CollgeWar

An AR mobile game

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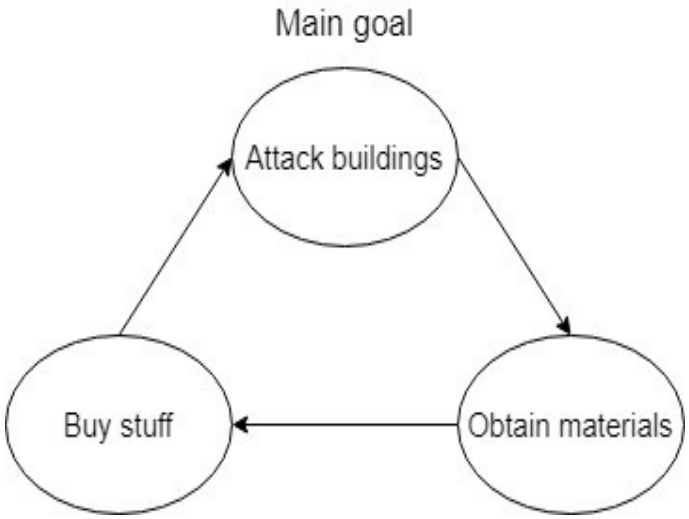
Motivation

- Key elements of the original game.
  - Multiplayer
  - Attack others by throwing
  - A special map
- Other Requirements
  - Mixed reality
- Goal
  - Develop an AR, multiplayer online game with CUHK elements including the campus and college systems.
- Platform
  - Android
- Target Player
  - CUHK students and stuffs

Design

Modules

- College
- Map
- Collect
- Attack & Defense



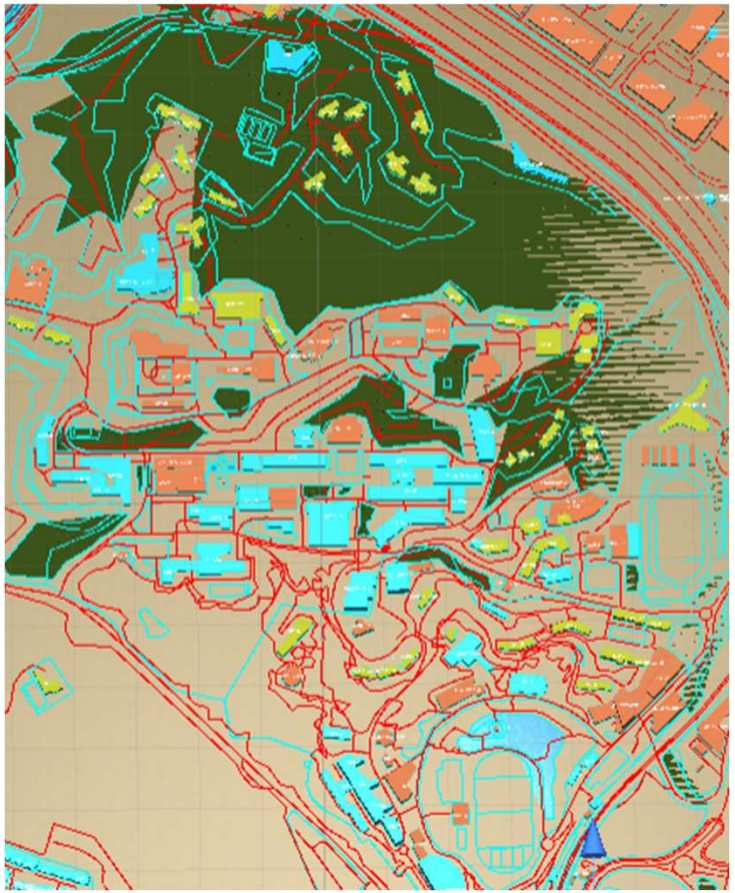
A forced circulation
for players

Design-College

- Multiplayer game
- Nine colleges of CUHK
- Players’ sense of substitution and belonging

Design-Map

- Main Scene
- Location-based
- Contents 3D buildings
  - Neutral
  - Occupied
- Different type of regions
  - Road
  - Wood & Grass
  - Water
  - Playground



Design-Collect

- Four types of materials (relating to the map)
  - Wood material – Wood & Grass area
  - Water material – Water area
  - Road material – Road area
  - Power material – Playground area
- Different collecting ways in AR
- Occupied buildings will also produce materials for players

Wood Material

- Simulated tree cutting
- Swipe fingers across the screen as quickly as possible

Water Material

- Simulated fishing
- Control the bar stopping at red area by clicking on the screen.

