GAMIFIN
OUR GAMIFIED SUSTAINABLE FUTURE
PART I APRILIS SEPTEM MMXXI

OUR JOURNEY
(workshop outcomes)
Dialogue - Practice - Learning
Sustainable Futures - Gamification - Today
“Who controls the past controls the future. Who controls the present controls the past.” (George Orwell). I believe we can learn from the past to guide present decisions for a sustainable future. People tend to have an increasingly limited attention span if they are not sufficiently stimulated. Offering entertainment as a motivational incentive can thus be quite powerful. The whole gradient of serious to ludic gamification shows potential to foster motivation for public participation and education in the area of sustainability. Having playful approaches to solving societal problems in regards to sustainability can reduce the participation bias, can engage more people and thus can lead to new insights, both in research as well as in the participants themselves.

...because individual motivation regarding sustainability needs some “tools of support.”

To make it more accessible for people (and companies) who think that "it is too much of a deal" and to motivate them to change the status quo.

I am working in a project where we are dealing with the wicked problem of finding a final repository for nuclear waste in Germany. For such problems there is no clear solution, but society has to deal with them. To enable a dialogue between the different parties gamification could be used.

Human nature. We are illogical creatures. Gamification is a way to make people happy in a situation where happiness would not otherwise exist.

Because even the UN recognizes the importance of fun to take action!
ANATOMY OF ACTION

STUFF
BEYOND BUYING
FASHION SLOWDOWN
DITCH DISPOSABLES

FOOD
PROTEIN SWAPS
USE ALL YOUR FOOD
GROW YOUR OWN

MOVE
KEEP ACTIVE
SHARE YOUR RIDE
GO CLEANER

MONEY
ETHICAL INVESTMENT
DIVESTMENT
ENERGY POSITIVE

FUN
ENJOY THE JOURNEY
STAY CURIOUS
CHOOSE EXPERIENCES

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Our Objectives

Ground ideas in practice, learning from past efforts - including the importance of dialogue, learning, and potential for gamification to support actions towards sustainable development.

Identify the opportunity areas for gamification research implementation and strengthen action networks for potential follow up.

Further explore and take action on existing and potential solutions connecting our research work with practitioners and other stakeholder groups.

Imagine sustainable futures and how our research on gamification contributes to making them happen.
These are the areas where we expect to have the highest impact through our research.

And here are some of the ways we’ll make it happen:

- Explainable/explanatory AI (XAI) as it enables us to make better use of AI tools (that drive sustainability).
- Long term engagement (top-down/bottom-up) through online and offline gamification.
- Understanding demographic differences when designing solutions for sustainability; refreshing playful elements and customizing them.
- Providing knowledge and psychological support for sustainable behavior.
Roundtable discussions

3 core topics - 3 questions - 18 researchers

Sustainable living in cities
Communicating sustainability
Sustainability education

Click on the icon of the topic you’d like to learn about
“The world isn't divided between left and right, it's divided between the people who can have a meaningful nuanced conversation about sensitive issues and the people who cannot.”
— Anonymous
Designing for Diversity.

Gamification needs a participatory design approach to be successful and capable of meeting the needs and motivations of different, unique individuals and groups. It is important to look into demographics and give them their proper relevance. Cities are for their inhabitants; when designing, the question that arises is if citizens are actors in the design or if our efforts are meant to organize the actors.

Circumventing Gamification’s Novelty Effect

Awareness of the users’ interest cycles helps to design time-bound strategies. Yet, even if the novelty of gamification wears off, the practices adopted can remain, making living in cities more sustainable. Enabling sustainable lifestyles is something that designers should aim at, bearing in mind that gamification could be a way to get started.
Meaningful and ethical data collection to tailor gamification design

While respecting users’ privacy is important, designing gamified solutions requires reliable data to develop solutions that meet the users’ needs and motivate them personally. Therefore, accurate data needs to be collected transparently.
Discussing the solutions we are aware of and our research's contribution to sustainable living in cities made us come up with... More questions...

