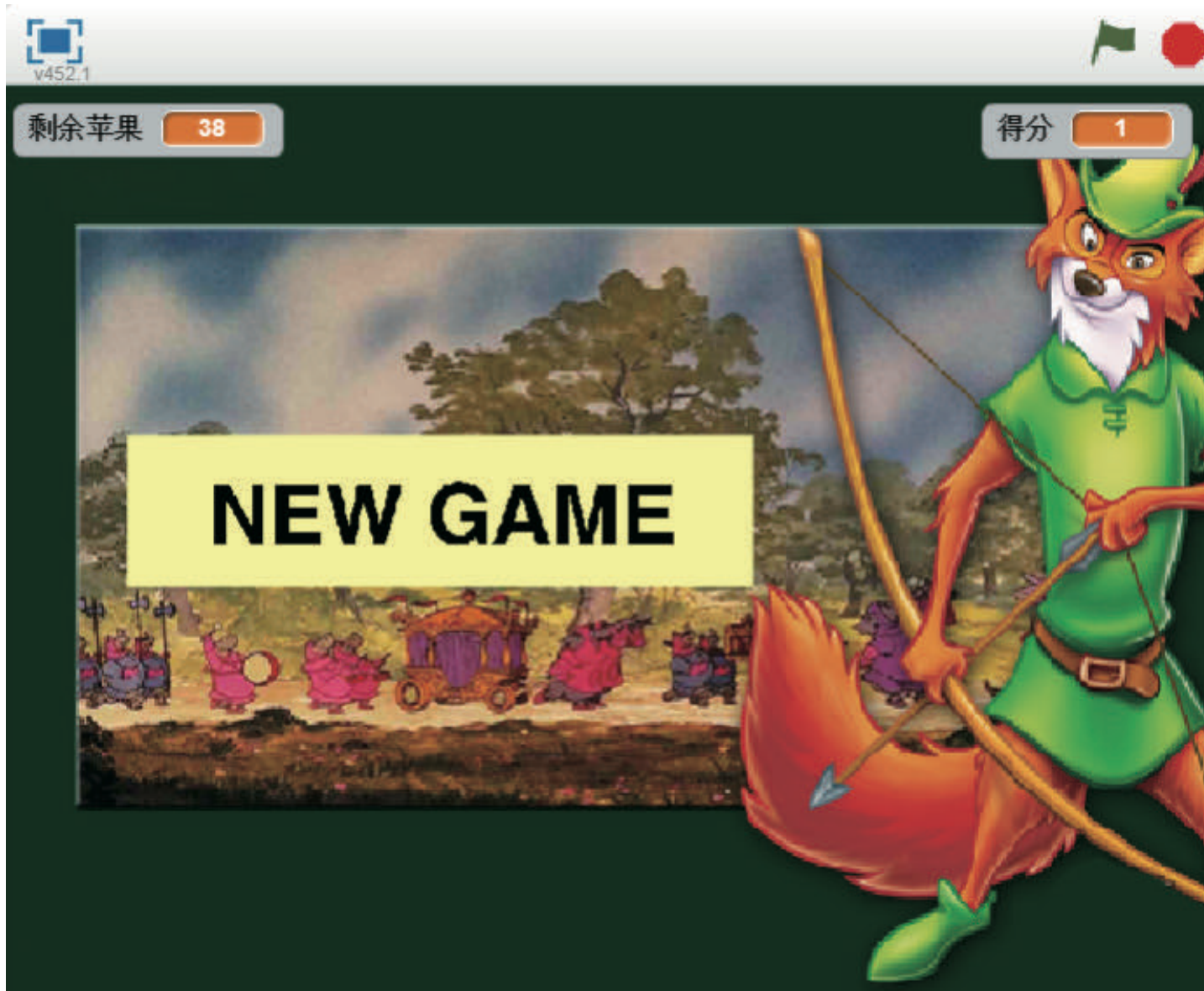
剧情介绍



开始游戏



游戏案例都已经上传到网上，可以扫描二维码体验游戏  
Game cases have been uploaded to the Internet to scan the qr code experience game



