

WAS MACHT EIN GUTES SERIOUS GAME?

.. UND WIE KANN ICH DIESE AUFFINDEN?

wtt  **serious games**

Wissens- und Technologietransfer Serious Games

PRESENTED BY **STEFAN GÖBEL** 28.05.2022



Europäische Union
„Investition in Ihre Zukunft“
Europäischer Fonds für
regionale Entwicklung

HESSEN



Hessisches Ministerium
für Wirtschaft, Energie,
Verkehr und Wohnen



TECHNISCHE
UNIVERSITÄT
DARMSTADT

☑ Schnelleinstieg

🌐 English

🔍 Suche

👤 Anmelden

Willkommen

Lehre

Forschung & Projekte

Event Media



TECHNISCHE
UNIVERSITÄT
DARMSTADT

Serious Games



**Der Mensch ist nur da ganz Mensch, wo er spielt.
(Schiller, 1759 - 1805)**

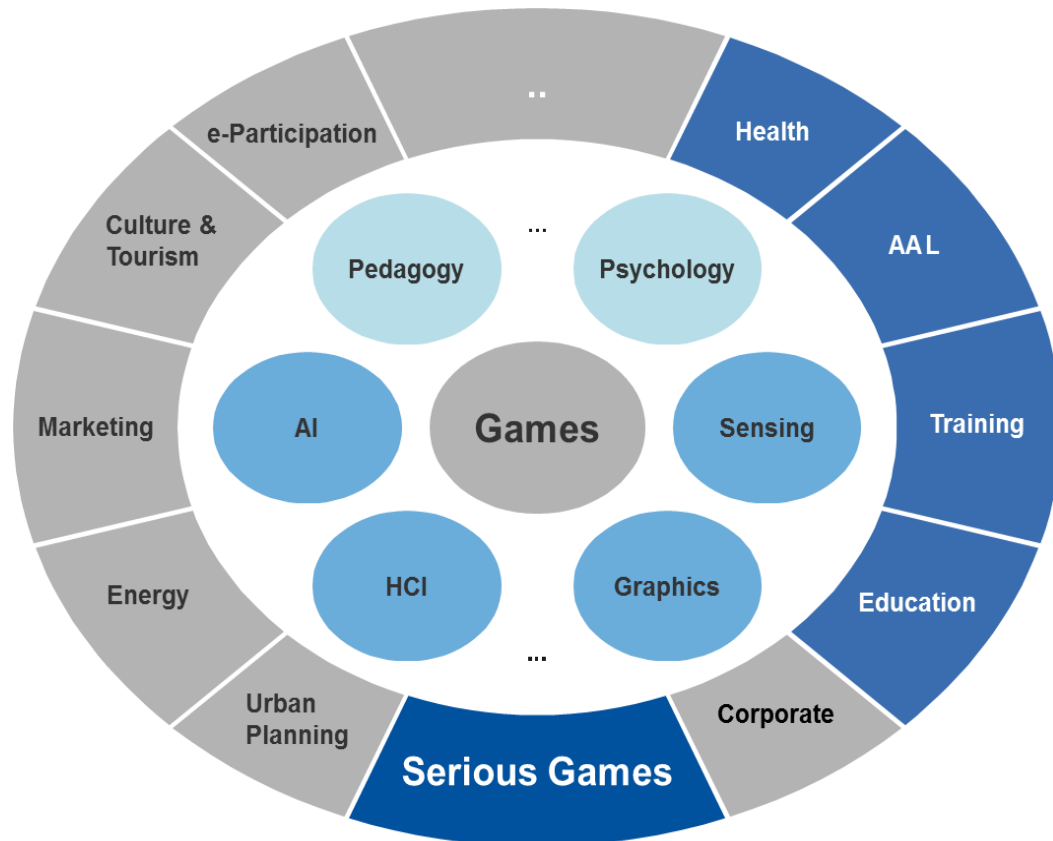
VORBEMERKUNGEN

FOLIEN & INFO

- Serious Games research group (AG Serious Games):
<https://www.etit.tu-darmstadt.de/serious-games/>
- Serious Games Information Center: <https://seriousgames-portal.org/>
- DIN SPEC 91380 Serious Games Metadata Format
<https://www.beuth.de/en/technical-rule/din-spec-91380/289947896>
- Quality Criteria for Serious Games
 - Caserman, P., Hoffmann, K., Müller, P., Schaub, M., Straßburg, K., Wiemeyer, J., Bruder, R. & Göbel, S. (2020). Quality Criteria for Serious Games: Serious Part, Game Part, and Balance. *JMIR serious games*, 8(3), e19037.
 - („Langfassung“, German) https://tuprints.ulb.tu-darmstadt.de/17872/7/WTT_Guetekriterien%20SG%20Langfassung%2020210330.pdf
- Projekt SG4BB: <https://serious-games-berufliche-bildung.de/> (German)

