EMERGO

Two products, to be used freely without any costs

A method supporting developing scenario-based educational games

A web-based toolkit to realise and deploy such games
EMERGO method

Describe learning activities for each role

Determine program actions and reactions

Decide which tools need to be available for which role
EMERGO toolkit

Enter all learning activities and tools

Preview what specific roles will actually see

Monitor learner progress

Demo of EMERGO player
Thank you for your attention

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EMERGO usps

Web-based production and distribution
Generic Methodology
Can largely be used independently by teacher
Generic Toolkit (OS): loosely coupled components
Reusable and Adaptable (OS, XML)
Scripting: support of various scenarios and target groups
Gaming elements: scripts and direct feedback
Scripting: personalised environment based on progress
Cooperation (multi-role) and Monitoring by tutor
Preview option
Streaming video support: wmv and flash video
EMERGO method & toolkit

Case development
- Data entry initialisation
  - Components initialisation
- Data entry development
  - Data entry 'the brain'
  - Data entry 'the flesh'
  - Data entry 'the bones'
- Case management
  - make case

Case idea
Case scenario
Case development
Case delivery
Case evaluation

Data entry development
- Design
  - Sources
  - Messages
  - Announcements
  - Conversations
  - Feedback
  - Tests
- Design
  - GoogleMap
- Design
  - Stakes/Tests
- Design
  - e-messages
- Design
  - Emphasis
- Design
  - Impact
- Design
  - Locations
- Design
  - Object roles
- Design
  - Object states
- Design
  - Selections

Case delivery
- Design
  - Student Portal
  - Selections
  - Tests
- Design
  - Staff Portal

Case run management
- Case run management
  - Case run management
    - Case management check case
    - RUN

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Case development

Data entry initialisation

- START
- Case management
  - make case
  - Components
  - initialisation

Data entry development

Data entry ‘the brain’
- Scripting
  - (conditions, constraints & actions)

Data entry ‘the bones’
- Design
  - characters/roles
  - locations
  - Empack
  - Tasks
  - Object states

Data entry ‘the flesh’
- Design
  - Sources
  - e-messages
  - Announcements
  - Conversations
  - GoogleMap
  - Selections
  - Tests
Case delivery

Data entry development

Design
Student-Portal

Design
Staff-Portal

Case management
check case

Case runmanagement

RUN
server

administrator case developer case run manager case run player

manage accounts and components edit case manage case run play case

accounts, component templates cases - case components - case roles

case runs - cases - accounts case-roles

case run status

programmacode (ZK, Spring, java)
database (MySQL)

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EMERGO toolkit Component Architecture

**Roles**
- Administrator
- Case developers
- Players

**Toolkit**
- Component definitions
- Component editors
- Component players

**Database**
- Definition
- Content
- Run status
- Run team status
- Run player status

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EMERGO toolkit Architecture: component definition

- ROLES
- TOOLKIT
- DATABASE

Administrator

in XML definition:
- tags + properties
- hierarchy between tags

component XML Definitions
(not all shown)

Locations
- Location tag
- Background

Alerts
- Alert tag

Conversations
- Conversation tag
- Question tag
- Fragment tag

Resources
- Map tag
- Piece tag

Components table with XML definitions

Case developers

component editors

content

Players

component players

Status
EMERGO toolkit Architecture: component editors

ROLES
- Administrator
- Case developers

TOOLKIT
- component definitions
  - editors (not all shown)
    - Locations tree
    - Alerts tree
    - Convers tree
    - Resources tree

DATABASE
- definition
- Case components table
  - (XML: content / component / case)

Players
- component players
- Status
EMERGO toolkit Architecture: component players

**ROLES**
- Administrator
- Case developers

**TOOLKIT**
- Component definitions
- Component editors

**DATABASE**
- Definition
- Content

**Players**
- Definition + content + previous tag status
- Rendered component tags
- Saved status = tag property

**Component players**
- Location bar
  - Render tag
  - Save tag status
- Question tree
  - Render tag
  - Save tag status
- Resources tree
  - Render tag
  - Render input popup
  - Save tag (status)
- Status table (XML run status / case component)
- Status table (XML run team status / case component)
- Status table (XML run player status / case component)
Jsp en
Spring MVC +
ZK Framework

Beans
mbv Spring MVC

Java classes
mbv Spring

ORM
mbv Hibernate

MySQL
EMERGO server specs

(VMWare) Windows Server 2003

3 GHz processor

2 GB internal memory (3 MB per user session)

Java Runtime Environment 6

Apache Tomcat 6

MySql 5 + MySqlAdmin