Serious games at the UNHCR with ARLearn, a toolkit for mobile and virtual reality applications

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Augmented Reality

= camera + gps + accelerometer
Senses

- sight
- hearing
- taste
- smell
- touch
- balance
- ....
ARLearn: hearing

Centre for Learning Sciences and Technologies
ARLearn toolkit

Fieldtrip system

Augmented Reality

Notification framework

Serious gaming

mobile app

Virtual reality

Rich media

Centre for Learning Sciences and Technologies
ARLearn and Google App Engine
Open source
Serious games

- Scoring
- Progress
- Team play
- Roles
Lifecycle of a media item

Invisible

dependsOn

visible

disappearOn

Invisible
ARLearn data model

- **GeneralItem**
  - title : string
  - lat : double
  - lng : double
  - dependsOn : string
  - disappearOn : string
  - timestamp : long
  - accessRange : int
  - visibleRange : int
  - iconUrl : string
  - scope : string
  - id : string

- **MultipleChoice**
  - richText : string
  - text : string
  - answers : MultipleChoiceAnswer

- **MultipleChoiceAnswer**
  - answer : string
  - id : string
  - correct : bool

- **NarratorObject**
  - richText : String
  - text : String
  - openQuestion : bool

- **PickupItemType**
  - type : string

- **CombineTask**
  - pickupItemType[] : PickupItemType
  - pickupItem[] : PickupItem

- **DropZone**
  - pickupItemld : string
  - markZone : bool

- **RectangleDropzone**
  - height : long
  - width : long

- **TransportTask**
  - pickupId : string[]
  - DropZoneld : string[]
ARLearn dependency model

- **TimeDependency**
  - offset: Dependency
  - timeDelta: long

- **ActionDependency**
  - action: string
  - scope: string
  - generalltemld: string

- **AndDependency**
  - deps: Dependency[]

- **OrDependency**
  - deps: Dependency[]
## ARLearn Case studies

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Hostage Simulation: Real World Training for critical situations
Roles / teams

Head of Office - Security Officer - Staff Welfare

a role is performed by a small group with smartphone.

advance organizer for real drill

take decisions / collaborate
Question

Important Message

After informing your country's Representative, what do you do next?

- Make contact with the hostage takers to find out the demands
- Liaise with other UNHCR staff to establish when, where and why the hostage was taken.
ELENA: language learning for kids (4-6y)

context!

game patterns
Cultural Science Fieldtrip in Florence

Op bijgaande tekening kun je zien hoe Brunelleschi’s ontwerp voltooid had moeten worden. Bedenk dat de geleding ervan ‘klassiek’ wordt genoemd; hoe uit zich dit dan?

Maak van deze hoek zo goed mogelijk een foto en spreek in vijftig woorden in hoe hij de hele gevel heeft geleed.

Start Recording
Streetlearn: ARLearn streetview client

Architecture of the gallery

A visitor in the gallery is proud of her knowledge about the debate over the architecture of this building. She says, that a famous architect state: "Hier wil ik geen discussie over hebben, dit ontwerp keur ik zonder meer goed". But she forgot who it was. Can you help?

From which architect was the quote?

A. ☐ F.J. Dupont
B. ☐ A. Bodon
C. ☐ J.F. Staal

Next
More...

- http://portal.ou.nl/web/topic-mobile-learning/

Get Started

This manual will help you to get started with ARLearn in four steps:

1. Download the ARLearn app from the google play
2. Create your first game
3. Create a run, to deploy the game on your mobile devices
4. Open ARLearn on the mobile device to play the game.

ARLearn smartphone app

At this moment ARLearn is only available for android. An iphone client is currently being developed.