SERIOUS GAMES ANSATZ

@TU DARMSTADT (TUDA)



Charakteristik

- Reale Daten und Anwender
- Komplex, interdisziplinär
- Spaß & *Characterizing Goal*
- Personalisierung & Adaptation
- Authoring, Control & Evaluation

ANWENDUNGSSPREKTRUM SERIOUS GAMES

Tourismus

Hochzeitsturm

Was kann man in den Räumlichkeiten der oberen Etagen machen?

- Geburtstag feiern
- Kaffee trinken gehen
- Heiraten
- Bungee Jumping

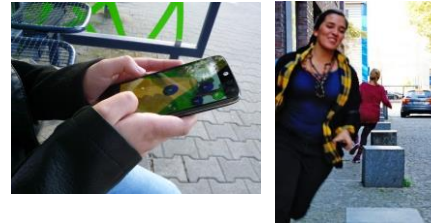
In welchem Jahr wurde das ESOC in Darmstadt gegründet?

1955
1967
1975
1980

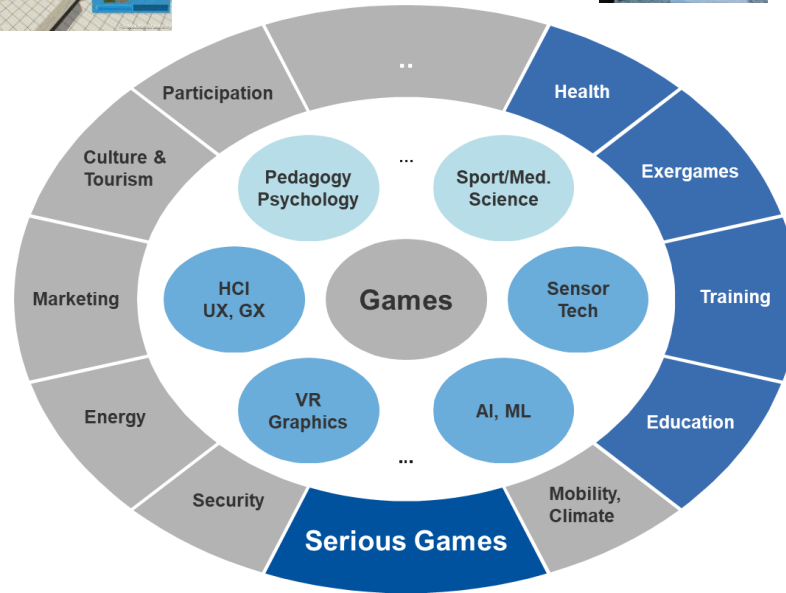
Partizipation 2.0



Mobilität

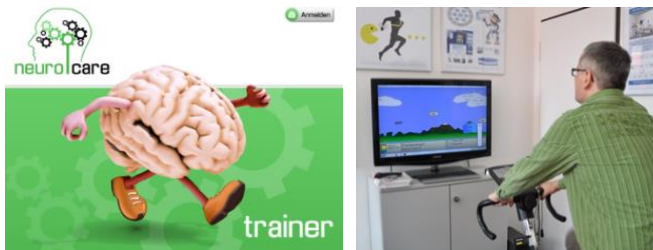


KITE: KI-basiertes VR Training für Polizei-Einsatzkräfte



5

Gesundheit



Lernspiele



Awareness Games

