Slide 1:

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Mobile Learning for School Children

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Enterprise & Consumer Electronics Group
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ASTRI

香港應用科技研究院有限公司
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Slide 2:

ASTRI's Mission

- One of the R&D Centres under the Innovation and Technology Commission, focus on developing information and communication technologies
- Collaborate with the Hong Kong Education Bureau to support local schools in its e-Learning pilot program
- Offer client and server solutions in e-Learning to schools and commercial partners in the education sector

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Slide 3:

ASTRI's Current e-Learning Portfolio

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Slide 4:
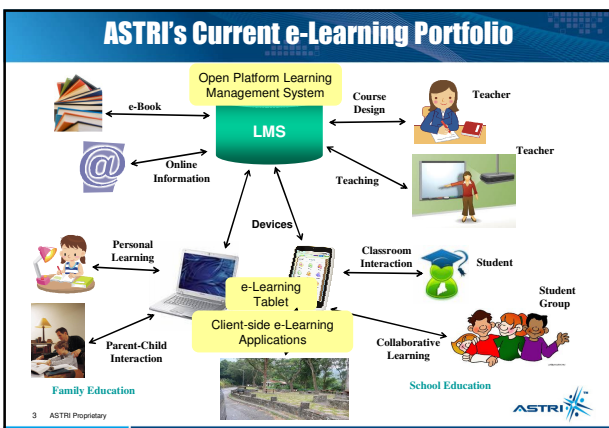
Digital Travel Competition 2011

- 活動目的： 以資訊科技結合社區設施，讓學生不受時間、校園空間限制，並透過使用無線網絡、平板電腦和學習軟件進行遊蹤比賽，藉此培養學生的資訊素養．
- 活動日期： 二〇一一年十一月五日 (星期六)
- 舉行地點： 香港科學園 (HKSTP)
- 活動對象： 小學四至六年級學生（14間學校參與比賽）
- 活動人數： 比賽學生約60人

A組   B組
集合地點
頒獎禮地點

Conica Cui   Winnie Zhang   Rainie Wang
Minghua Sh   Yunzhao Lu   Kevin Wang   Michelle Hong   Richie Ku
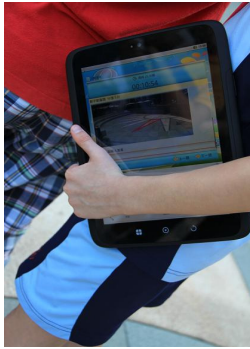
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Slide 5:

HKSTP Digital Travel Competition 2011
電子學習平台老師出題界面 LMS Teacher Interface

「企業廣場」與「核心大樓一座」之間的小廣場有太陽地磚。請計算圖中標示橙色地磚圖案的周界長度。
(單位：米；答案取至整數)
(請注意：答案中只需填寫數字，無需填寫單位，且數字之間不留任何空格或符號)

Slide 6:

HKSTP Digital Travel Competition 2011
Student Captures QR Code at Designated Location

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Digital Travel Competition 2011

Student Survey Results

1.我對今次活動安排的意見

·資訊科技器材設備

非常滿意	滿意	不滿意	極不滿意	無意見	合數
29	26	1	0	1	57

·與組員合作

非常滿意	滿意	不滿意	極不滿意	無意見	合數
28	21	2	2	4	57

2. 我對這項活動感興趣

極同意	同意	不同意	極不同意	無意見	合數
24	30	0	0	3	57

3. 活動能讓我將課堂所學知識應用到真實的環境

極同意	同意	不同意	極不同意	無意見	合數
21	32	2	0	2	57

ASTRI's Mobile Learning Solutions

- Sensor-based mobile learning
- Mobile collaborative learning
- Learning Management System to support mobile learning lesson plans