## 游戏介绍

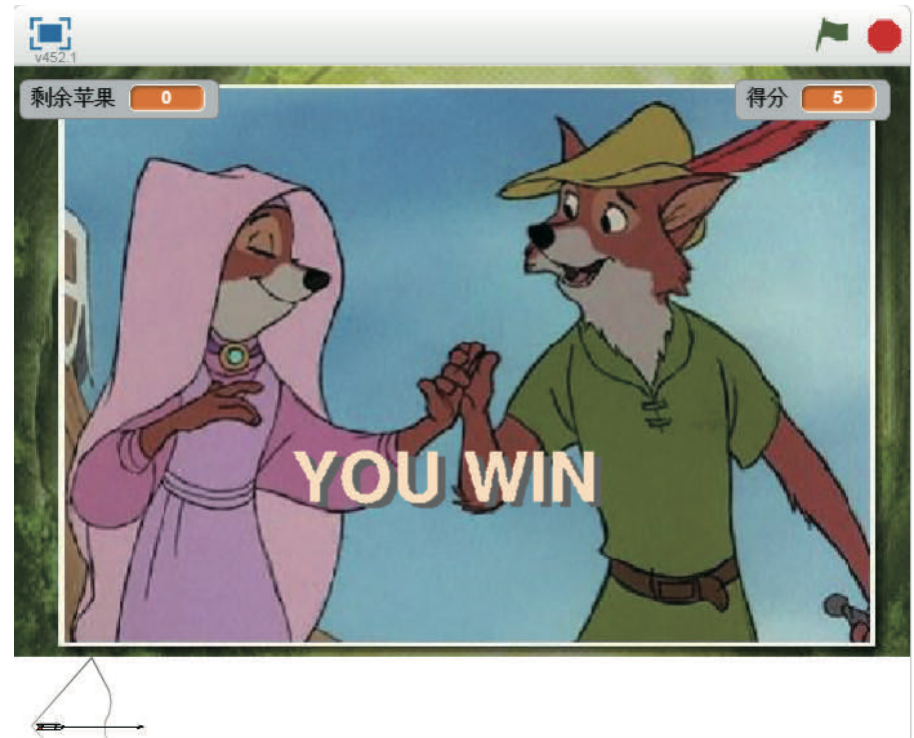
罗宾汉射苹果比赛成绩优异  
赢的公主芳心。

## INTRODUCTION

Robin Hood won the prin-  
cess's heart with an excell-  
ent shot at apple.



扫描二维码体验该Scratch



### 操作说明

鼠标控制瞄准，左键射击  
(公平起见，一次只能射一支箭)

### HOW TO PLAY

Mouse control aiming , Shoot with the left button





## 游戏介绍

游戏随机出现害虫战斗机，会发射出不同轨迹的子弹，需要我们避开子弹和害虫。

## INTRODUCTION

Random pest fighter game will launch a different trajectory bullets, we need to avoid bullets and pests.

## 游戏操作：

上下左右键操纵方向，空格键发射子弹  
A键将50金币换10滴血量，S键将50金币换10积分

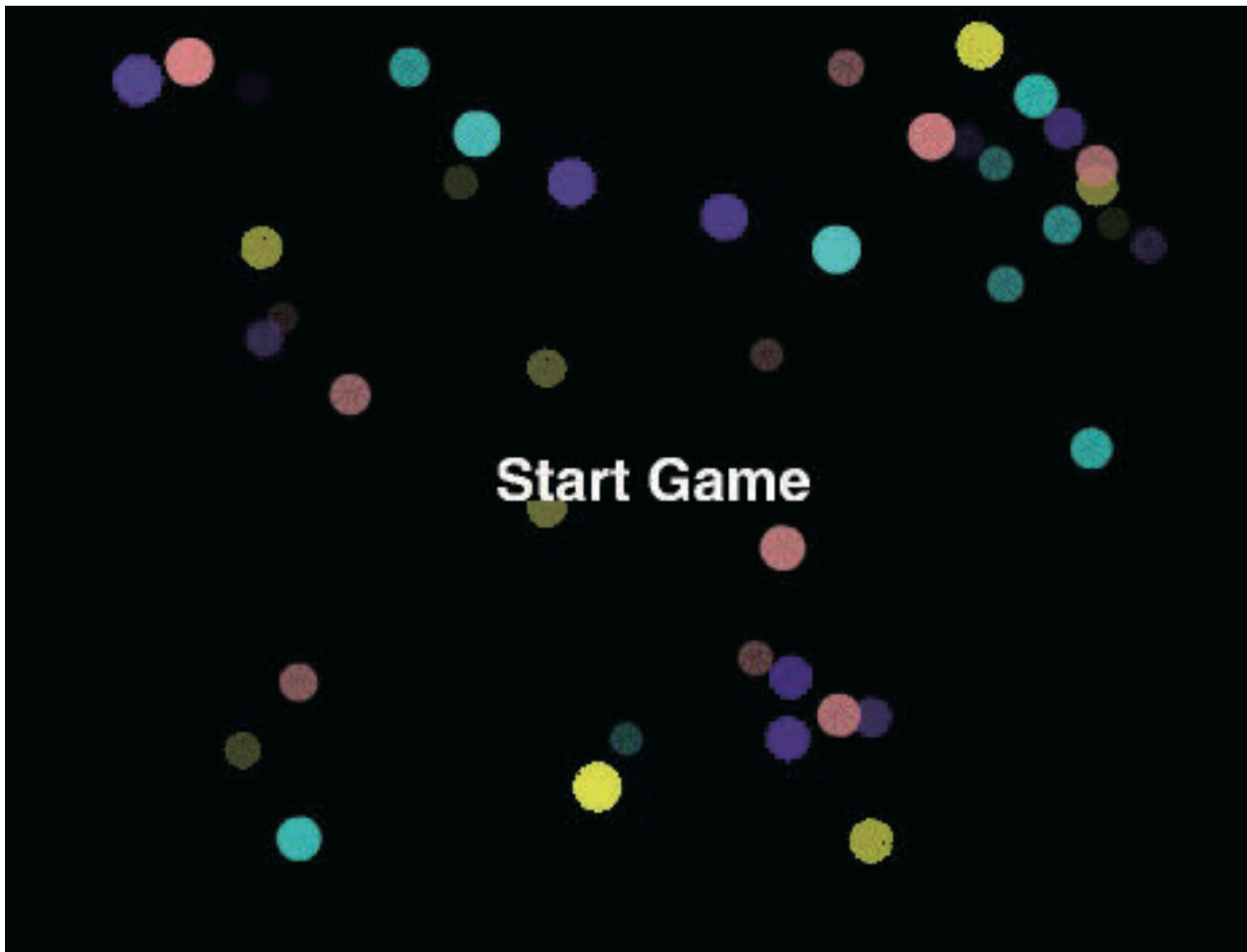
## HOW TO PLAY:

