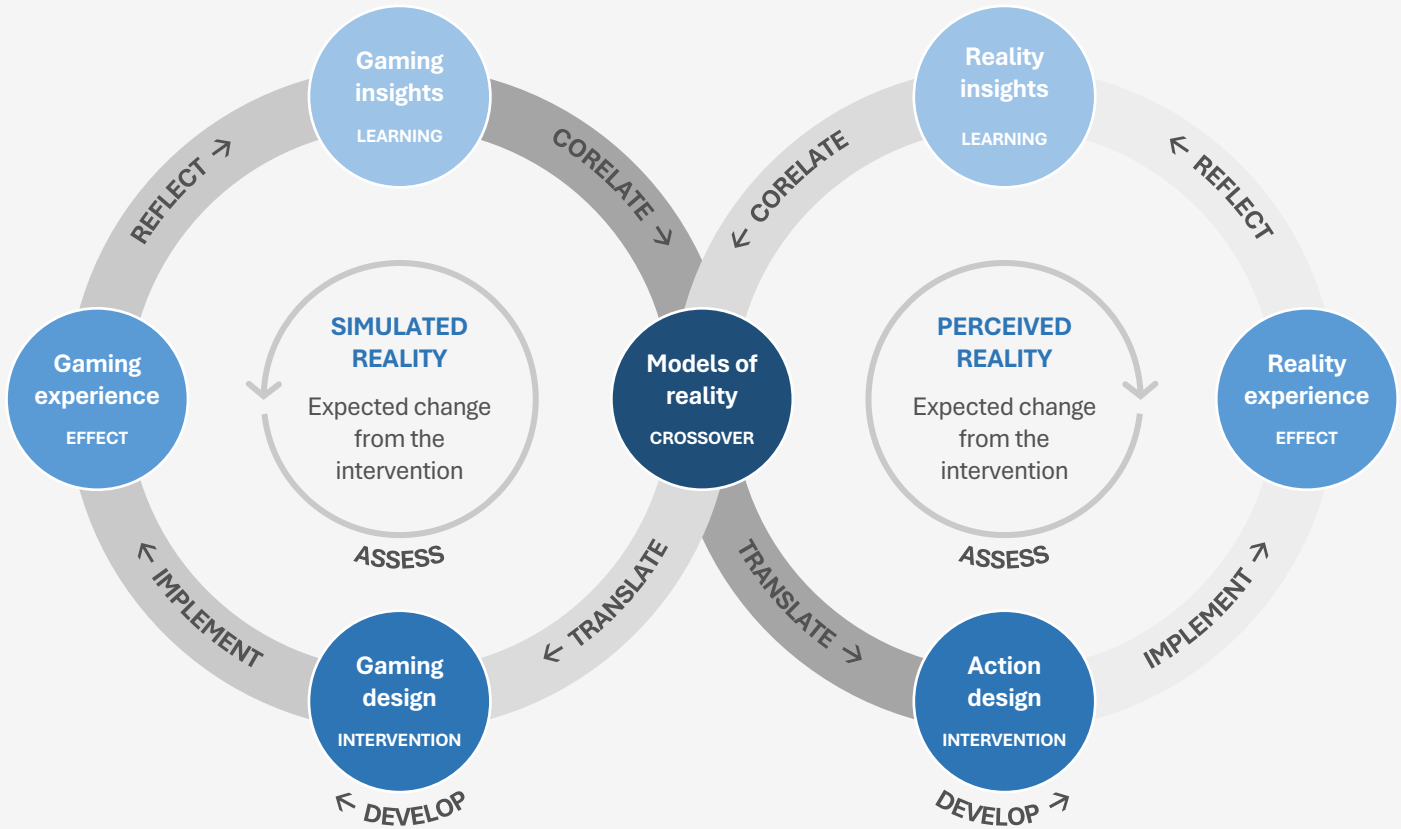
SERIOUS GAMING DESIGN PROCESS



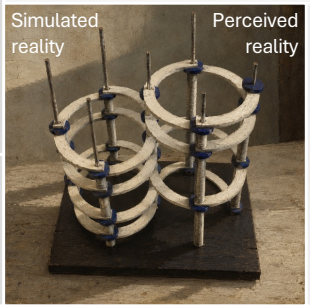
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LEMNISCATE OF REALITY