Road Material

- Simulated mineral mining
- Point the screen at the mineral and click

Power Material

- Generated randomly around players
- Turn phones around to find powers and click on them to collect

Design-Collect

- Four types of materials (relating to the map)
  - Wood material – Wood & Grass area
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  - Power material – Playground area
- Different collecting ways in AR
- Occupied buildings will also produce materials for players

Design-Attack & Defense

- Buy weapons and defense installations in shop
- Physically be around buildings.
- Players can only attack others' buildings and defense their own buildings.

Weapons	Damage point	Damage mode	Costing materials
Arrow	10	Single	Wood*1 + Water*1
Bomb	5	AOE	Wood*1 + Mineral*1
Intensified Arrow	20	Penetrate	Arrow*1 + Power*1
Intensified Bomb	10	AEO(Wider Area)	Bomb*1 + Power*1

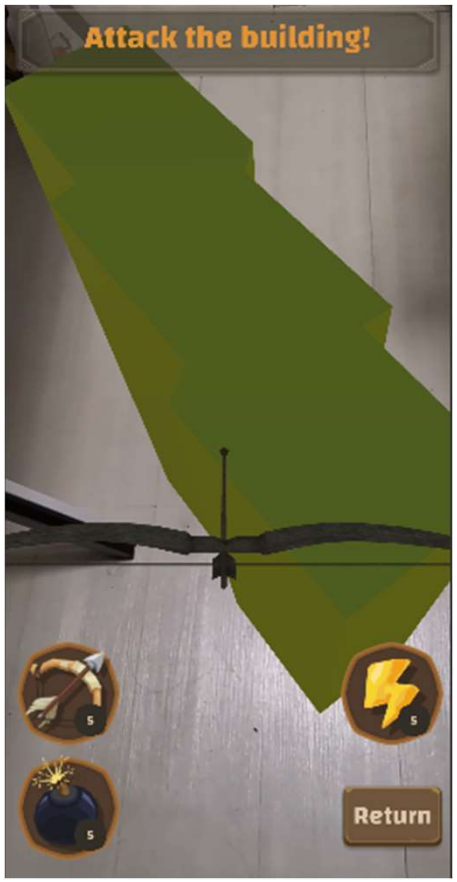
Four kinds of weapons

Defense	Life Point	Function	Cost Materials
Shield	100	Defense main building	Power*1
Wall	50	Block damage	Wood*5 + Mineral*5
Alarm	1	Alarm players	Wood*2 + Water*2 + Mineral*2

Three types of installations

Attack-Arrow

- Hit single object with higher damage
- Touch the bow and change direction and leave fingers to shoot.



Attack-Bomb

- Hit an area with lower damage
- Touch the catapult and slip to shoot a bomb
- Speed and direction decided by slipping distance and speed

Defense-Shield

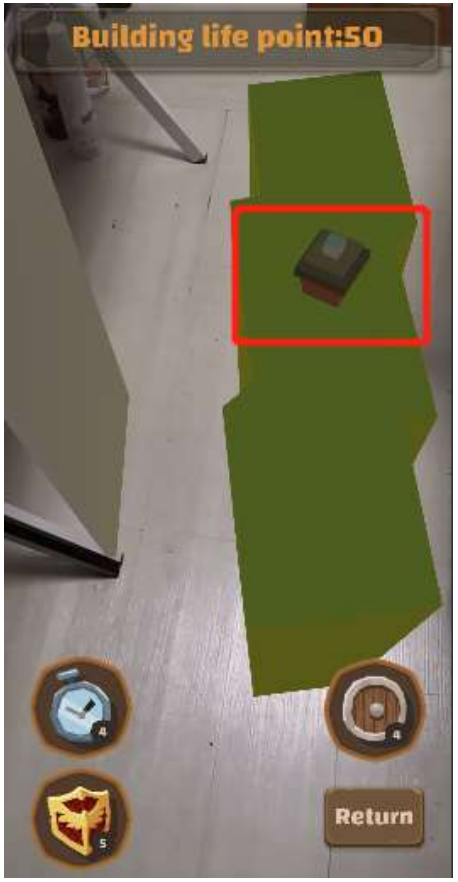
- Can only protect the main building.
- Main building will not be hit as it exists.