Arrow keys to control the direction  
"space" for shooting  
"A" to exchange blood with 50 coins  
"S" to exchange 10 points with 50 coins



扫描二维码体验该Scratch





### 游戏介绍

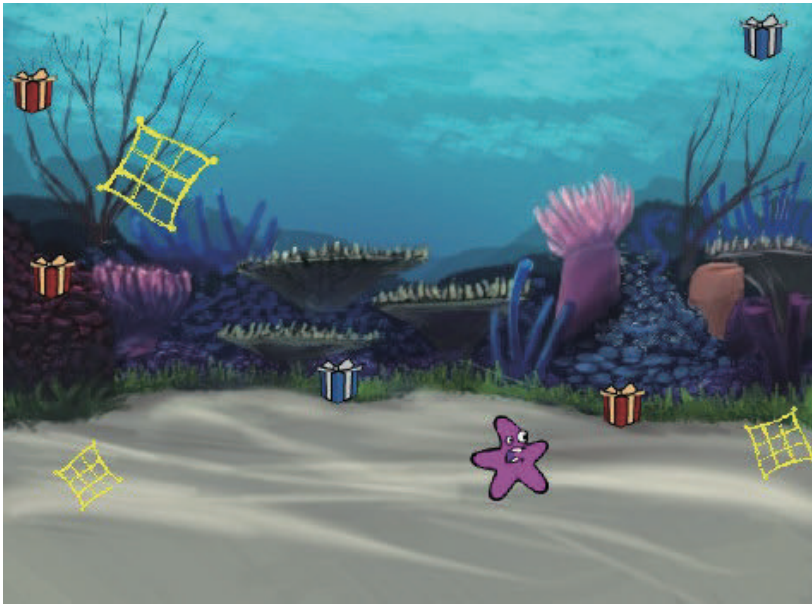
躲避障碍物10秒才能成功通过一个关卡。

### INTRODUCTION

Avoid obstacles for 10 seconds to pass a level.