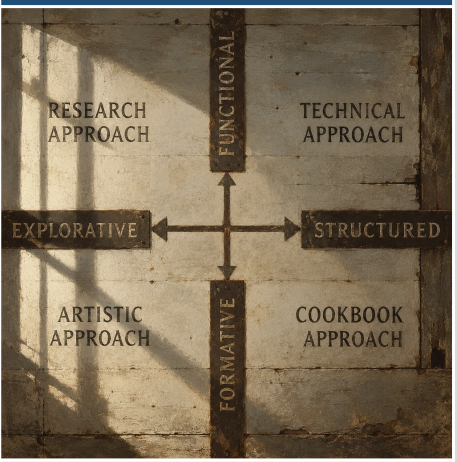
A JOURNEY FROM THE PERCEIVED REALITY TO THE SIMULATED REALITY AND BACK



For more information on the lemniscate of reality, see presentation: **Serious gaming methodology.**



LEMNISCATE OF REALITY IS AT THE CORE OF SERIOUS GAMING DESIGN PROCESS



Analyze the context and define the required change • Change objectives

1



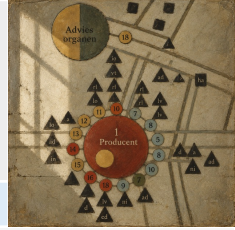
Specify the boundaries of serious gaming intervention • Design specs