Defense-Wall

- Placed around main building.
- Move and rotate walls freely.
- Increase the height and life point of walls.

Attack-Alarm

- Attached to both main building and walls.
- Alarm players if their buildings are under attack
- Not hittable by weapons.
- Destroyed as the attaching object destroying.



Demo Video

Summary and Future Work

- Replace location-based property.
- Control the game balance.
  - Number of plyers varies from colleges.
  - Numerical design.
- Implement different skills for colleges.
- Implement chat system.
- Add functional use of the game.

Motivation

Basic Elements

- Multiplayer
- Attack others by throwing
- A special map
- Mixed reality

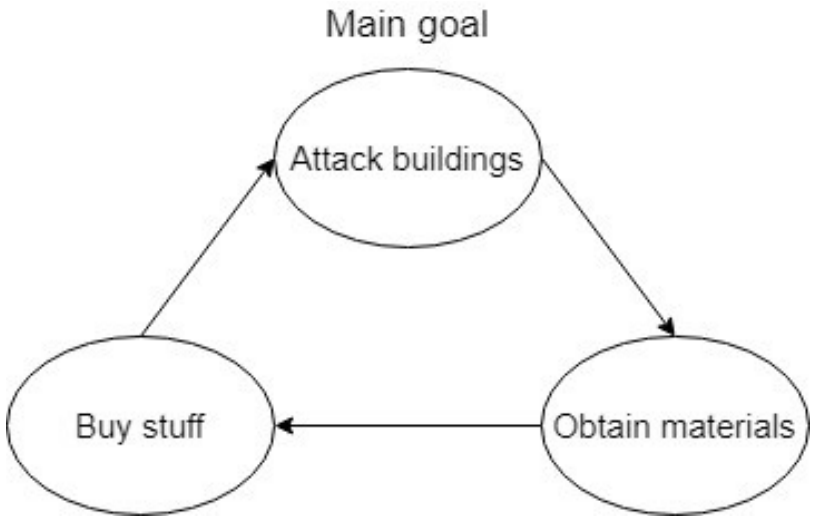
goal

- Develop an AR, multiplayer online game with CUHK elements including the campus and college systems.
- Target platform: Android
- Target players: CUHK students and stuffs

Design

Modules

- College
- Map
- Collect
- Attack & Defense



A forced circulation
for players

Design-College

- Multiplayer game
- Nine colleges of CUHK
- Players’ sense of substitution and belonging
- Once chosen, can’t change.
- Distinguished by icons and colors

Design-Map

- Main Scene
- Location-based
- Contents 3D buildings
  - Neutral
  - Occupied
- Different type of regions
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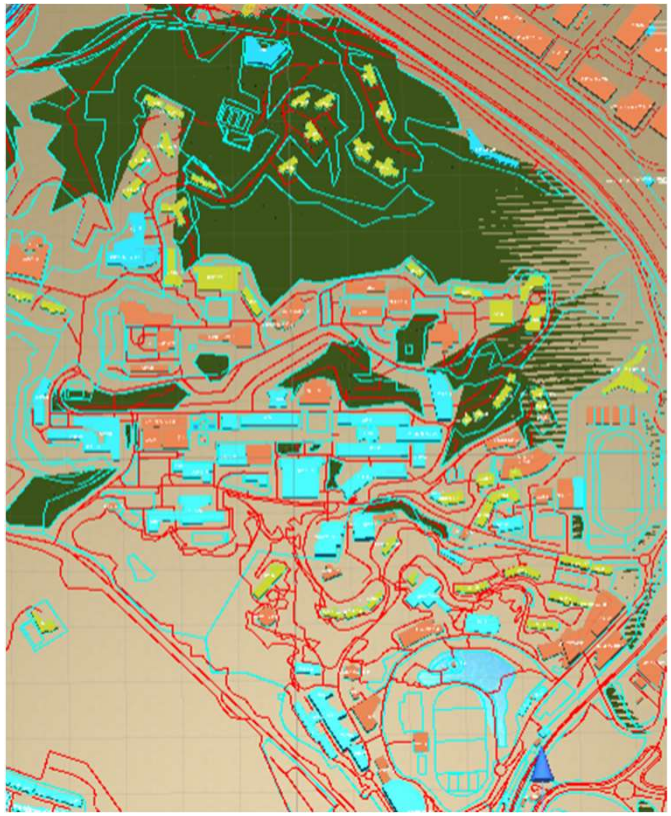