扫描二维码体验该Scratch

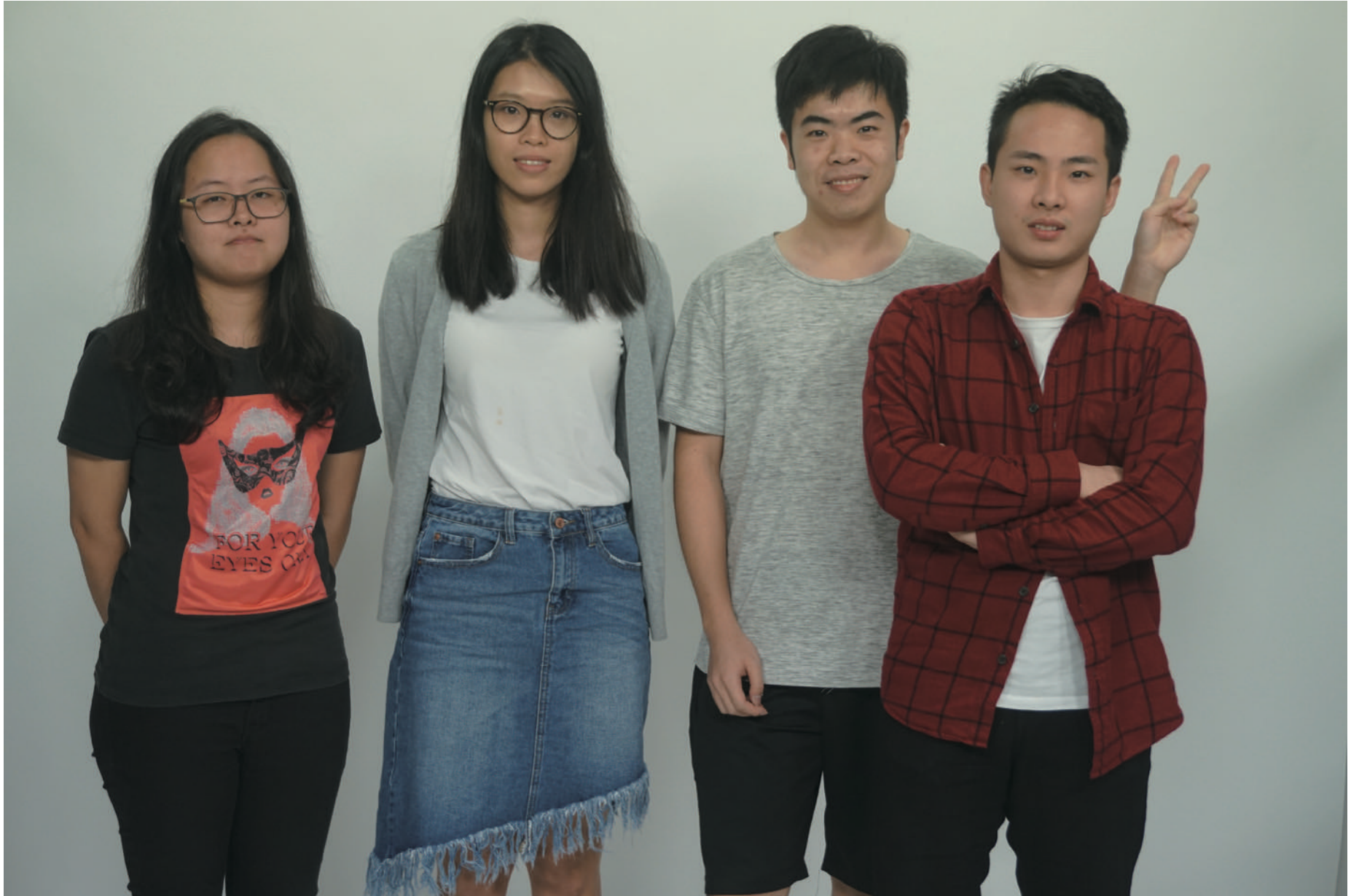


游戏操作：

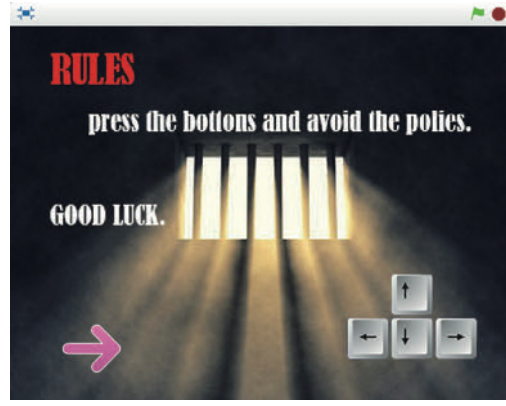
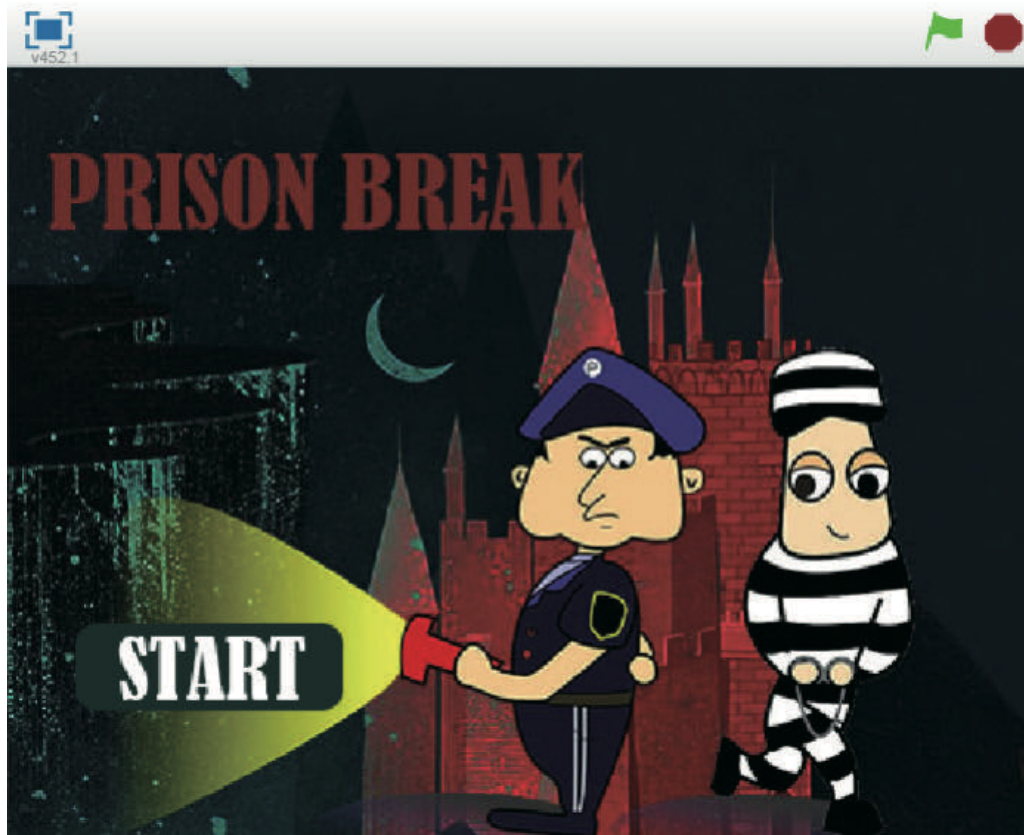
角色跟随鼠标移动，操控鼠标来避开障碍物

HOW TO PLAY:

The character follows the mouse and manipulates the mouse to avoid obstacles



团队成员：郑开阳 张梓露 谢理馨 郑子越



### 游戏介绍

一款越狱游戏，玩家被抓走做了非人道的实验，需要从实验塔中逃出，全部共有三关，玩家需要绕过警卫逃出这里。

### INTRODUCTION

A jailbreak game, the player was arrested to do an inhuman experiment, you need to escape from the experimental tower, players need to bypass the guard to escape here.



扫描二维码体验该Scratch



团队成员：吴锋沛 何定磊 曾莹姗 吴婉文



## 游戏介绍

游戏模式有单人游戏和双人游戏，双人游戏可以互相PK。

### INTRODUCTION

One day the dog wants to have an adventure, so he goes out and has a magical trip.