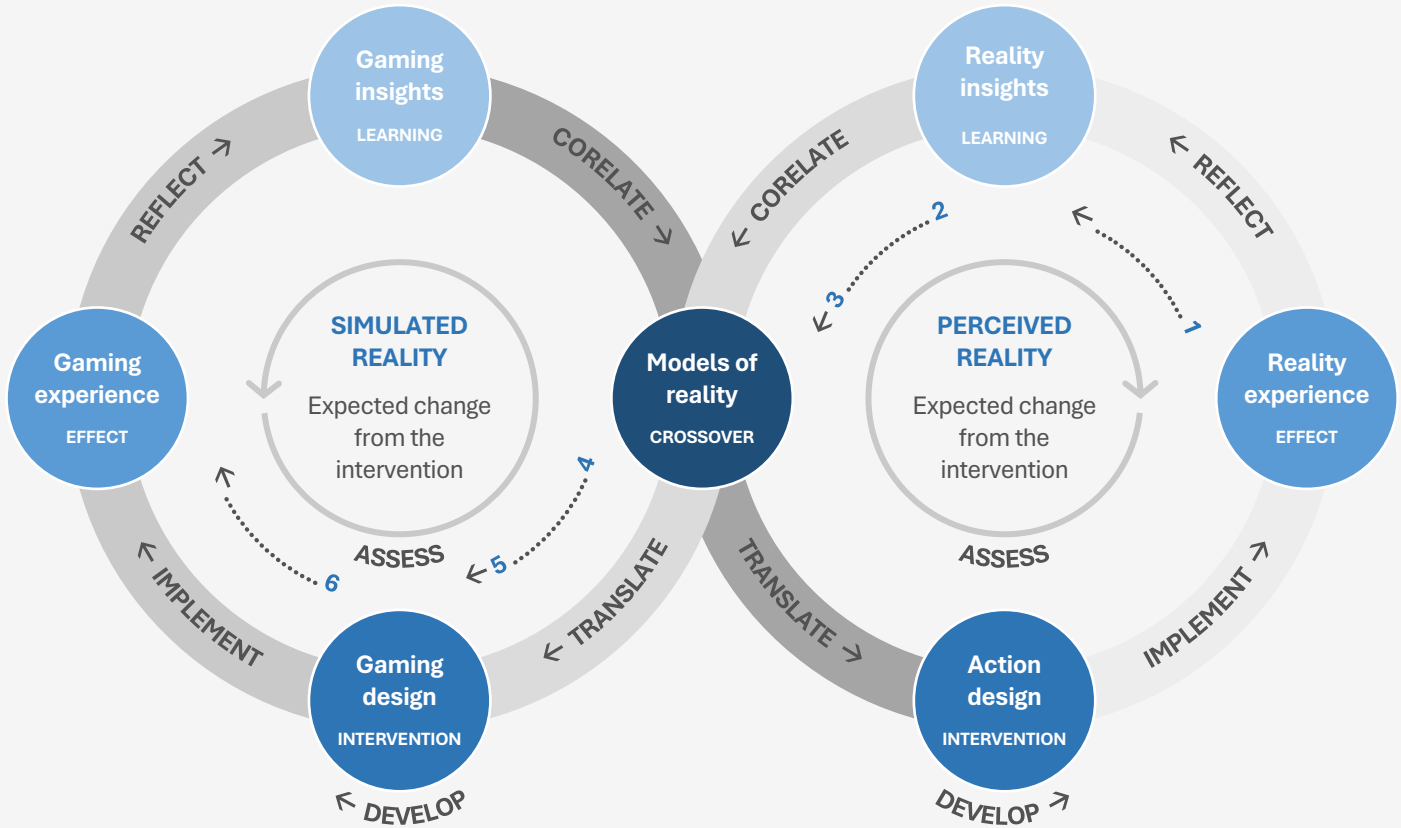
2



Create abstracted representation of the problem environment • Models of reality

3





Translate the model of reality into the serious gaming components • Game on paper

4



Develop and test prototypes of a serious gaming design • Final product

5



Actuate and facilitate game implementation and debriefing • Actionable insights

6

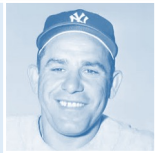


ANALYZE THE CONTEXT AND DEFINE THE REQUIRED CHANGE

1

If you don't know where you are going, you'll end up somewhere else.

Yogi Berra



For more information on the context of change, see presentation: **Enabling and sustaining change.**

Analysis of the context should define the nature of required change and determine the objectives a serious game should achieve. This is done by deciding on what needs to be done about what, as demonstrated through two examples in the table below.

WHAT NEEDS TO BE DONE ...			ABOUT	... WHAT		
Enable	**Ensure**	**Increase**		**Essence**	**Interaction**	**Practice**
Engagement	Sensibility	Vision		Future	Involvement	Operations
Interaction	Passion	Insight		Change	Listening	Way of working
Dialogue	Belief	Awareness		Complexity	Communication	Processes
Analysis	Motivation	Understanding		Security	Cooperation	Relationships
Research	Consensus	Knowledge		Causality	Collaboration	Systems
Exploration	Conviction	Capability		Diversity	Coordination	Governance
Testing	Acceptance	Agility		Circularity	Negotiation	Solutions
Experience	Trust	Competence		Resilience	Teamwork	Decisions
Learning	Commitment	Proficiency		Sustainability	Leadership	Actions
...	...	...		...	...	...

SPECIFY THE BOUNDARIES OF SERIOUS GAMING INTERVENTION

2

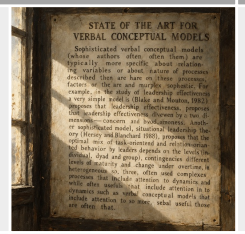
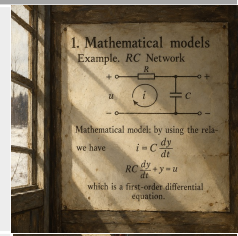
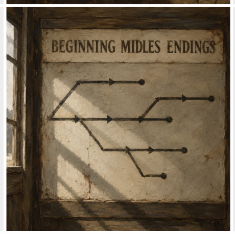
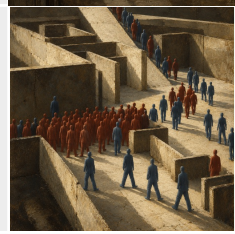
For more information on specifications for game design, see presentation: **Serious gaming design specifications.**