<table>
<thead>
<tr>
<th>What is a successful and sustainable gamification design?</th>
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<tr>
<td>The approaches change with time! Should Gamification academia produce commercial success or drive development?</td>
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<tr>
<td>How do we measure success in the long run? Is the framing of the elements the key to a successful design?</td>
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... And a conclusion we all agreed on:

Research could contribute to better mapping of when different gamification patterns should be applied and why.
TRANSPARENCY

Processes are not visible and trustworthy (not knowing what happens with the waste, when I do something, I do not see the impact) and verify the elements of the process are not harmful. Communication comes later and reliability becomes an issue.

Greenwashing is a threat – companies disclose some data that is difficult to verify in terms of the actual impact (“we decrease emissions by 5% this year”)

HABITS AND MOTIVATION

What motivates us to behave differently? If one can’t see the results, it is difficult to feel motivated to do something.

Convenience and culture may tip the balance towards the opposite direction than sustainability. Fear of losing wellbeing also plays a role.

There is an inherent lack of trust due to false information and fear-based communication. We need technology to overcome this, even though it is part of the problem and part of the solution.
The communication should be coherent, visible, and honest, admitting shortcomings and recognizing that sustainability is a long road.

Gamification presents an opportunity to provide feedback and motivate for the short-mid runs; games can have a similar effect but for more extended periods as they can be played repeatedly without losing their appeal, as is the case with many gamified apps and calculators.

Some companies are doing great things and keeping quiet about it even though they are for a good cause (i.e., two-minute drill game).

Knowledge of the psychological foundations of gamification theories is necessary to use gamification to communicate sustainability.
Enabling Empowerment

To enable paradigm shifts, young people must be empowered and changes need to be fast and massive.

The key to transfer learning into real life is to have students experience the topic, not just read from a book about it (or play one game at school). For example, in Korea teenagers are getting used to self-study, using many quest-like activities as part of the process.

The early experience of games also transfers/affects the making of games—game creators based their work on their personal experiences of childhood gameplay. Game creation events are focused on a specific topic that can influence young people.

Sustainability is about community, a shared mentality of wellbeing that can bring the togetherness needed in these times.
Accessibility

Sometimes access to educational games is difficult due to device requirements etc. Perhaps physical/exergames games can work better. Yet, accessibility remains a challenge, particularly when expensive equipment is required. Hoarding all sorts of gear is not always helpful and is certainly not sustainable.

Curricula

Learning games can be “lecture”-like. Instead of changing textbooks into games, a swift/revamp in the school curriculum and pedagogical discussion must go together for streaming learning.

A country should ensure that all schools have sustainability as part of their curricula; otherwise, it is difficult to bring the topic to the surface, making an on-site classroom implementation even more challenging.
Sustainability education
Solutions and our contribution

Sustainability elements should be included in commercial games

Groups and communities should push to include sustainability in the curricula

Remember: Education is not limited to schooling

Researchers should be visible in society. Market to teachers, provide material as open source. There can be challenges with these tools due to politics etc. yet, knowledge must be accessible to all.
News of the world

January 1, 2031

All thanks to gamification: research and practice

The SDGs were nearly achieved and gamification played a big role in it. For example, cultural awareness helped game studios to build sustainable work environments. Finnish game makers turned to serious games to save the world and even developed all the content for education in schools worldwide (i.e. all Brazilians had access to quality education). Considering the plethora of patterns used by gamification designers, it is possible to see how it was possible to support citizens in the adjustment of their habits to match the demand and supply of renewable energy. Climate-gaming, the outgrowth of sustainability reporting, helped to make waste fun while driving paradigm shifts to build our more equitable, post-carbon societies. On a similar line, the European Landscape Convention participatory methods in landscape perception data generation have guided the development of policies that meet the needs of different communities that share the landscapes.