扫描二维码体验该Scratch



### 游戏操作：

蓝鲨鱼移动：W上S下A左D右，橙鲨鱼移动：↑上↓下←左→右

### HOW TO PLAY:

The blue shark use "↑", "↓", "←", "→" for moving  
The orange shark use "A", "S", "D", "W" for moving



团队成员：吴锋沛 何定磊 曾莹珊 吴婉文





团队成员：赵茜雨 林丽芬 吴翠娣 李雪格



## 游戏介绍

控制小船高度，小船顺利通过特定数量的灯塔，闯关成功！

## INTRODUCTION

Control the height of the boat so that the boat can pass the lighthouse smoothly .



扫描二维码体验该Scratch



游戏操作：

按空格键控制小船的高度

HOW TO PLAY:

Use the space bar to control the height of the boat.



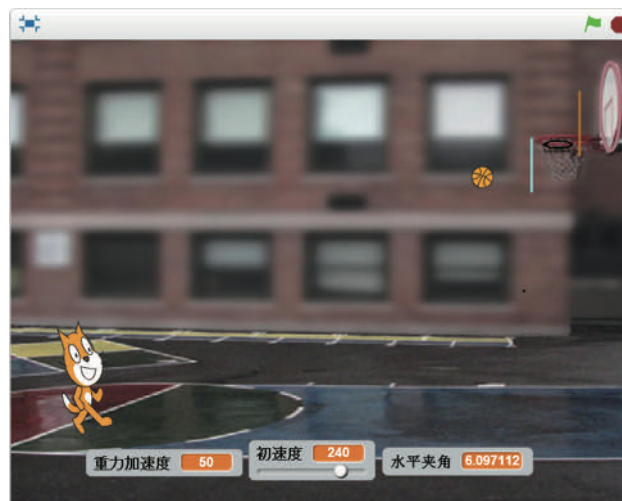
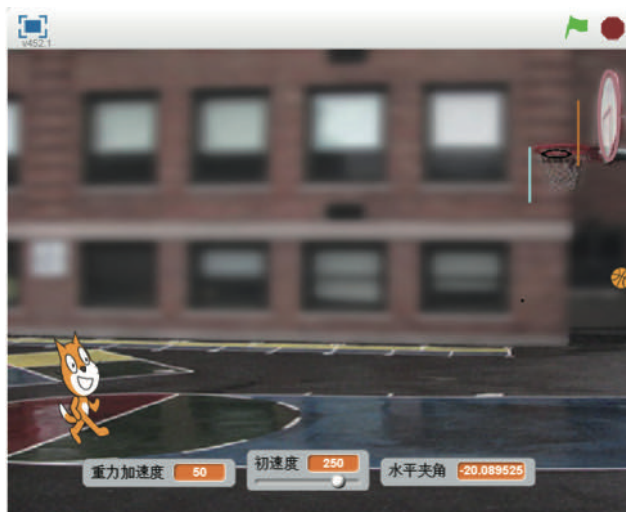
扫描二维码体验该Scratch



团队成员：赵茜雨 林丽芬 吴翠娣 李雪格



团队成员：周乐全 黄敬宜



## 游戏介绍

游戏内有运动函数设定，仿真现实投篮。

## INTRODUCTION

Simulate the actual shooting situation.

## 游戏操作：

长按A准备，鼠标左键投篮，移动鼠标调节射出角度，点击小猫，篮球回到原位。

## HOW TO PLAY:

Press "A" key to prepare for shooting, mouse click to shot.

Move the mouse to adjust the angle  
Click the cat, basketball will return to its original position.