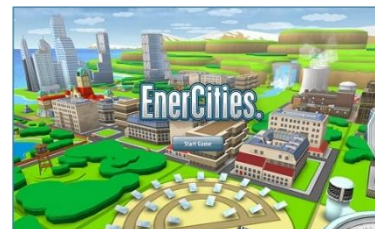
Hardware | VR Diagnosesystem | Software

VR Diagnostik

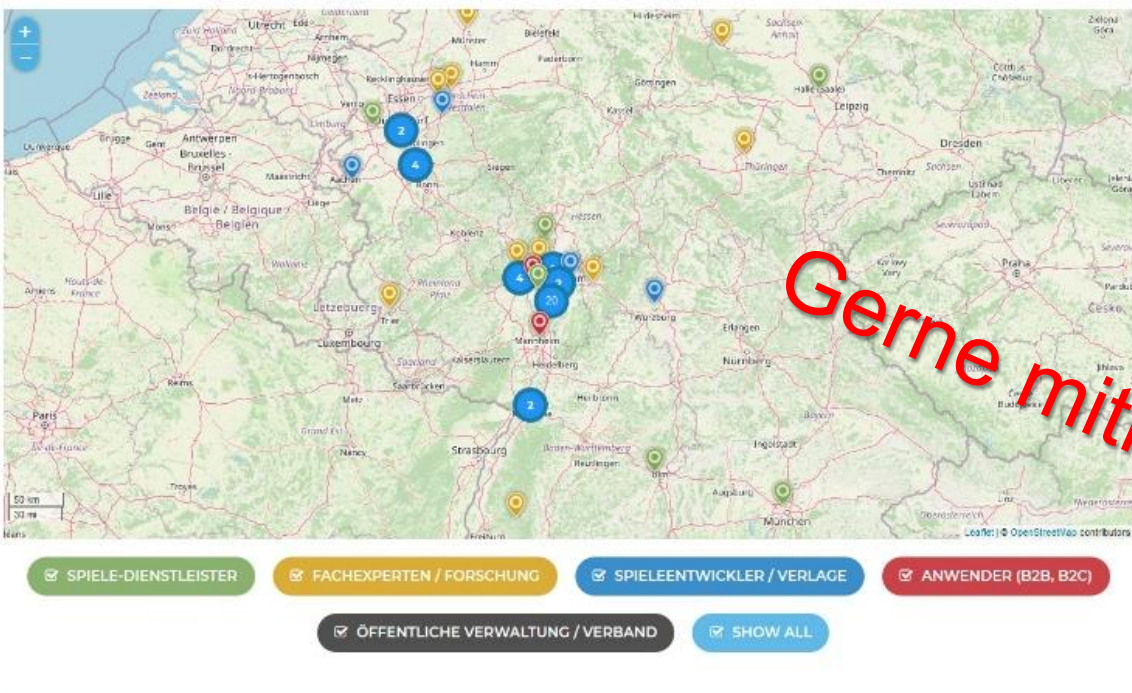
Testen von immersiven 3D Anwendungen

1. Set-Up Test: Sensoren & 3D laden
2. Testen & Aufzeichnen
3. Analyse & Diagnose
4. (Rückkopplung Entwicklung)

VR Diagnostik Editor



ALLE AKTEURE AUF EINEN BLICK



Auf dieser virtuellen Landkarte finden Sie alle wichtigen Akteure im Bereich Serious Games. So können Sie sich passgenau nach Ihren Bedürfnissen informieren und vernetzen.

Die dahinterstehende Datenbank wird von uns gepflegt und regelmäßig aktualisiert.

SERIOUS GAMES AKTEURSLANDKARTE

Akteurslandkarte

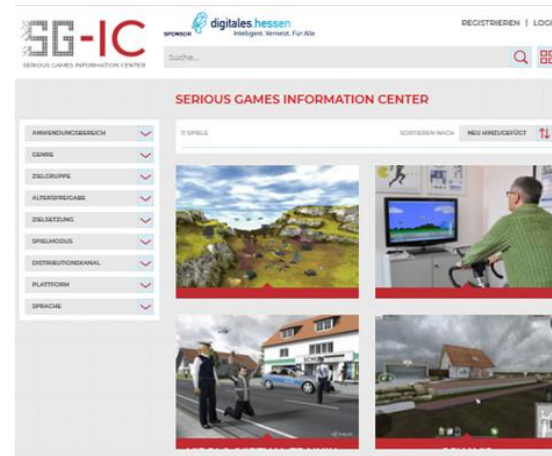
- <https://wtt-serious-games.de/landkarte/>
- Aktuell 84 Einrichtungen

