

# THE DOUBLE-EFFECT APPROACH TO SERIOUS GAMES IN HIGHER EDUCATION: STUDENTS DESIGNING AND DEVELOPING SERIOUS GAMES FOR OTHER STUDENTS



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# AGENDA

- IMBIT @ DHBW Cooperative State University
- The Double-Effect Approach to SG Design
- The Project: 30 students / 12 weeks / 50 hours
- Review: Application, Outcomes & Learnings
- Follow-up Projects

# DHBW COOPERATIVE STATE UNIVERSITY MANNHEIM

## Dual Study Concept

Industry Partners



Students



# IMBIT: INT'L MANAGEMENT FOR BUSINESS AND IT

## Industry Partners



accenture



DB SCHENKER



Springer

e-on



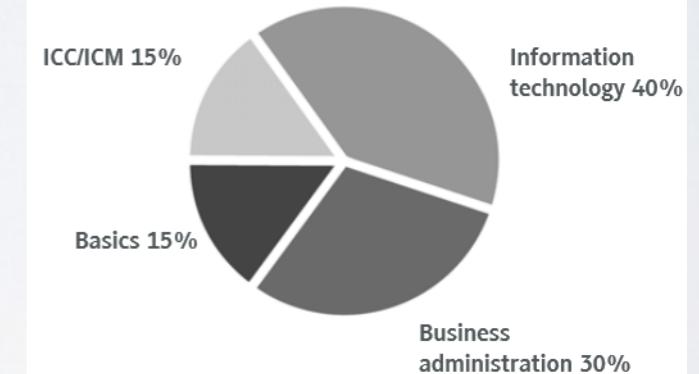
EVONIK  
INDUSTRIES

Atos



Lufthansa

## Students



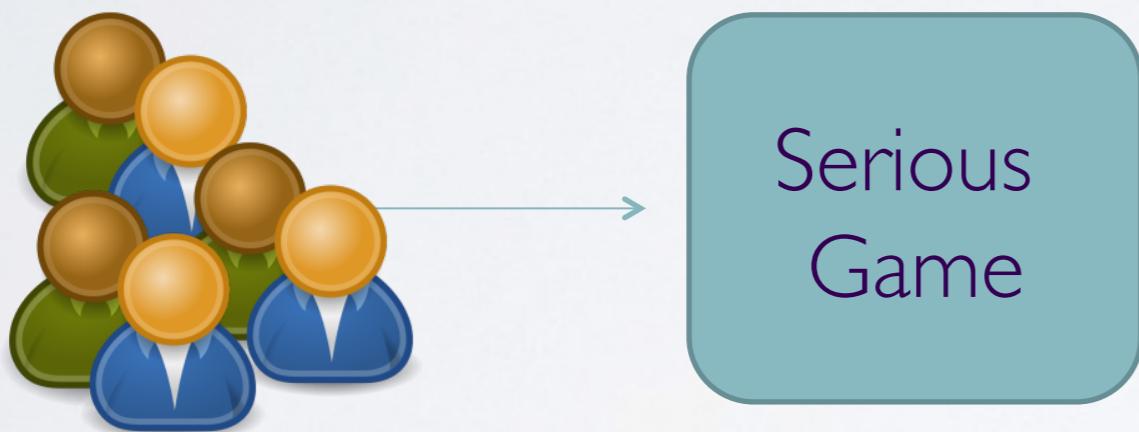
[www.imbit.dhbw-mannheim.de](http://www.imbit.dhbw-mannheim.de)

