

LOCALE & EagleEye:

Equipping Education Students with Pedagogical Knowledge and Technical Skills in Facilitating Outdoor Exploratory Learning

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Our Initiative

In order to empower our education students (both pre-service and in-service teachers) to better understand and experience the educational potential of mobile learning and how mobile devices can be integrated into the process of teaching and learning, we have developed:

- Location-Oriented Collaborative Authentic Learning (LOCALE), a blended pedagogical approach to outdoor exploratory learning,
- EagleEye, an integrated mobile educational system to implement LOCALE.



Students in MEd Programme, CUHK
PEDU6072: Application of Multimedia in Education



LOCALE and EagleEye Adopted in School Education

Impacts

- Teaching and Learning Enhancement at CUHK:
LOCALE and EagleEye have been integrated into the information technology in education courses in the Faculty of Education's undergraduate and postgraduate programmes (BEd., PGDP., PGDE., MEd., and MA.) for equipping the students with pedagogical knowledge and technical skills in facilitating outdoor exploratory learning.
- Knowledge Transfer to the Wider Educational Community:
Our mobile learning innovation has also been transferred to more than 50 primary and secondary schools in Hong Kong.

LOCALE is Composed of 3 Pedagogical Phases:



Teacher

Phase 1: Scaffolding

Before a fieldtrip, a teacher will design for his/her students a location-aware exploratory resource for running on GPS-enabled tablets. This resource is a combination of a map of the fieldtrip site and a number of multimedia-enriched location-aware exploratory scaffolds (guiding questions) set upon different designated exploratory spots on the site, facilitating the students to observe and experience during the fieldtrip.



Students

Phase 2:

GPS-supported Exploratory Learning

During the fieldtrip, the students will open the resource with their tablets. Based on the ongoing GPS signals received, the exploratory scaffolds embedded in the resource will pop up automatically when the students step in physically the corresponding geo-locations on the site. Unlike conventional fieldtrip activities where a whole class crowds simultaneously into each exploratory spot, the students in this phase work in small groups to plan and adjust their own exploratory route according to their own learning pace and interest. Also, they will input their responses to the questions (presented in the scaffolds) on their tablets.



Teacher

Phase 3: Debriefing

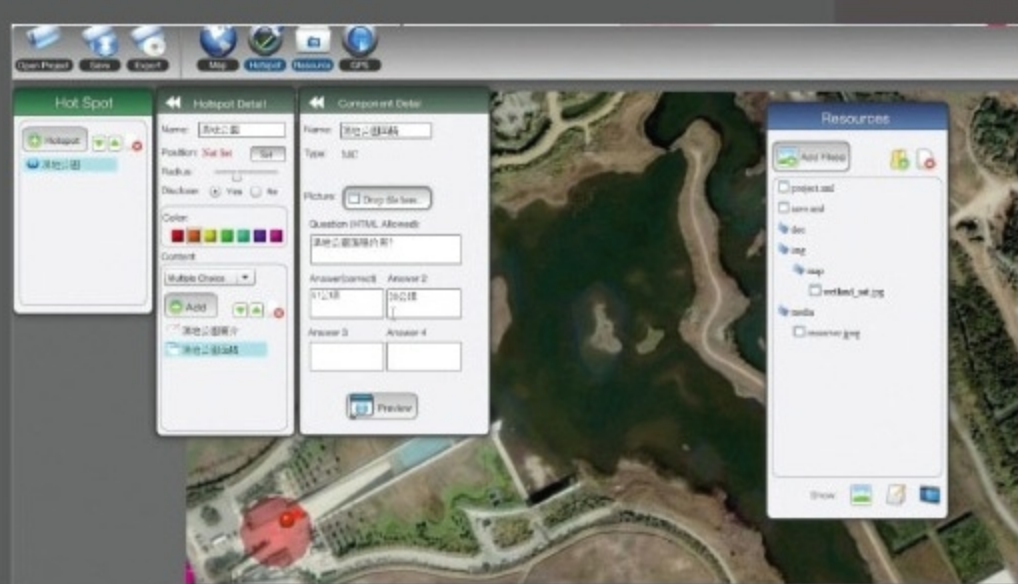
After the fieldtrip, the teacher will retrieve the students' responses to the exploratory scaffolds on the resource. To assist them in reflecting on their fieldtrip experience, the teacher will extract interesting or/and problematic responses made by the students for further discussion through face-to-face debriefing lessons.

EagleEye Consists of 4 Components:

Phase 1: Scaffolding

Phase 3: Debriefing

1. Location-aware Exploratory Resource Authoring Tool (LERAT)



PC-based software for teachers to create location-aware exploratory resources (for Phase 1 of LOCALE). Various templates with multimedia features (text, graphics, audio, and video) in the forms of multiple-choice, true/false, fill-in-the-blank, open-ended question types, etc. are available for assisting teachers in constructing the exploratory scaffolds (guiding questions) which will be presented as circle-shaped "hotspots" on the resources.