Sensor-based Mobile Learning

- **Object identification on a mobile device**:
  - sensor captures an object's digital ID
  - map the ID to the object's information
  - information can be in the form of:
    + an URL that leads to a web page,
    + pre-loaded information on the object
- **Proximity sensor:**
  - NFC for object identification:
    + low-cost, passive RFID tags are attached to various objects
    + NFC module reads the RFID tag
  - offers a more natural, friendly user experience
- **Image sensor:**
  - QR-code for object identification
  - mobile device's camera capture the QR-code and translate it into an URL
- **Location sensor:**
  - GPS for location identification
  - mobile device will map the location to information about the location

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Mobile Learning Through QR-Code

Estimate the age of the tree.
Take a sample of the tree leaf and write down its shape, color and smell

- QR-code attached to object of interest outside of classroom
- Capture the QR-code with e-Learning tablet's camera
- Software decodes the QR-code into a relevant URL or index
- Information about the object will pop up on the device

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e-Learning With Mobile Peer-to-Peer
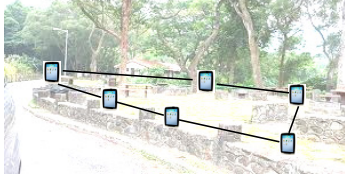
Personal Assistant for e-Learning (PAL)

- In offline situations, PAL devices nearby can form a mobile peer network
- Students in the peer network can exchange materials, IM, jointly edit a document, etc.
- The teacher can also give a test to the group using this mobile P2P network

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Joint Note-Editing Among Peers

- Identify a Mountain Pepper tree through RFID attached on the tree
- Take notes by observing the Mountain Pepper on a common note-pad shared within the group
- Share the pictures taken on the tree
- Student input are distinguished by color
- Information captured during the trip will be uploaded to LMS when the students get back to school

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Platform to Create Mobile Learning Plans

- Integrate mobile learning lesson planning into school's Learning Management System (LMS)
- A tool for teachers to easily create mobile learning contents
- Impact:
  - encourage teachers to focus on content creation rather than software development
  - reduce the setup & administration cost for schools to deploy mobile e-Learning
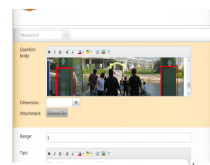
17   ASTRI Proprietary
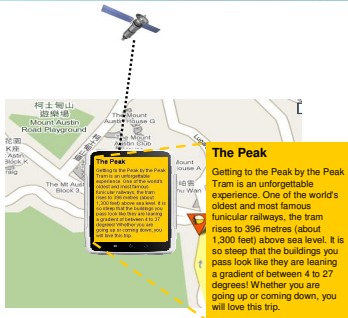

End of Presentation
Thank you. Questions are welcome.

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Location-based Learning

The Peak
Getting to the Peak by the Peak Tram is an unforgettable experience. One of the world's oldest and most famous funicular railways, the tram rises to 396 metres (about 1,300 feet) above sea level. It is so steep that the buildings you pass look like they are leaning a gradient of between 4 to 27 degrees! Whether you are going up or coming down, you will love this trip.

- Detect the location through GPS
- After the longitude/latitude are locked, information about the location pops up on the device
- Information can be accessed through mobile Internet, or pre-loaded on the device
- A digital compass is also available to locate other landmarks at various directions

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Mobile Learning Through RFID

Chinese Hackberry is a species of flowering plant in the hemp family, Cannabaceae, that is native to slopes in East Asia. It is a tree that grows to 20 m tall, with deciduous leaves and gray bark . The fruit is a globose drupe, 5–7mm in diameter. Flowering occurs in March–April, and fruiting in September–October

- RFID tags attached to objects of interest outside of classroom
- Device taps on the tag of an object
- Tag ID is mapped to information of the object, which pops up on the device

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Mobile e-Learning Device — Personal Assistant For e-Learning

- Android-based 10" tablet device, touch panel, HD display
- Design for e-Reading (4:3, 1024 x 768 resolution, wide-angle display)
- back and front camera
- 3G and WiFi network access
- Location related components: GPS and digital compass
- Hand-writing, audio/video recording, etc.
- Integrated with ASTRI's Learning Management System

Personal Assistant for e-Learning (PAL)