扫描二维码体验该Scratch



### 游戏介绍

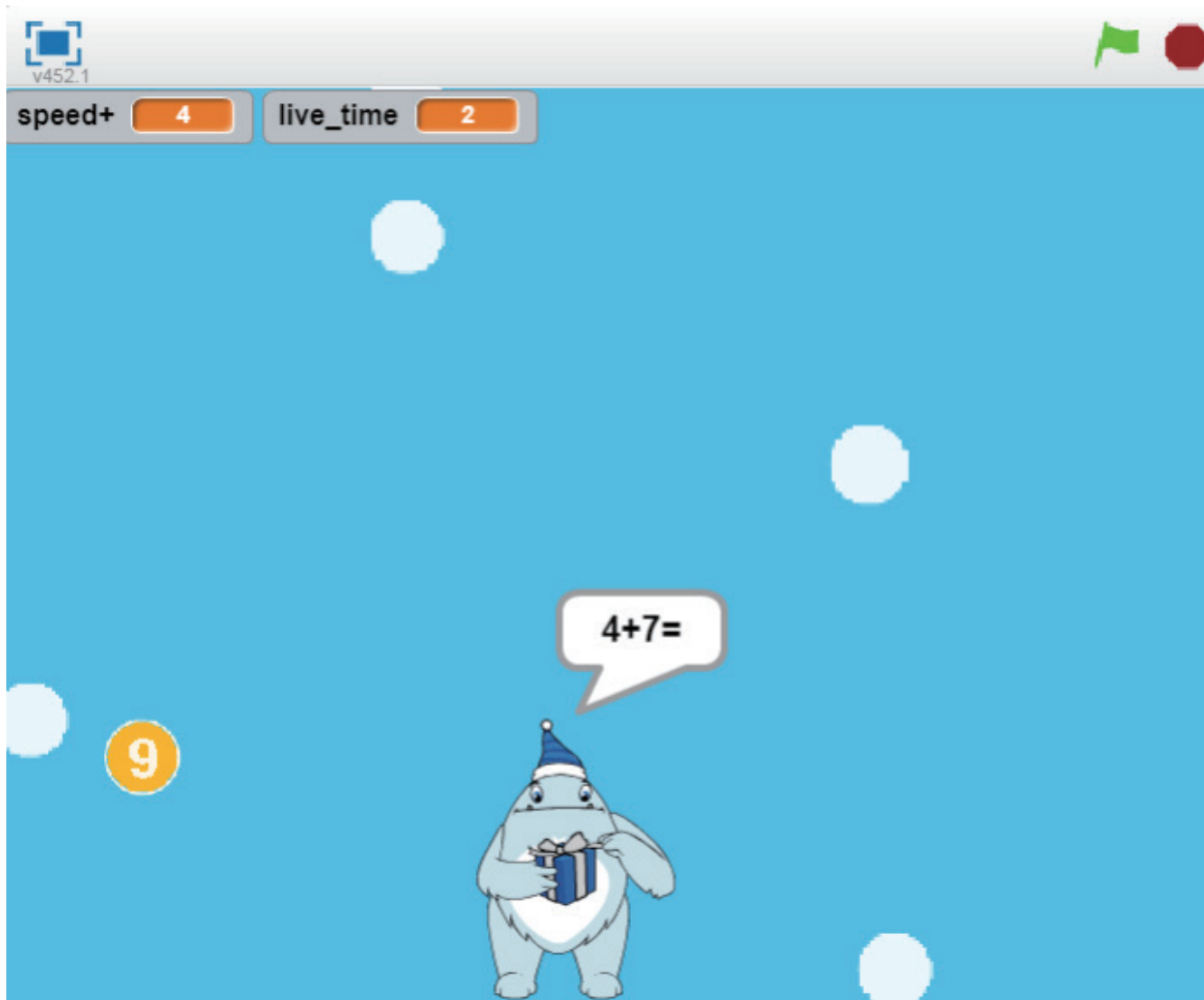
让小朋友在游戏中学习数学。

### INTRODUCTION

Let children learn in the game.



扫描二维码体验该Scratch



### 游戏介绍

“A” 向左走、“D” 向右走  
“W” 跳跃、“SPACE” 回答

### HOW TO PLAY:

Use your keyboard.

“D” for moving to right

“A” for moving to left

“W” for jumping

“SPACE” for answering questions





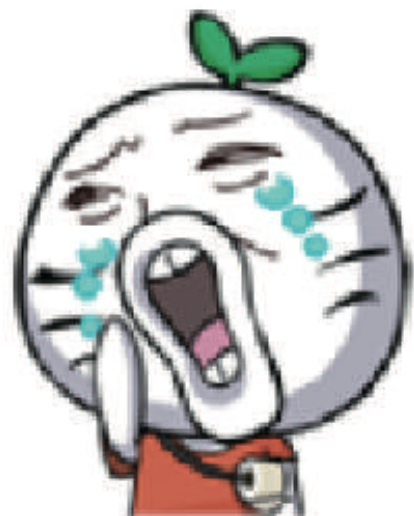
团队成员：徐佩、李莎、李谦、贺奕、熊灿、张绿萌

## 游戏介绍：

在每个小阶段需要玩家选择正确的急救方法来进行通关，以此增强玩家的急救意识和培养急救技能。

## INTRODUCTION

In each small stage requires the player to choose the correct first aid method for clearance, in order to enhance the player's first aid awareness and training emergency skills.