**IMBIT**

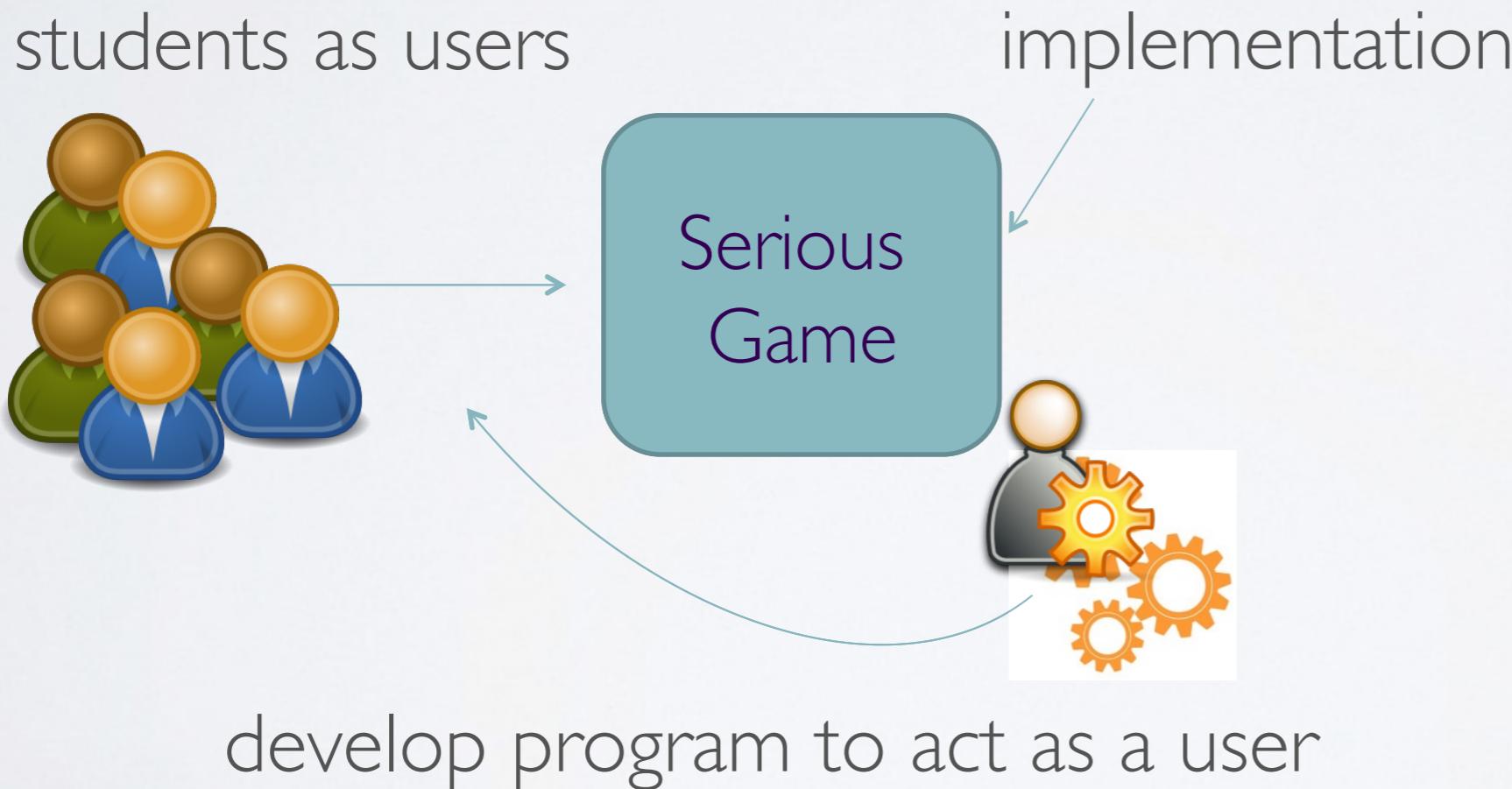
INTERNATIONAL  
MANAGEMENT FOR  
BUSINESS AND IT

# THE DOUBLE-EFFECT APPROACH TO SG DESIGN

students as users

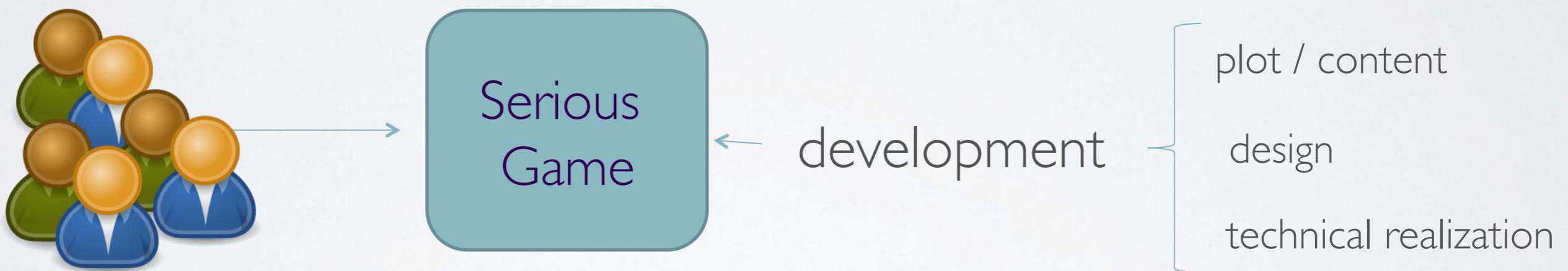


# THE DOUBLE-EFFECT APPROACH TO SG DESIGN



# THE DOUBLE-EFFECT APPROACH TO SG DESIGN

students as users



# THE PROJECT: 30 STUDENTS / 12 WEEKS / 50 HOURS

Challenge: Develop a SG „brillianCRM“

Project management of a global CRM implementation

Industry example provided: „Shark world“

Conditions:

12 weeks time to present a running SG prototype providing...