6



STANDARDISIERUNG METADATEN – WEB-PORTAL – LABEL

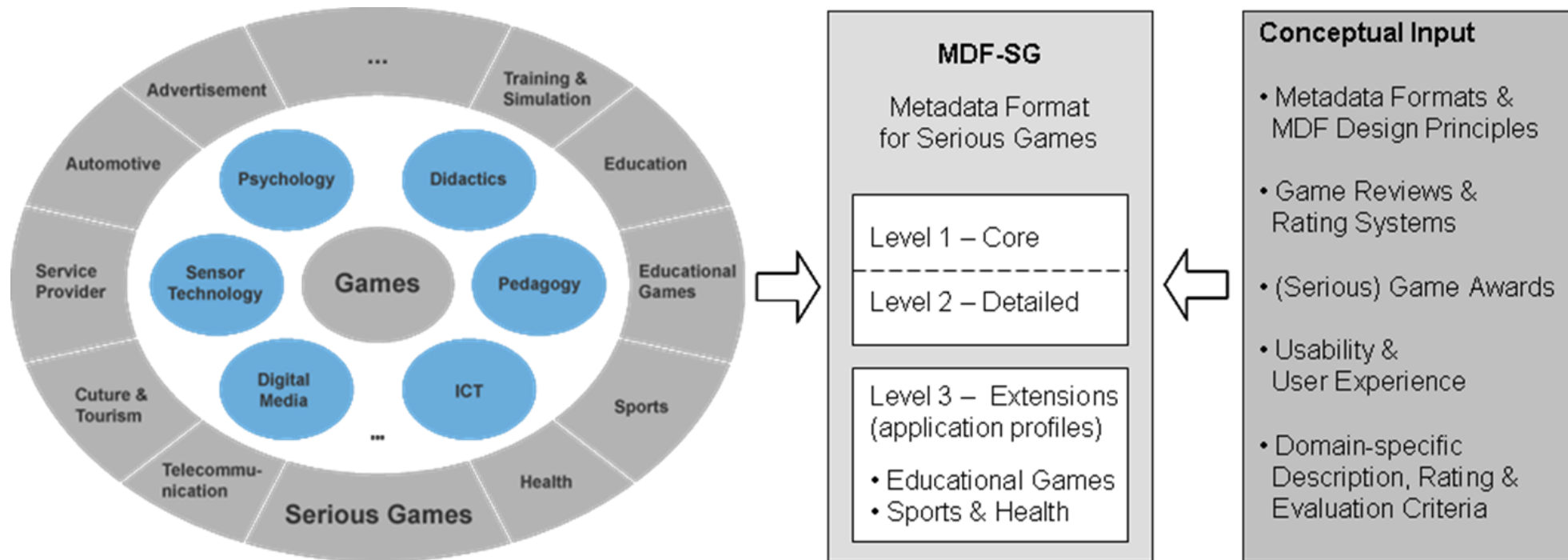
RAL Serious Games e.V.
Eigene Games zertifizieren