# 倒霉的小明



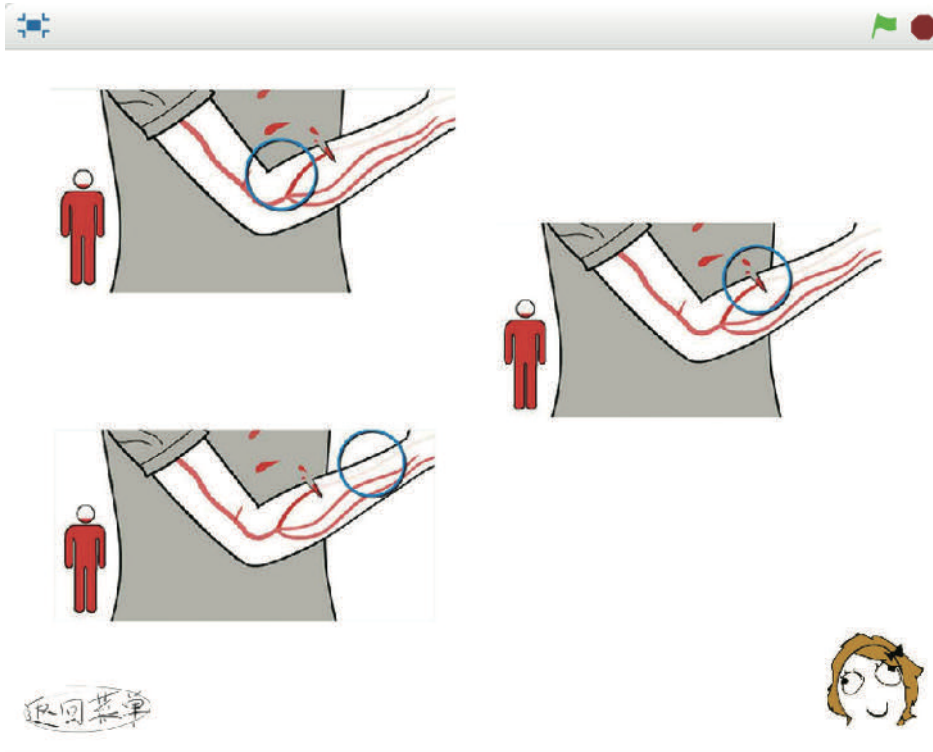
剧情介绍



开始游戏



扫描二维码体验该Scratch



倒霉的小明~

今天小明家庭聚会，悲催的是先是切到手，然后又被烫伤，最后被气到心脏病突发！是人性的缺失？还是道德的沦丧？请你救救小明！虽然叫小明的人那么多，但是他毕竟是一条生命啊！加油啊！  
！ 骆年！

游戏操作：

选择答案

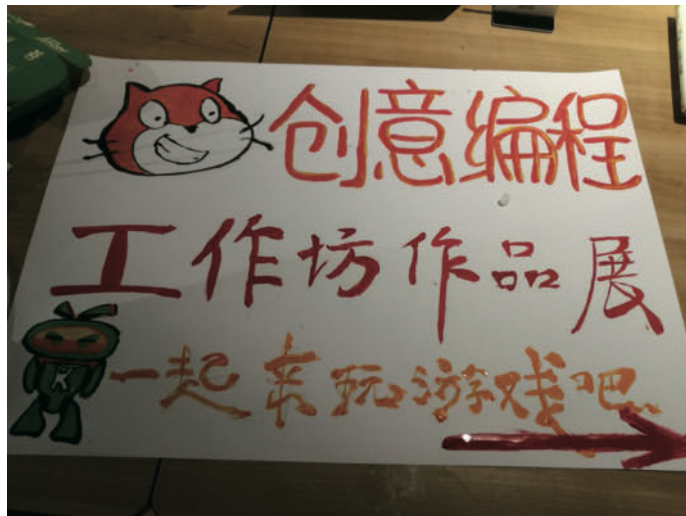
正确则继续下一步

HOW TO PLAY:

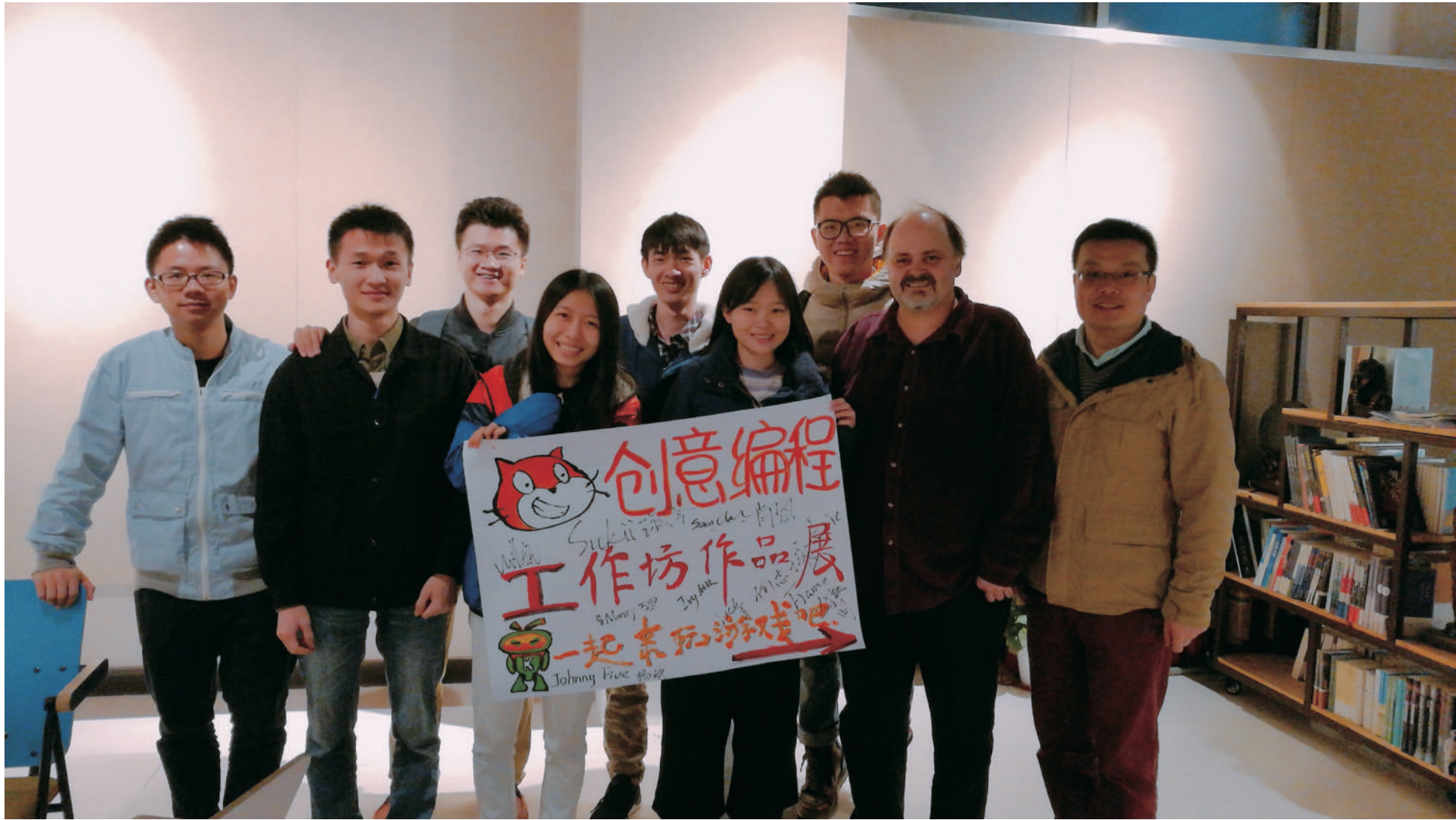
Choose the correct answer and move on to the next step