... accurate und interesting content on project management tasks, specifics on CRM projects and challenges intercultural collaboration

... a browser-based UI running on mobile multi touch devices

... user administration and reporting environment for lecturers

... marketing material for the product launch of the SG

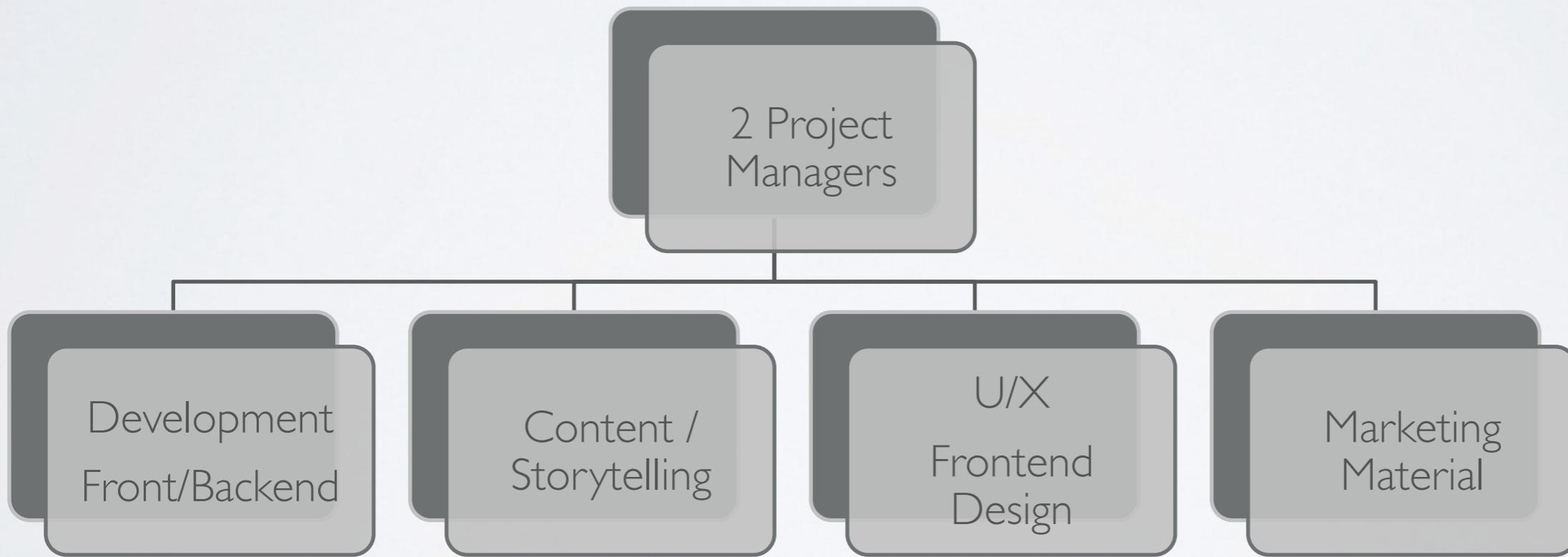
... low budget handling (<50EUR/student)

# THE PROJECT: 30 STUDENTS / 12 WEEKS / 50 HOURS

Set Up:

Lecturers Peter Mayr & Harald Bendl as client/sponsors

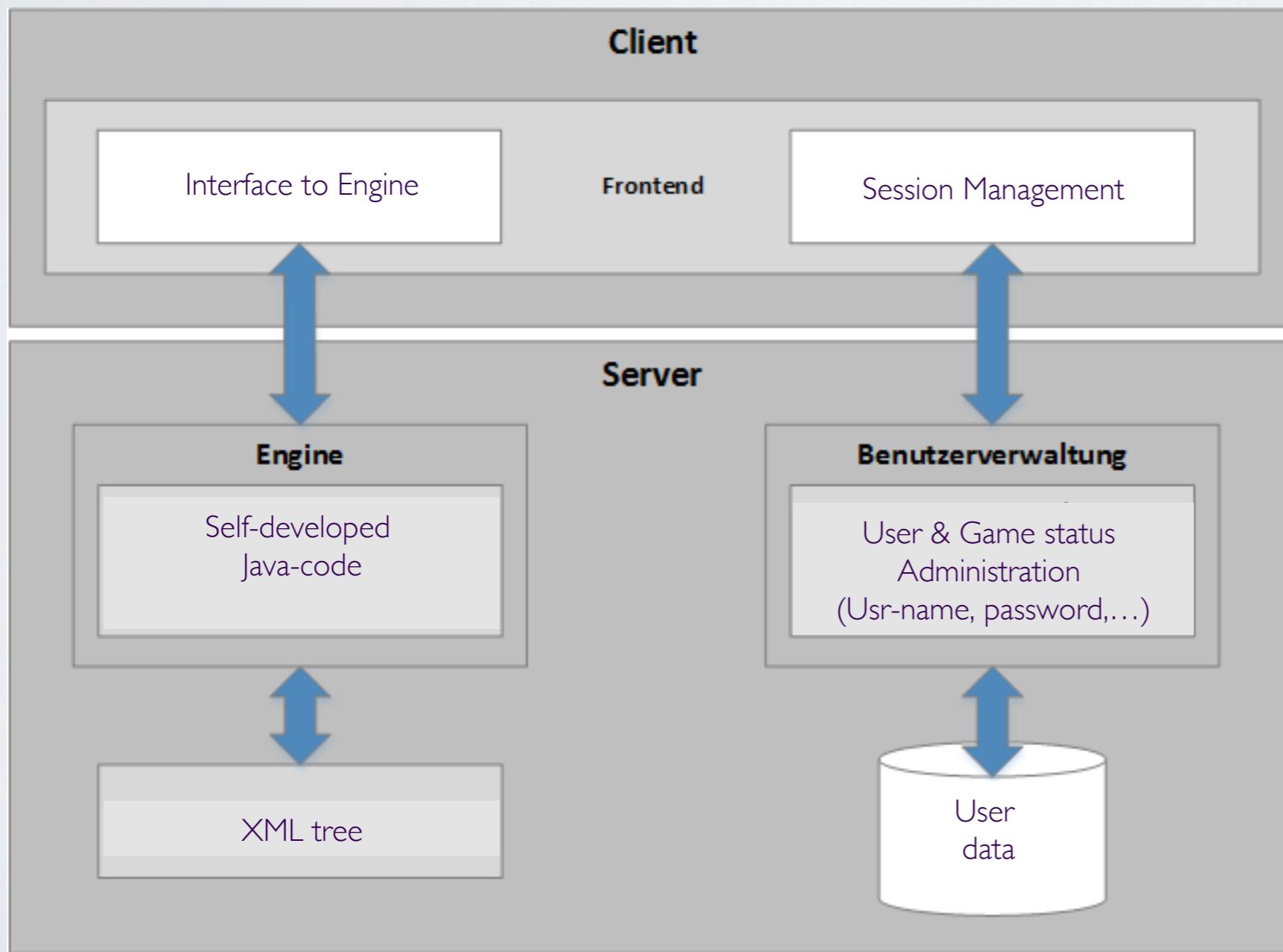
Student's self-organized structure:



# THE PROJECT: 30 STUDENTS / 12 WEEKS / 50 HOURS

Technical realization:

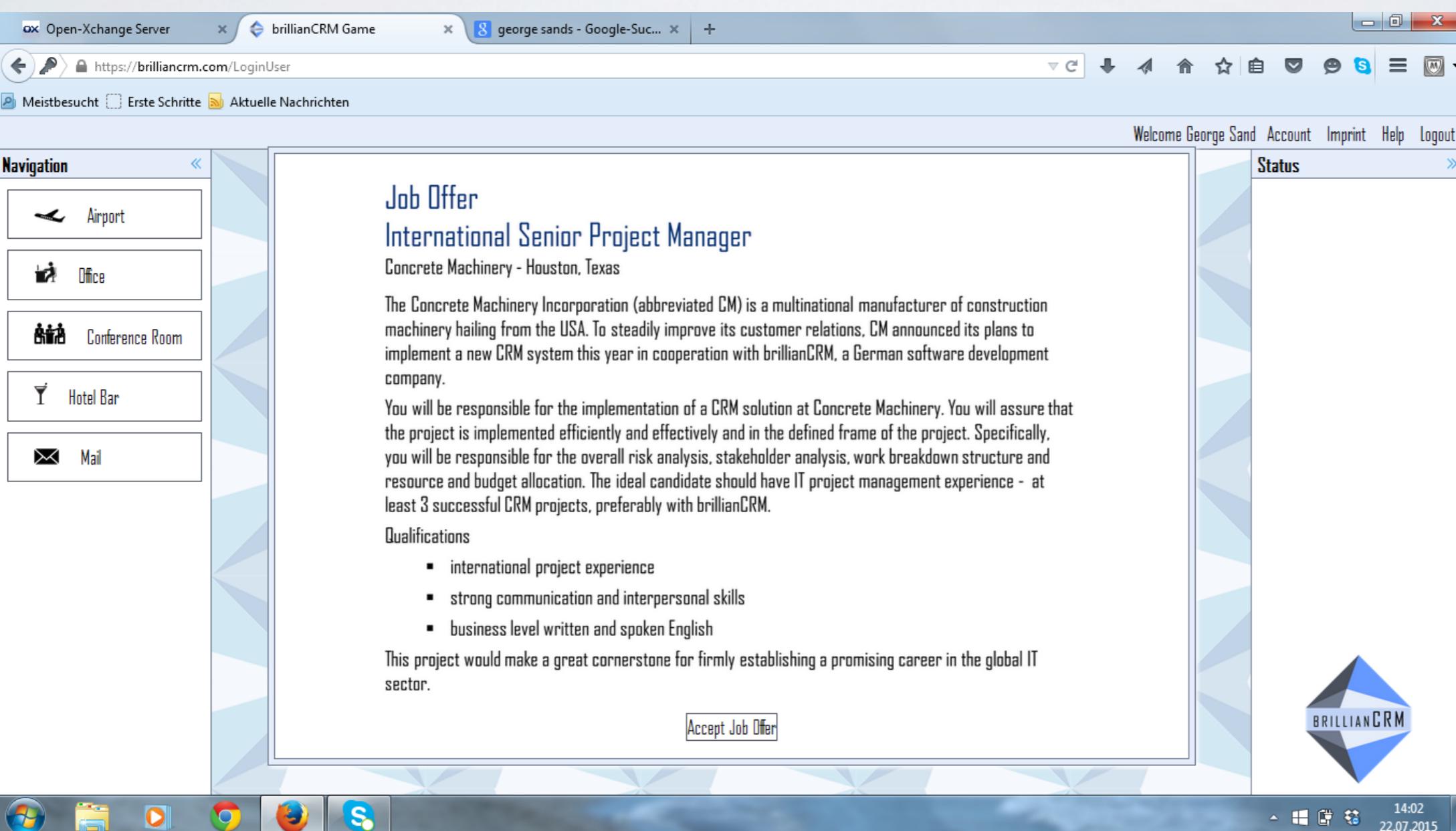
agile development approach



# THE PROJECT: 30 STUDENTS / 12 WEEKS / 50 HOURS

SG content:

## CRM Project Management Challenges



**Job Offer**  
**International Senior Project Manager**  
Concrete Machinery - Houston, Texas

The Concrete Machinery Incorporation (abbreviated CM) is a multinational manufacturer of construction machinery hailing from the USA. To steadily improve its customer relations, CM announced its plans to implement a new CRM system this year in cooperation with brillianCRM, a German software development company.

You will be responsible for the implementation of a CRM solution at Concrete Machinery. You will assure that the project is implemented efficiently and effectively and in the defined frame of the project. Specifically, you will be responsible for the overall risk analysis, stakeholder analysis, work breakdown structure and resource and budget allocation. The ideal candidate should have IT project management experience - at least 3 successful CRM projects, preferably with brillianCRM.

**Qualifications**

- international project experience
- strong communication and interpersonal skills
- business level written and spoken English

This project would make a great cornerstone for firmly establishing a promising career in the global IT sector.

[Accept Job Offer](#)