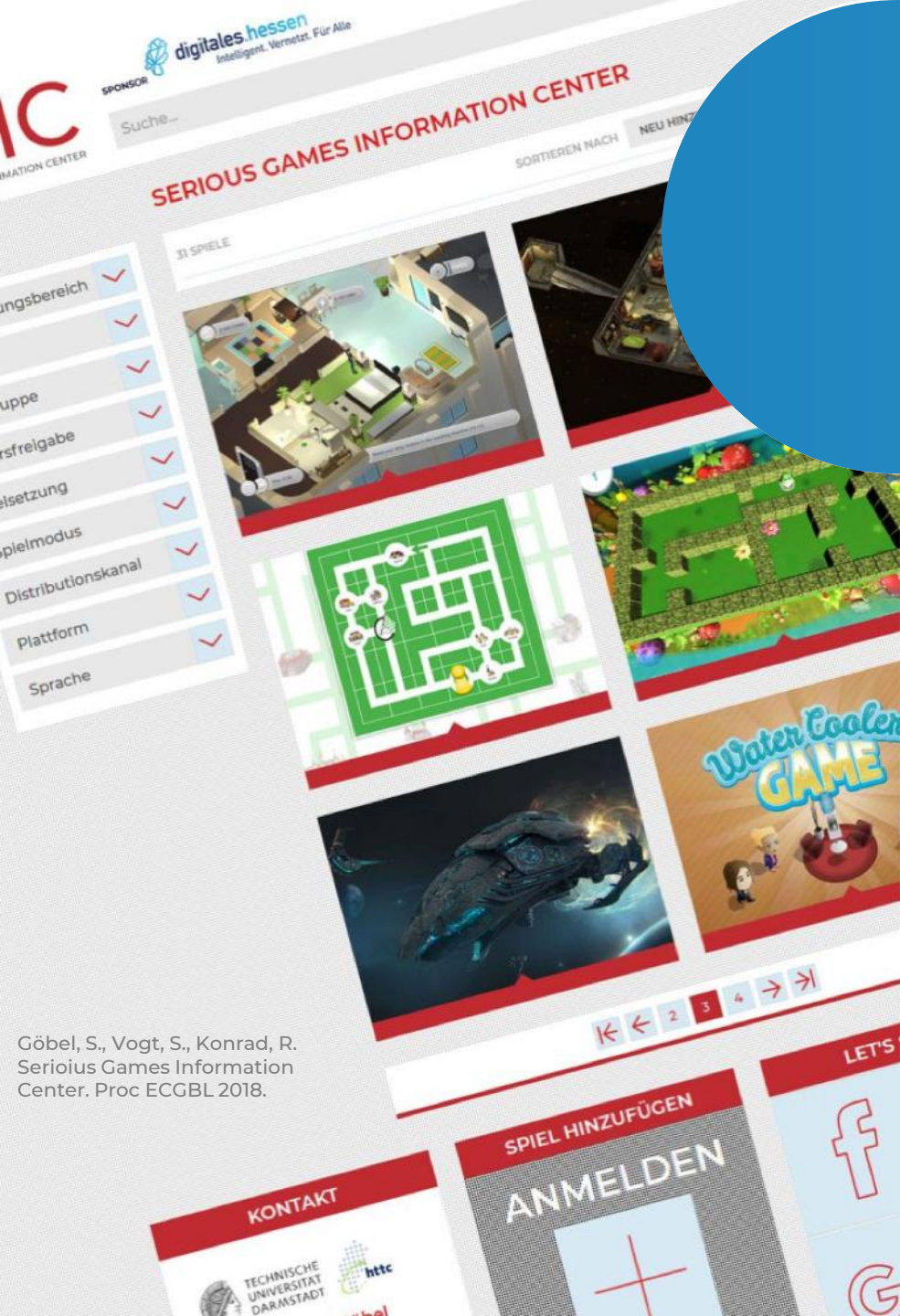


DIN SPEC 91380 → SG-IC → WTT Serious Games → Qualität: RAL Serious Games Gütezeichen

WHAT MAKES A GOOD SERIOUS GAME?

SERIOUS GAMES METADATA FORMAT





WELCHE SERIOUS GAMES GIBT ES?

Serious Games Information Center

- <https://seriousgames-portal.org/>
- Metadaten Editor, Search & Retrieval
- DIN SPEC 91380 Serious Games Metadata Format
Forschung und Industrie
- <https://www.beuth.de/en/technical-rule/din-spec-91380/289947896>