From the updates of physical products' digital features that led to the reduction of waste generation, Tesla's adoption of Kessing Design Process to build more innovative and sustainable products, to the early experiments in Remain's persuasive design for follow-up extraterrestrial life, there is no doubt that gamification has contributed to achieving today's wellbeing, both for the human environment and societies worldwide.
The main challenge to implement gamified solutions towards sustainability is that the latter requires planning for long-term impact generation while the former tends to have different waves of relevance. Gamification designers are aware that, as the novelty wears off, other strategies should be in place to keep people motivated to shift their current habits and practices into more sustainable ones.

Reliable data that ranges from demographics to recognition of individual traits is crucial for designing and implementing gamified approaches for and with the intended users.

Gamification can help strengthen efforts towards a sustainable future; however, it can only work if individuals, communities, businesses, policymakers, and academia act together. The collaboration among all actors must be transparent, coherent, and consistent, from introducing sustainability into the curricula of all schools to communicating it as a feasible and desirable goal.

*This story is not yet over; questions such as can poverty be tackled through gamification? are playful solutions strong enough to drive systemic change? How is gamification dealing with complexity? Are just some of the issues that some of us are already researching and, that we will be discussing in the not-so-distant future.*

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<th>Time</th>
<th>Activity</th>
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<tbody>
<tr>
<td>10:00 - 10:10</td>
<td>Introduction to the workshop, agenda and a context-setting presentation.</td>
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<tr>
<td>10:10 - 10:30</td>
<td>Warm up discussions – getting to know each other and our research.</td>
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<td>10:30 - 10:40</td>
<td>Open sharing of group discussion highlights.</td>
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<tr>
<td>10:45 – 11:55</td>
<td>Roundtable discussions.</td>
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<td>11:55 - 12:00</td>
<td>Open sharing.</td>
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<tr>
<td>12:00 - 12:10</td>
<td>Wrap up and visioning: our research in 2030.</td>
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<tr>
<td>12:10 - 12:15</td>
<td>Closing remarks - invitation to the panel “Our Gamified Future“.</td>
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Participants

Samuli Laato - University of Turku.
Chien Lu - Tampere University.
Filip Wójcik - Univeristy of Warsaw.
David Kessing - Wupptertal University.
Ana Cláudia Guimarães - Brazilian Government.

Johanna Mäkeläinen - Haaga-Helia, Helsinki.
Elaine Grech - University of Malta.
Manuel Bär - University of Zürich.
Miralem Helmfalk - Linnaeus University.
Agnessa Spanellis – Heriot-Watt University

Daniel Fernandez Galeote – Tampere University.
Solip Park – Aalto University.
Paula Bräuer – Kiel University.
Isabella Aura – Tampere University.
Jeanine Krath – Koblenz University.
Atiq Waqar - Saarland University.

Special thanks to the roundtable hosts
Adam Palmquist – Gothenburg University.
Dr. Enrique Perez – CEO Pancredad.com
Dr. Timo Nummenmaa – Tampere University.
Images

Alligator - https://images.app.goo.gl/Hg2zoKVdLiy3XW9S7
Arrow sketch - https://images.app.goo.gl/aTqS1dTqRTBfeXay8
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Dolphin - https://images.app.goo.gl/bzGakZDjcb7ib437
Education icon - www.flaticon.com/free-icon/book_3209922
Elephant - https://images.app.goo.gl/CbQpxugmYWqxGhvp7
Gamified app (communicating) - https://images.app.goo.gl/rb8BnK7BXBFZubhH7
Hands with globe - https://images.app.goo.gl/7kCNWJXQYTSNTEtc9
Mermaid – https://images.app.goo.gl/RmK7sRmLwYpQktrL9
Roundtable - https://images.app.goo.gl/8h1Qmiie2Lmu9Nbt7
Tictactoe - https://images.app.goo.gl/5BZ8tcLtSiw3aZmn8
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