Navigation: Airport, Office, Conference Room, Hotel Bar, Mail

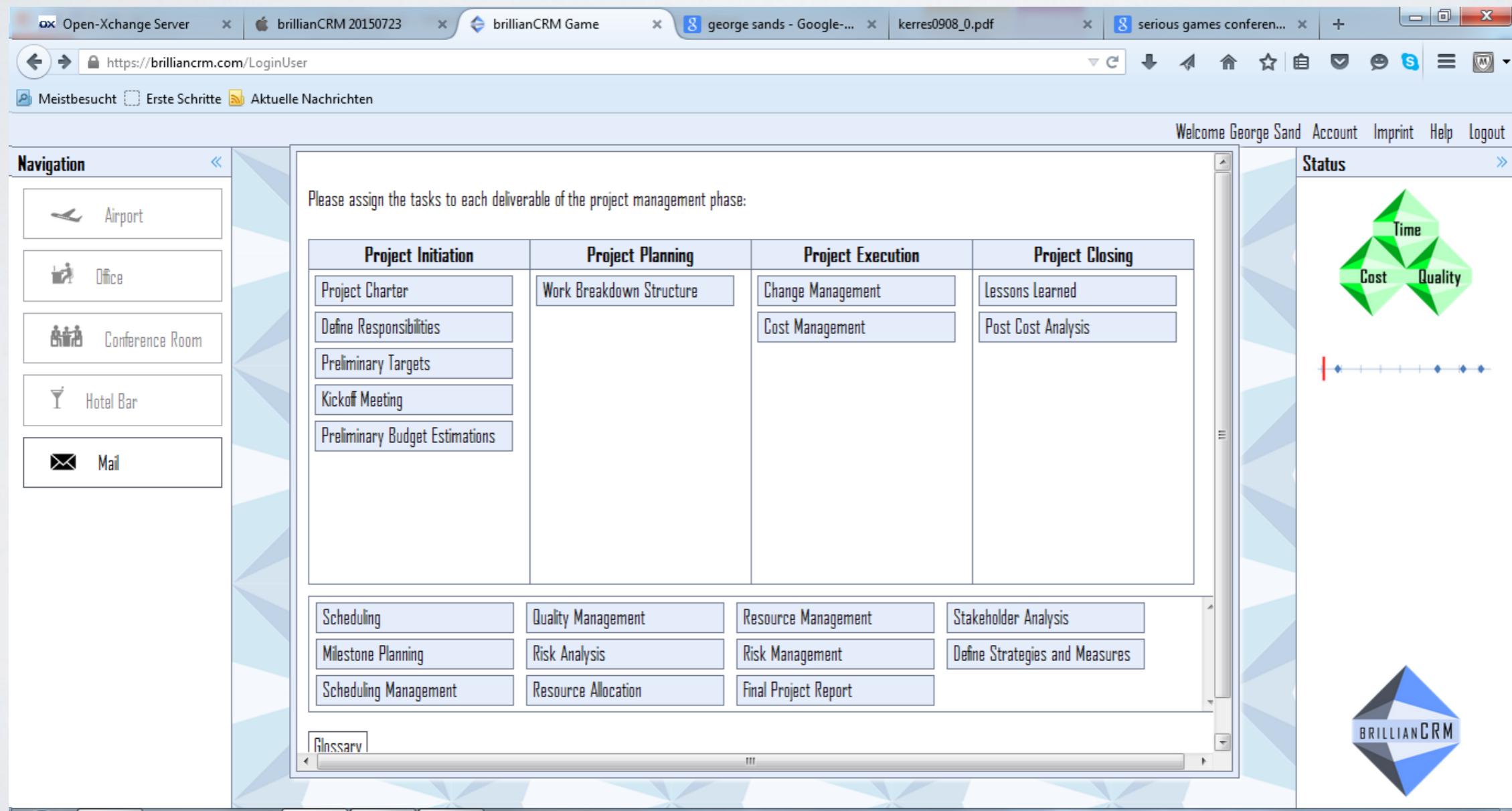
Status: Welcome George Sand, Account, Imprint, Help, Logout

IMBIT  
INTERNATIONAL MANAGEMENT FOR BUSINESS AND IT

# THE PROJECT: 30 STUDENTS / 12 WEEKS / 50 HOURS

SG content:

## CRM Project Management Challenges



The screenshot shows a web-based application window titled "brilliantCRM Game". The browser tabs include "Open-Xchange Server", "brilliantCRM 20150723", "brilliantCRM Game", "george sands - Google...", "kerres0908\_0.pdf", and "serious games conference...". The main content area displays a project management challenge titled "Please assign the tasks to each deliverable of the project management phase:". It is divided into four columns: "Project Initiation", "Project Planning", "Project Execution", and "Project Closing". Each column contains a list of tasks:

Project Initiation	Project Planning	Project Execution	Project Closing
Project Charter	Work Breakdown Structure	Change Management	Lessons Learned
Define Responsibilities		Cost Management	Post Cost Analysis
Preliminary Targets			
Kickoff Meeting			
Preliminary Budget Estimations			

Below these columns are additional task lists:

Scheduling	Quality Management	Resource Management	Stakeholder Analysis
Milestone Planning	Risk Analysis	Risk Management	Define Strategies and Measures
Scheduling Management	Resource Allocation	Final Project Report	

A sidebar on the left titled "Navigation" includes links for "Airport", "Office", "Conference Room", "Hotel Bar", and "Mail". A status bar on the right features a green diamond icon with "Time", "Cost", and "Quality" nodes, and a "IMBIT" logo with the text "INTERNATIONAL MANAGEMENT FOR BUSINESS AND IT".

# THE PROJECT: 30 STUDENTS / 10 WEEKS / 50 HOURS

SG content:

Lecturer's administration & Reporting

Imprint Logout

## Lecturer Page

### List of Groups

Below, all existing groups are listed with their belonging students.

- You are able to send emails to invite new group members by pressing "Send Invitation".
- You are able to permanently ungroup groups, deleting the group but not its members, by pressing "Ungroup".
- You are able to permanently delete groups with their belonging members by pressing "Delete Group".
- You are able to jump to a node in the game and setting the TCQ values to 71 by choosing a node and pressing "Jump To".

aTechGroup [Send Invitation](#) [Ungroup](#) [Delete Group](#) [Airport](#) [Jump To](#)