## 工作坊展示 Workshop presentation



工作坊结束-合照  
Workshop closure



工作坊工作人员-合照  
Workshop staff - photos



邝淑琴 (Sukii)



肖恩 (Sean)



纪毅 (Ji Yi)



何志成 (Eric)



付铁明 (Frame)



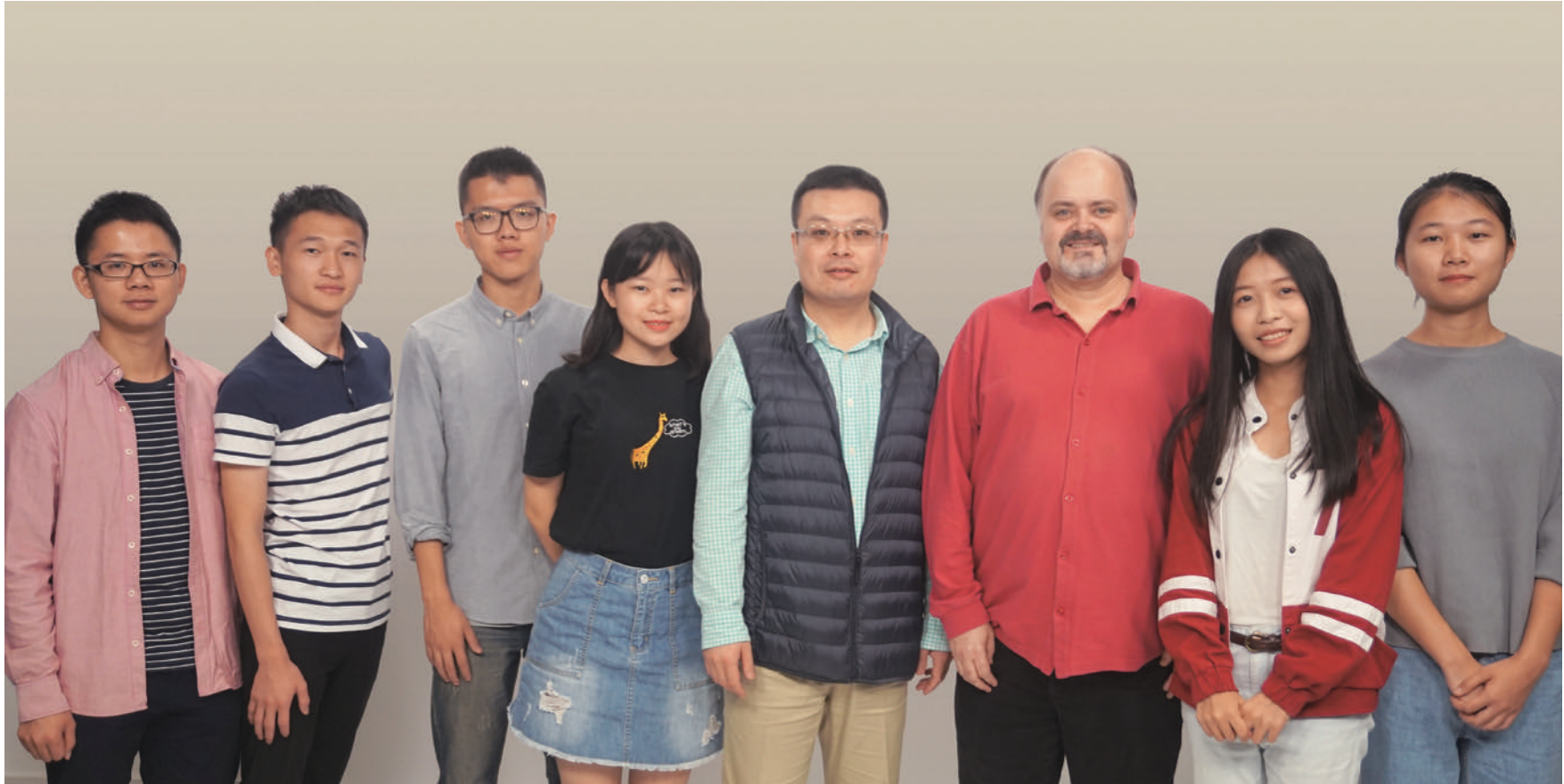
辜章愉 (Jack)



关嘉琦 (April)



罗钰莹 (Ivy)







# 创意编程

CREATIVE PROGRAMMING