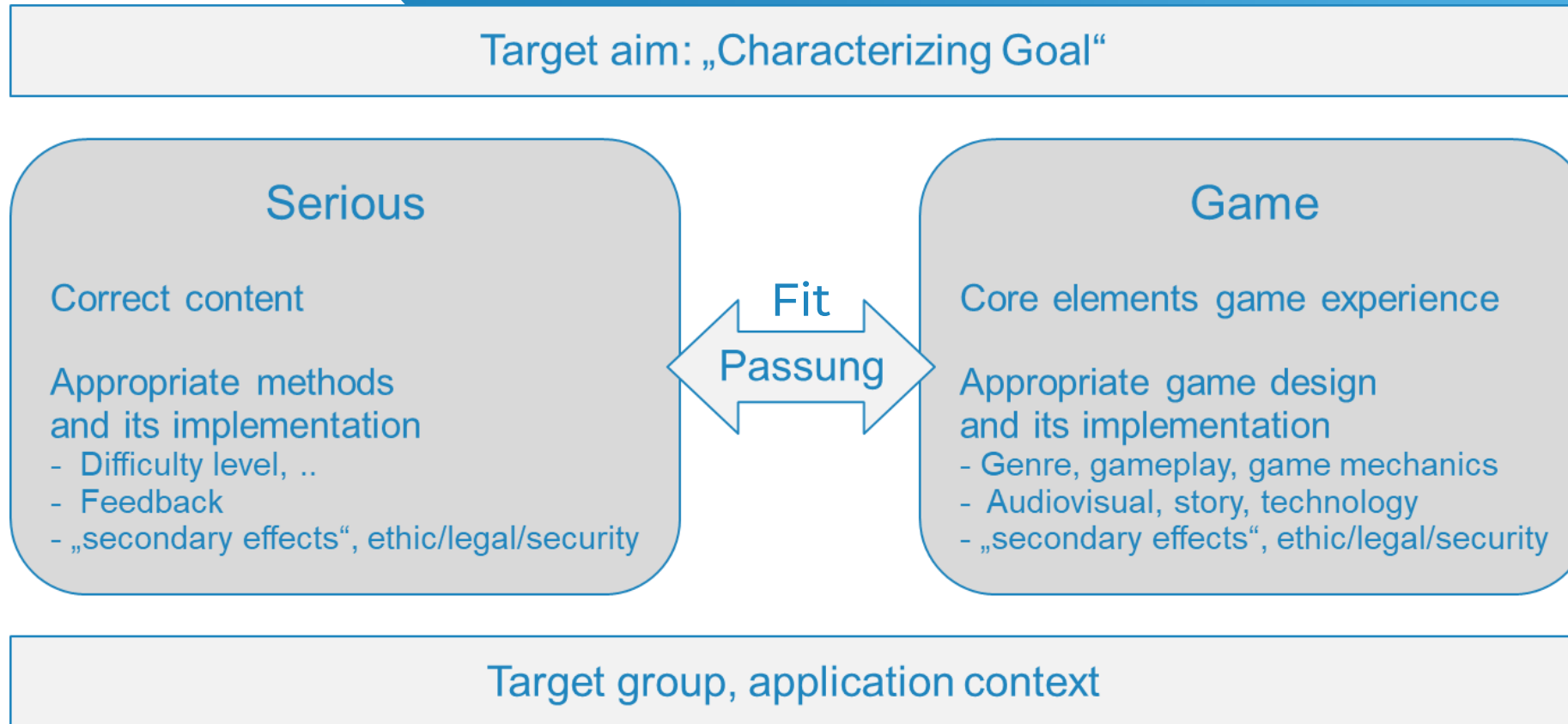
9

Göbel, S., Vogt, S., Konrad, R.
Serious Games Information
Center. Proc ECGBL 2018.

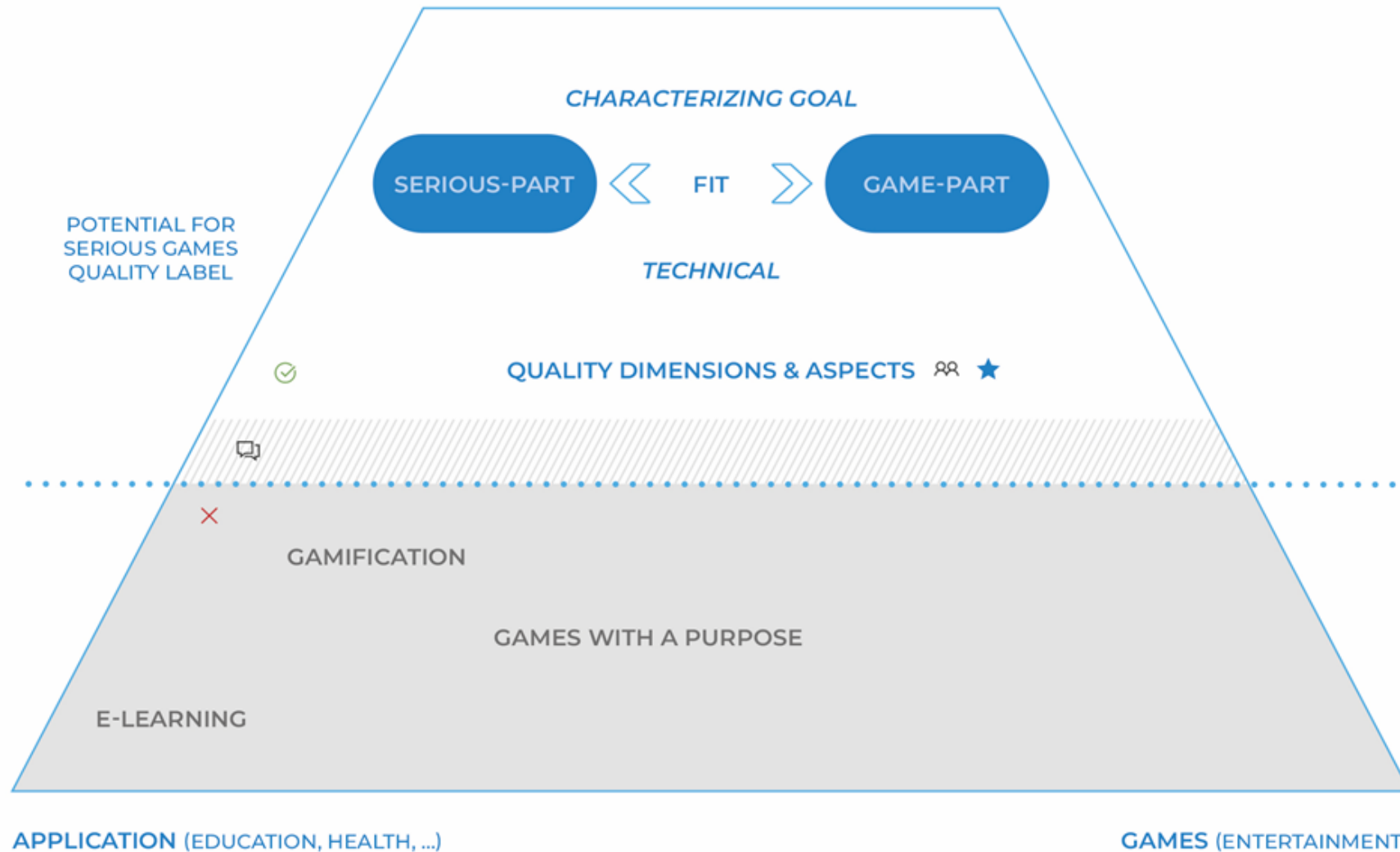
Göbel, S., Vogt, S., & Konrad, R. (2018).
Serious Games Information Center. In
*European Conference on Games Based
Learning* (pp.143-XVI). Academic
Conferences International Limited.