**There are currently no students in this group. Invite students by sending a registration email.**

Public	<a href="#">Send Invitation</a>	<a href="#">Ungroup</a>	<a href="#">Delete Group</a>	<a href="#">Airport</a>	<a href="#">Jump To</a>			
	Last Name	First Name	Cost	Time	Quality	Finished	Email	
<a href="#">Delete</a>	<a href="#">Reset</a>	安吉拉	安吉拉	71	71	71	No	e410085@trbvm.com
<a href="#">Delete</a>	<a href="#">Reset</a>	Again	Try	71	71	71	No	g249016@trbvm.com
<a href="#">Delete</a>	<a href="#">Reset</a>	Akgün	Can	50	50	50	No	can.akguen@gmail.com
<a href="#">Delete</a>	<a href="#">Reset</a>	Jennifer	Jennifer	71	71	71	No	jennifernome@web.de

# THE PROJECT: 30 STUDENTS / 12 WEEKS / 50 HOURS

SG Marketing Concept

Product name: brillianCRM

Logo, Claim, CI/CD

Video-Trailer

Poster

Facebook-Page

[www.brillianCRM.com](http://www.brillianCRM.com)



## Application of the SG in Project Management Lectures

SG brillianCRM incorporated into

- 2nd year lectures
- Master degree courses
  
- activation method & repetition exercise
- Student feedback as users: input for next SG development

Critical:

- SG use mainly dependent on lecturer's awareness

## SG Design by Students for Students

- Tailormade teaching and learning contents
- Marginal costs
- Peer-to-peer learning: student's view for appropriate complexity

Critical:

- Limited scope of the SG

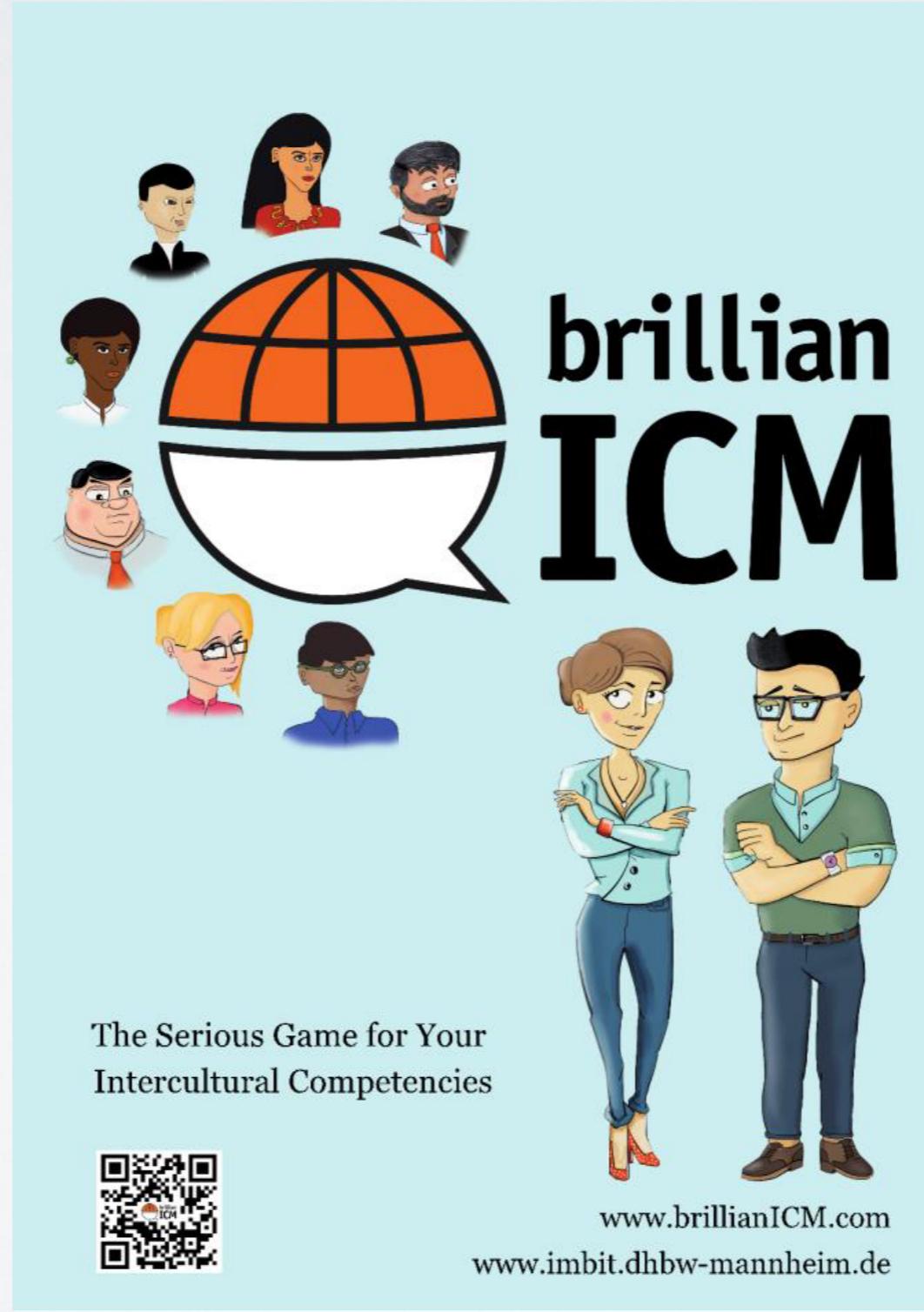
## Game-development-based Learning as a Method

- multi-dimensional skillset required
- immediate results visible
- Students showed high dedication & engagement
- Segmented structure of SG design: individual contribution traceable

Critical:

- Students' tendency to focus on most familiar tasks
- homogeneous learning results achievable?