2. Repository Server

Firstly, it is for storing the resources created and uploaded by teachers. Secondly, it is from where students can download the corresponding resource to their GPS-enabled tablets before a fieldtrip. Thirdly, it is for storing students' responses to the exploratory scaffolds after a fieldtrip.



1.LERAT



4.TC

Phase 2:
GPS-supported
Exploratory



2.RS

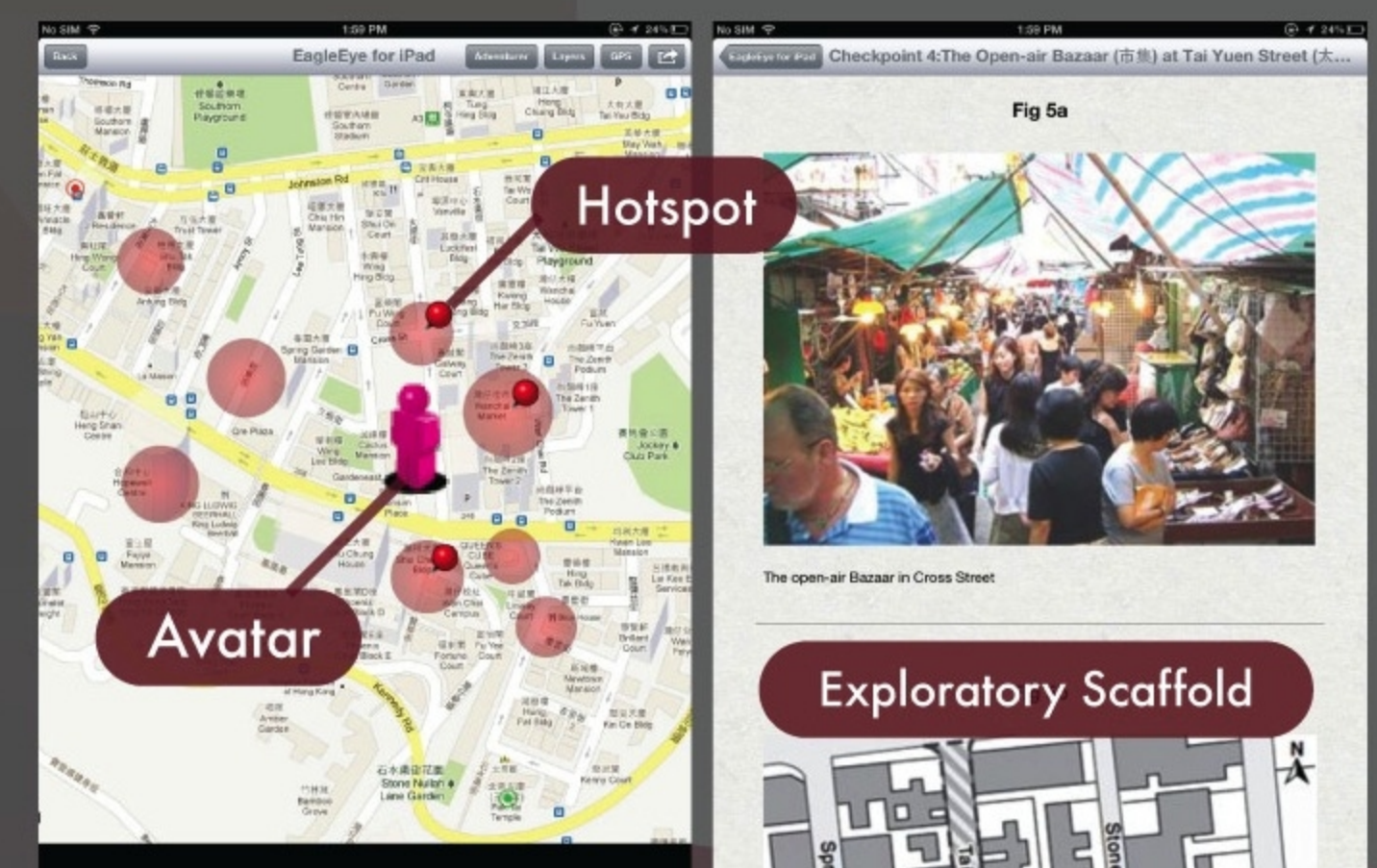


3. GEP (the APP)

4. Teacher Console (TC)

Web-based platform connected to the RS. It enables teachers after a fieldtrip to retrieve their students' responses to the exploratory scaffolds for conducting debriefing (for Phase 3 of LOCALE).

3. GPS-supported Exploratory Platform (GEP)



Tablet-based software application (i.e., an App) to open the resource during a fieldtrip (for Phase 2 of LOCALE). There is an "avatar" appearing on the GEP to indicate a student group's current geo-location in accordance with the ongoing GPS signals received. The "hotspots" embedded in the resource will pop up automatically when the group steps in physically the corresponding geo-locations on the site. They can also input their responses to the exploratory scaffolds on the GEP.