WHAT MAKES A GOOD SERIOUS GAME?



SERIOUS GAMES



QUALITY CRITERIA & SCORE

👥 2 expertise per submission

★ 0...3 points per criterion

✅ all criteria ≥ 2 points = "winner"

💬 clarification in the quality committee

❌ 1 x 0 points = "no winner"

SERIOUS GAMES SPACE – TOWARDS A QUALITY LABEL

Serious Games



ExerCube

<https://sphery.ch/exercube/>

Quality Criteria & Scoring

- All criteria ≥ 2 points
-> clearly accepted

Quality Label

12



<https://sphery.ch/news/>

ExerCube vs. Personal Trainer: Evaluating a Holistic, Immersive, and Adaptive Fitness Game Setup

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Figure 1: The ExerCube (middle, right) provides players with a playful full-body functional fitness experience that is on par with personal training sessions (left). The player is surrounded by three walls, which serve as projection screens and a haptic interface for energetic bodily interactions. Movements are tracked with two HTC Vive trackers attached to players' wrists.

ABSTRACT
Today's spectrum of playful fitness solutions features systems that are clearly game-first or fitness-first in design; hardly any sufficiently incorporate both areas. Consequently, existing applications and evaluations often lack in focus on attractiveness and effectiveness, which should be addressed on the levels of body control, and game scenario following a holistic design approach. To contribute to this topic and as permission to make digital or hard copies of all or part of this work for personal or classroom use is granted without fee provided that copies are made or distributed for profit or commercial advantage and that copies bear this notice and the full citation on the first page. Copyrights for components of this work owned by others than ACM must be honored. Abstracting with credit is permitted. To copy otherwise, to republish, to post on servers or to redistribute to lists, requires prior specific permission and/or a fee. Request permissions from permissions@acm.org.
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ACM ISBN 978-1-4503-5959-5/19/05...\$15.00
<https://doi.org/10.1145/3299603.3300318>

KEYWORDS
ExerCube; fitness game; exergame; game; adaptivity; flow



Application (Education, Health, ..)

Games (Entertainment)

SERIOUS GAMES SPACE – TOWARDS A QUALITY LABEL

Serious Games

Quality Label



<https://vocabicar.de>



<https://deutscher-computerspielpreis.de>

Quality Criteria & Scoring

- Inbetween: review
2 reviewers, opt. Board
- Educat'I Game

Serious Games

Foundations, Concepts
and Practice

SERIOUS GAMES DEFINITION

- A *serious game* is a digital game that was created with the intention to entertain and to achieve at least one additional goal (e.g., learning or health). These additional goals are named *characterizing goals*.