	COMPONENTS	DEFINITIONS	RANGES	
CONTEXT	PROBLEM	Problem (issue) or opportunity that we are trying to solve or address	Understood ↔	Ambiguous
	OBJECTIVES	Objectives we are trying to achieve with the serious gaming	Knowledge transfer ↔	Knowledge Creation
	MODELS	Qualitative and/or quantitative model of the reality that will be simulated	Qualitative ↔	Quantitative
	NARRATIVE	Storyline and events driving the dynamics of the serious game when running	Reality based ↔	Metaphor based
PLAYERS	TARGET	Intended number of target participants and how will they be structured	Single individual ↔	Multiple groups
	FUNCTION	Organizational function (level of responsibility) the players are coming from	Operational ↔	Managerial
	ROLES	Number and character of roles, their objectives, responsibilities, and decisions	Own real-life ↔	Someone else's
	CULTURE	Character of individual and organizational cultures of players	Homogeneous ↔	Heterogenous
PROCESS	SEQUENCE	Way in which the time will be treated during the serious game run	Real time ↔	Concentrated time
	INTERACTION	Rules of interaction with and between players within the serious game	Directive ↔	Self organizing
	STEPS	Character of role specific steps that players must follow during the run	Sequential ↔	Iterative
	INDICATORS	System for processing and reporting the results of players decisions	Qualitative ↔	Quantitative
ENVIRONMENT	LOCATION	Character and number of (parallel) locations for a serious game run	Single ↔	Multiple
	FORM	Level to which the game takes place in an analogue or digitally created reality	Analogue ↔	Digital
	MATERIALS	Character of materials and artefacts required to run the serious game	Static ↔	Evolving
	REPRESENTATION	Way in which material will be attributed a substantive meaning during play	Realistic ↔	Symbolic

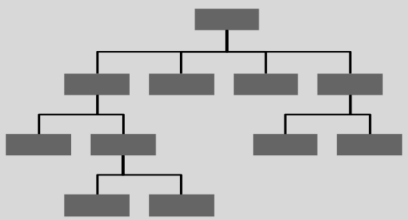
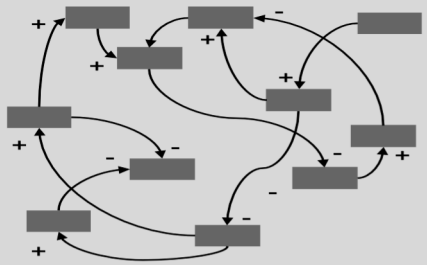
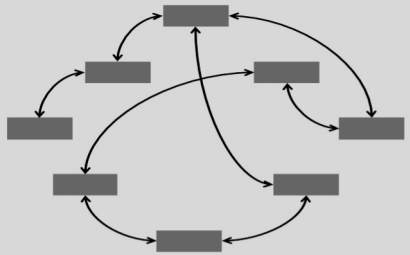
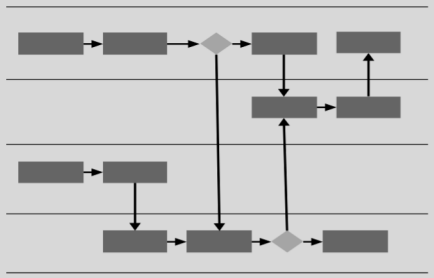
CREATE ABSTRACTED REPRESENTATION OF THE PROBLEM ENVIRONMENT

3

THE FORMATIVE TYPOLOGY OF MODEL REPRESENTATION

	PHYSICAL	VISUAL	VERBAL	COMPUTATIONAL
STATIC	Scale models 	Schematics and diagrams 	Textual descriptions 	Algorithms 
DYNAMIC	Person in the loop mockups 	Virtual reality worlds 	Interactive story telling 	Computer simulations 

THE SYSTEMIC TYPOLOGY OF MODEL REPRESENTATION

STRUCTURAL	CAUSAL	RELATIONAL	PROCEDURAL
			

THE ROLE OF MODELS OF REALITY

- Representation
- Exploration
- Explanation
- Understanding
- Mediation
- Prediction
- Collaboration

