The role of User Scenarios as the central piece of the development jigsaw puzzle

Diane Evans
Josie Taylor
Open University IET Userlab

MLEARN conference 2004 - Rome
Outline

Pieces in the puzzle
Mobilearn Context
User Scenarios in Mobilearn
Development and refinement
Dangers
Benefits
Conclusions
The Mobilearn Context

Many differences …
One common Goal

To define a pedagogically valid mobile environment

To achieve this

Requirement to support COMMUNICATION
Definition of Scenarios (1)

*used for ‘envisionment’ – (Carroll 1995)*

*and requirements gathering*

‘a story focussed on a user or group of users, which provides information on the nature of the users, the goals they wish to achieve, and the context in which the activities will take place’
Definition of Scenarios (2)

*used to define the test instantiation of the scenario for the User Trials*

‘a story focussed on teachers and learners in a specific context, identifying specific activities which will be followed to achieve certain pre-defined educational goals’.
Scenarios & Requirements

Envisionment → Pedagogues
(Domain Experts)

Final domain scenarios 3

REQUIREMENTS

Domain based Users

Scenarios >200

Calibration
The 3 main Scenarios

- **Health** – First Aiders at OU in a training situation

- **MBA** – Lecturer and students in Zurich University, in a teaching scenario based around a Case Study

- **Museum** – visitors at the Uffizi gallery
The Health Scenario- a training scenario for first aiders

Role is performed in addition to their normal working role

Training follows a fixed process with refresher courses and further testing at prescribed intervals

Need for the provision of material to support them between the formal sessions

The test scenario includes material and activities to provide that support
Example of user stated requirement

**Requirement:**
First aiders need to store documents (incident assessments) for later viewing either by themselves or their peers

**Rationale:**
First aiders will be enabled to learn from evaluations and discussions of prior assessments of first aid incidents
matched to scenario activity

Gill receives a picture of a first aid incident. The picture is accompanied by a text message asking her to scrutinise the picture, and file an initial assessment with the leader as to what needs to be attended to in the environment, using her mobile device.

The leader is pleased with Gill’s initial assessment. It differs from Peter’s, another first aider participating in the exercise. She suggests that Peter and Gill discuss their interpretations of the scene. They need to agree a plan of action.
The Instantiation version

Developed partly as a request from developers

Specifies the context of use

and includes plans for the evaluation
Focus on Learning activities

Four distinct episodes supporting different learner activity and collaborative activity over a period of a week.

The activities cover agreed procedures for:

- **Action at an Emergency**: CPR (cardiopulmonary resuscitation) and the Recovery position
- **Quiz** – based on First Aid procedures and processes
- **Picture / Video Based Activity** – based on incident assessment
- **Enactment** – a role play activity based on a simulated incident.

**Individual activity** - lasts throughout the week & enables the use of self-assessment content, access to external links and the opportunity to view other related content.
Focussing on higher level questions

*Is the use of mobile devices suitable to support activity based group collaboration?*

This learning activity is presented using the Picture / Video Based Activity.

The learner is presented with the opportunity to work both in pairs and in small groups in a situation which is not face to face.

The task is to provide an agreed assessment of the first aid situation depicted in the picture
## Matching scenario activities with system services

<table>
<thead>
<tr>
<th>Scenario Activity</th>
<th>Sub-activities</th>
<th>System Service</th>
<th>Expected system response</th>
</tr>
</thead>
</table>
| Notification of quiz | 1.Log on to system  
2.Select group of users  
3.Enter text message  
4."send" message | MD_PDA-25  
MD_PDA-26  
MD_PDA-16 | Login page displayed. Correct login displays main menu  
List of users / groups of users is displayed  
Allows selection of target group  
Place to enter text is displayed  
Option to send text |
Dangers

• Specifying a single scenario only
  – Too limited a system
• Scenario based in restricted set of requirements
  – Too limited a system
• Scenario based on too many requirements
  – Too broad a system, can’t complete on time
• Left too late
  – not possible to perform high-level evaluation
Benefits for Development

• **Performs** a technical role by giving context to requirements as specified in the database of Volere shells

• **Supports** verification of system functionality against user requirements

• **Offers** a mechanism to support activities linked to user – system interaction

• **Provides** opportunity for ‘what ifs’
Benefits for Evaluation

- **Supports** both formative and summative evaluation
- **Enables** evaluation plans for user trials to be specified in terms of context as well as task
- **Provides** the missing link between higher order concepts, such as pedagogy, learning objectives etc and lower level implementation aspects
Benefits for Communication

• It is multi-stranded, supporting mutually informing dialogue

• Engages users and their representatives in the development process and keeps their interests at the centre of the project