Map overview

Design-Collect

- Four types of materials (relating to the map)
  - Wood material – Wood & Grass area
  - Water material – Water area
  - Road material – Road area
  - Power material – Playground area
- Different collecting ways in AR
  - Enter collect scene and find a plane to place virtual objects.
  - Follow different instructions to collect materials.

Wood Material

- Simulated tree cutting
- Swipe fingers across the screen as quickly as possible
- Number of materials players obtain is related to count of cutting.

Water Material

- Simulated fishing
- Control the bar stopping at red area by clicking on the screen.
- Number of materials players obtain is related to the stop position.

Road Material

- Simulated mineral mining
- Point the screen at the mineral and click

Power Material

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Design-Collect

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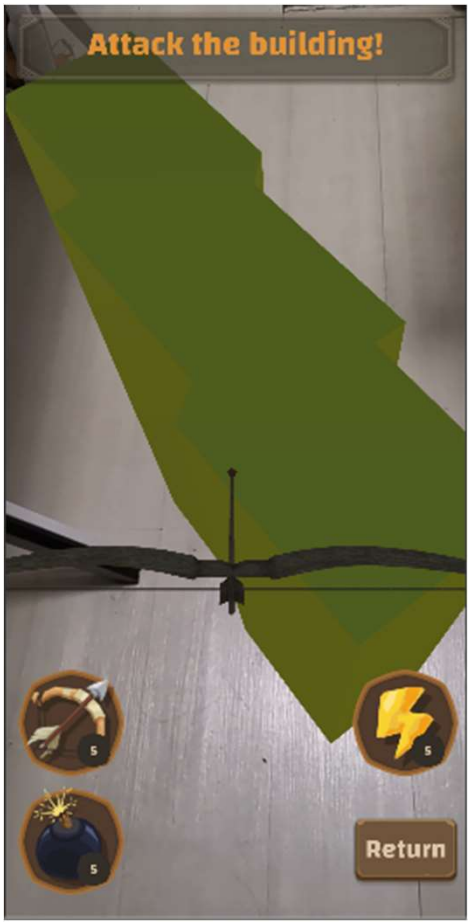

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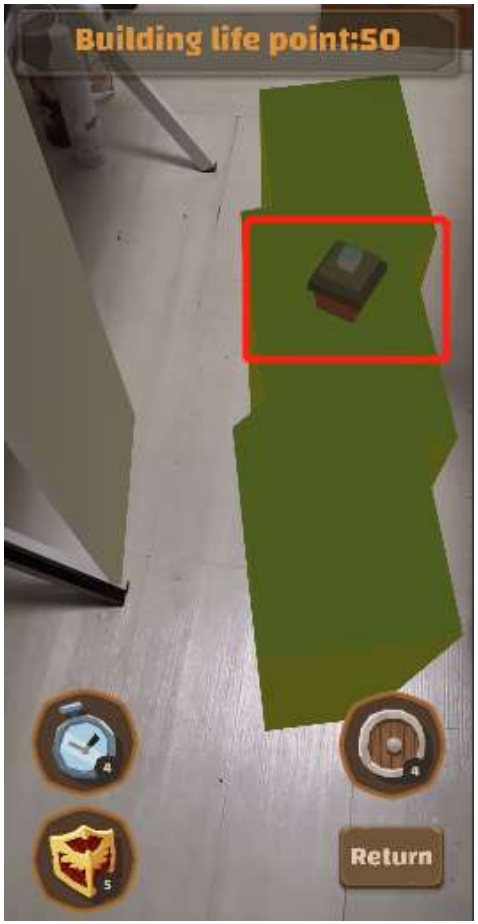
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