For more information on models of reality, see presentation: **Models of reality and serious gaming.**

TRANSLATE THE MODEL OF REALITY INTO THE SERIOUS GAMING COMPONENTS

4

For more information on gaming components, see presentation: **Serious gaming components.**

SERIOUS GAMING DESIGN PROCESS

6

SYSTEM COMPONENTS AND GAMING COMPONENTS MATRIX

BLOCKCHAIN GAME EXAMPLE

		GAMING COMPONENTS															
		Scenario	Events	Roles	Decisions	Sequence	Cycles	Steps	Data	Models	Accounting	Indicators	Rules	Policies	Format	Symbols	Paraphernalia
SYSTEM COMPONENTS	Supply chain process	x	.	x	.	x	x	x	.	x	.	.	x	.	x	.	.
	Process challenges	.	x	.	.	.	.	.	.	.	.	.	.	.	x	.	x
	Actors in the system	.	.	x	.	.	.	.	.	.	.	.	.	.	.	.	.
	Priorities and objectives	.	.	x	.	.	.	.	.	.	.	.	.	.	.	.	.
	Decision space	.	.	.	x	.	.	x	.	x	.	.	x	.	.	.	.
	Actions of actors	.	.	.	x	.	.	x	.	x	x	.	x	.	.	.	.
	Goods characteristics	.	.	.	.	.	.	.	x	.	.	.	.	.	x	x	x
	Forms of transport	.	.	.	.	.	.	.	.	.	.	.	x	.	x	x	x
	Information flows	.	x	.	x	.	.	x	.	.	x	.	x	.	.	x	.
	Administrative systems	.	.	.	x	.	.	x	x	.	x	.	x	.	x	.	x
	Blockchain system	x	.	.	x	.	.	x	x	.	x	.	x	.	x	x	x
	Performance indicators	.	x	.	.	.	.	.	x	x	x	x	.	.	.	.	.

DEVELOP AND TEST PROTOTYPES OF A SERIOUS GAMING DESIGN

5



For more information on what can gaming learn from theater, see presentation: **What can serious gaming learn from theatre.**

For more information on attributes of a good game, see presentation: **What makes a serious game a seriously good game.**

SERIOUS GAMING ATRIBUTES

Developing and testing prototypes of serious games requires attention to four groups of attributes of what makes a serious game a seriously good game.

- **Foundation** related attributes – to ensure the serious game is purposeful and relevant for its learning goals
- **Structure** related attributes – to ensure the serious game offers an intuitive and flexible design that supports smooth interaction
- **Process** related attributes – to ensure gameplay is engaging and challenging to maintain motivation and flow of the game
- **Outcome** related attributes – to ensure the serious game provides insights that are meaningful and actionable for real-world application

ACTUATE AND FACILITATE GAME IMPLEMENTATION AND DEBRIEFING

6







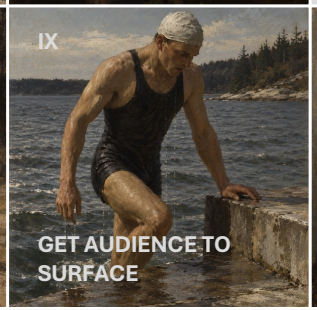


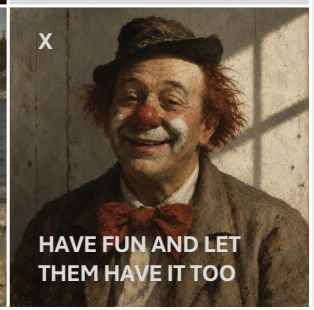












Effective facilitation requires focus on several key requirements to ensure the experience yields actionable insights.

Facilitating serious games demands more from facilitators than simply guiding players through the mechanics and their roles.

Facilitators must also ensure players engage with the intended content and that the game ultimately meets its objectives.

Crucially, this must be done without the facilitator dominating the process or becoming overtly involved in the gameplay dynamics.

For more information on facilitation of serious games, see presentation: **Effective facilitation of serious games.**



THANK YOU

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