Serious Games – Foundations, Concepts and Practice

- Dörner, R., Göbel, S., Effelsberg, W., Wiemeyer, J. (2016)
 - Basics, Terminology, Theory, Technology, Business
 - Best Practice Application Examples (~100 pages)

SERIOUS GAMES VS. GAMIFICATION

Gamification

- „the use of game design elements and game principles in non-game contexts ..“
- „making non-game products more enjoyable, motivating, and/or engaging to use“
- „not a fully-fledged game“

Deterding et al. (2011)



SERIOUS GAMES SPACE – TOWARDS A QUALITY LABEL

Serious Games

Quality Label

Quality Criteria & Scoring

- Inbetween: review
2 reviewers, opt. Board
- Game part not enough:
probably no..

16

Gamification



Duolingo

<https://www.sprachheld.de/duolingo-test-bewertung-erfahrung/>

E-Learning

Application (Education, Health, ..)

Games (Entertainment)



SG4BB

SG4BB – PLATTFORM ZUM AUFFINDEN,
INTEGRIEREN, ERPROBEN UND BEWERTEN VON
PERSONALISIERTEN SERIOUS GAMES UND
SPIELERISCHEN LERNANGEBOTEN IN DER
BERUFLICHEN WEITERBILDUNG

PRÄSENTIERT VON STEFAN GÖBEL 23. MAI 2022



SG4BB TRAILER

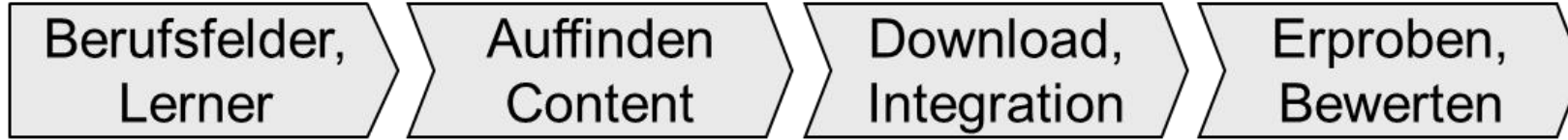


INVITE – Innovationswettbewerb Digitale Plattform berufliche Weiterbildung

Ihr Akronym: SG4BB

Ihr Vorhabenthema (Titel): Plattform zum Auffinden,
Integrieren, Erproben und Bewerten von personalisierten
Serious Games und spielerischen Lernangeboten in der
beruflichen Weiterbildung.

SG4BB (INVITE, 2021 - 2024)



**Ab sofort: SG-IC, Spielebeschreibungen, Metadaten
SG-MDF Application Profile für die berufliche Bildung**

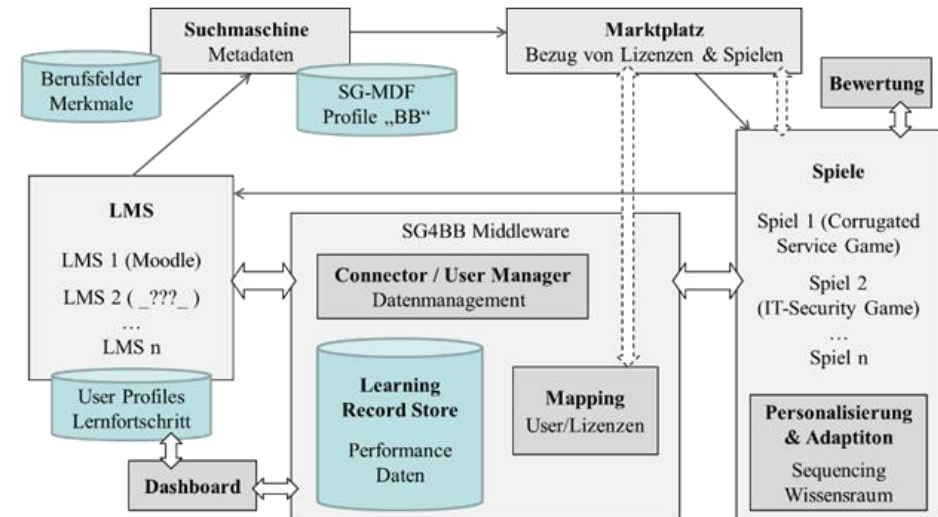
<https://seriousgames-portal.org/>



Ab Nov. (M18/19) Plattform

1. **Kompetenzmodell, Editor..**
2. **Spiele Integration**
3. **LMS Integration**

31. Mai 2022 GameDays mit SG4BB



FRAGEN?

Schnelleinstieg

English

Suche

Anmelden

Willkommen

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