# THE NEXT SG PROJECT



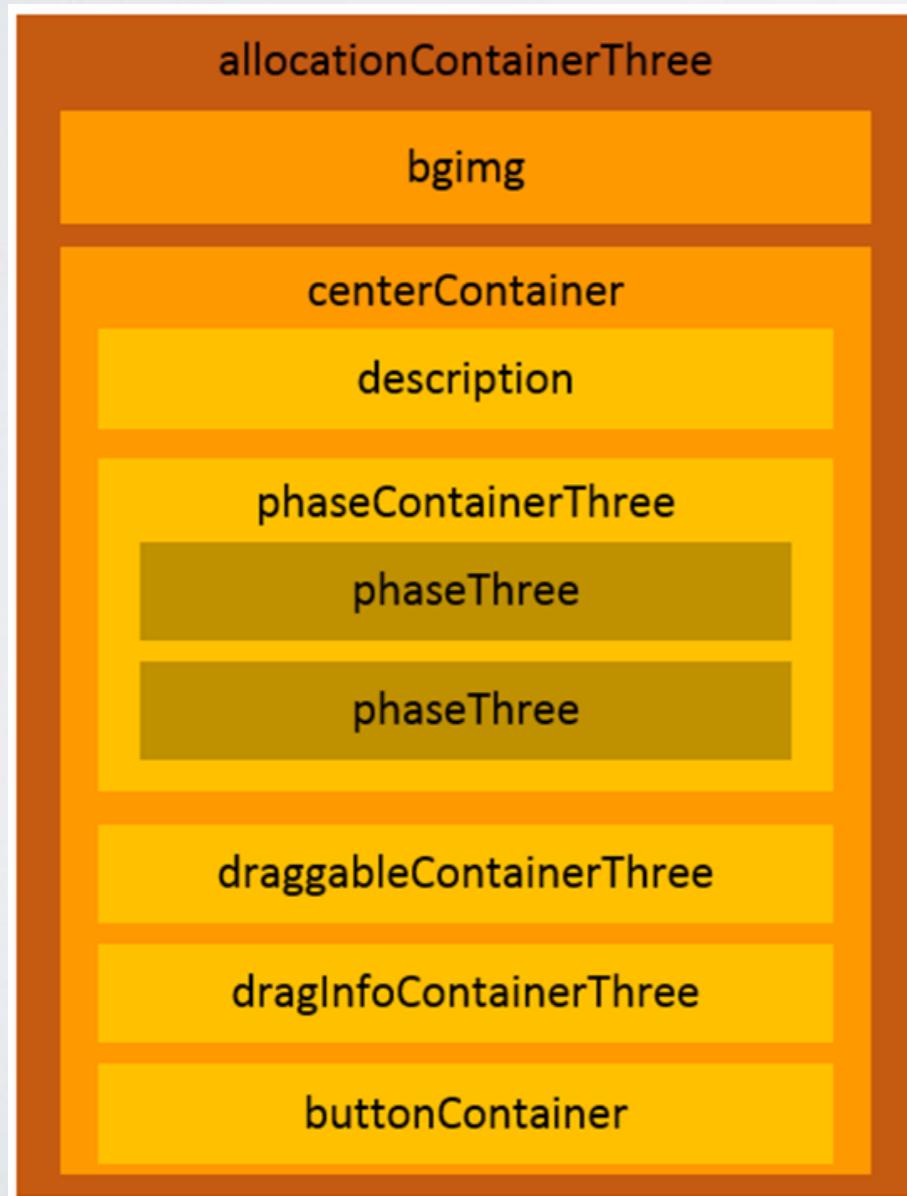
The Serious Game for Your  
Intercultural Competencies

**brillian  
ICM**

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[www.imbit.dhbw-mannheim.de](http://www.imbit.dhbw-mannheim.de)

A QR code is located at the bottom left of the advertisement.

# THE NEXT SG PROJECT



# THE NEXT SG PROJECT



# THE NEXT PROJECT... YOURS?

Open platform – invitation for further developments

- New Contents
- Enhancements to the Game Engine
- Extension of the lecturer's frontent



**Thank you for your attention!  
Questions?**

