Place4Us: A Novel Social Collaboration Platform in Service of A United Humanity

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Abstract

Humanity faces a growing spectrum of potentially cataclysmic threats which are insufficiently and incompetently addressed by the governments in the world. A global citizen movement (GCM) is needed to bring humanity back into balance with the rest of nature and to ensure a future where the basic needs of all people are met while safeguarding the Earth's life-support system (ELSS) on which the welfare of all life on Earth depends. In recent years efforts have been made to develop virtual platforms that could support the emergence of this GCM. However, the existing platforms are not designed to facilitate open, inclusive, mission-focused, and value-based cross-sectoral community promoting communication and collaboration among all stakeholders. In order to overcome the systemic flaws of the existing platforms and social media in general, there is a need for covirtual collaboration platform designed for networks of virtual communities and governed by the participants in the communities. Place4Us is conceptually a novel social collaboration platform hosting a global ecosystem of Virtual Community Centers (VCCs). Place4Us is developed and governed by the global community of participants under a not-for-profite corporate framework. With the ecosystem of VCCs, Place4Us aims for progress towards a shared vision of a future where a GCM through self governance maintains an open, inclusive and just society that works together to create a future where humankind cherishes the reciprocity with the rest of nature, and where the purpose of nature including humans is clearly articulated, respected and protected. The overall governance of the ecosystem of VCCs is founded in the principle that each VCC is an autonomous entity and all VCCs work together towards the joint vision of the EVC. Thus, every VCC is organized, developed, and governed by its members, with the VCC vision and mission aligned with the global vision and mission of the EVC. Place4Us provides many tools for VCC governance. The governance of the VCCs relies on transparency, inclusiveness, collaboration, and accountability to increase harmony, effectiveness, and productivity in each VCC and in clusters of VCCs. Decisions are whenever possible based on consensus. VCCs are conceptualized as buildings with a number of floors providing space for, e.g., exhibition hall, classrooms, deliberation rooms, newsroom, Town hall, citizen science, meeting experts, workshops, governance, and community activities. Each VCC can select the floors that are needed for the community. VCCs can link to other VCCs or join clusters of VCCs at levels from local to global. VCCs can share resources including complete floors and also have joint membership. Place4Us provides personal assistants to participants. It also learns about VCCS and facilitates cross-scale and cross-topic collaboration. Place4Us also provides access to tools enabling VCCs to tackle wicked problems with transdisciplinary participatory approaches.

Keywords: Social Media; Social Collaboration Platform; Virtual Communities; Virtual Community Center; Viable System Model; Planetary Emergency; Global Citizen Movement; Wicked Problems; Participatory Modeling

1 Introduction — The Need for a United Humanity

Yuval Noah Harari argues that what made us humans is our ability to share stories (Harari, 2011). We live by shared ecosystems of stories or myths that bind us together in communities and provide guidance for our individual and group decision making. Today's *Ecosystem of Myths (EOM)* is dominated by stories created within the culture of Christianity first in Europe and then extended to the North-Atlantic region. This EOM is characterized by a strict separation of nature and humans and the mission of humanity to conquer nature. The result of the dominance of this EOM is a planetary system reengineered by a global civilization with little understanding of, and no respect

for, the inherent purpose and value of the *Earth's life-support system (ELSS)*. As a consequence, the fundamental reciprocity of all life and the state of the ELSS have been ignored. The reengineered ELSS lost its purpose and no longer is able to do what it did in the past: support life and ensure well-being of all species on Earth. The rapid reduction of non-human life on Earth (WWF, 2022) is a visible consequence.

Despite many warnings to humanity from increasingly larger scientific communities (e.g., Union of Concerned Scientists, 1992; Barnosky et al., 2014; Ripple et al., 2017, 2019; Bradshaw et al., 2021), and rapidly increasing threats to the wellbeing of both humans and non-human communities, very little has been done to reverse the current course leading to the degradation of the ELSS. The dominating EOM that emerge from the colonialism and imperialism of the North Atlantic culture serves a *Global Ruling Class (GRC)* identified in the work of Bernd Hamm (Hamm, 2010, 2014). This GRC has little interest in reversing the course, and a *Global Citizen Movement (GCM)* is needed, if a dystopic future is to be avoided.

The EOM of the imperialistic North-Atlantic culture strongly promotes growth as the overarching goal. Technological progress and new technologies are considered necessary to facilitate growth and are simply assumed to be desirable. New technologies, including many web-based services, are implemented without careful design of the purpose of these systems and *a priori* assessments of potential consequences for our societies and cultures. While many of these technologies have the potential to improve crucial aspects of our lives, the way the technologies are used to construct new systems in many cases leads to significant threats to the open systems of our society, democracy, and justice. With this, there is an increasing threat to the social sustainability of our societies (e.g., Lanier, 2017).

There is a rapidly deepening understanding that safeguarding the ELSS has to be an integral part of human activities (e.g., Griggs et al., 2013). The *Sustainable Development Goals (SDGs)* of the 2030 Agenda for Sustainable Development (United Nations, 2015) also acknowledge the need for systemic transformations. Developing pathways to the acpSDG requires new participatory and transdisciplinary approaches. Humankind, with its exploding population and the emphasis on continuing infinite growth, is the single greatest threat to the ELSS, and therefore we are the biggest threat to ourselves. Tackling this threat requires that our economic system be redesigned to meet basic needs of all rather than generating wealth for a few ((e.g., Jackson, 2009; Plag & Jules-Plag, 2017; Schmelzer et al., 2022). Similarly, governments must be redesigned to serve the common good rather than the interests of the elite and the corporations. Rivers, forests, oceans and all of the other systems in the ELSS provide critical services within the ELSS. The wellbeing of human communities depends on a healthy ELSS, and respecting the purpose of all systems within the ELSS is crucial for the maintenance of a healthy ELSS. Our governance and economic systems must recognize and protect these services provided by nature by enshrining the purpose of nature into law. New ways of thinking, articulated and promulgated via new stories and myths, must be adopted in order to achieve this goal (e.g., Harari, 2018).

There is an urgent and crucial need to facilitate progress towards a united humanity, a humanity that has unlimited access to the abundant information on the state of the ELSS and that also develops the collaborative means to utilize this knowledge for progress toward a desirable future of humanity embedded within a healthy ELSS. For this, a transformed EOM needs to emerge that acknowledges the interconnectedness and reciprocity of the web of life (Capra, 1996) and the critical importance of the ELSS. The new EOM would tell a story of humankind that cannot exist without a healthy ELSS. This EOM would account for the interconnectedness and interdependence of all humans and their reliance on a healthy ELSS. It would provide a basis for a global discourse about the future we all want.

2 A new Ecosystem of Myths — An Emergent Property of the Virtual World

The enormous progress in digital and communication technologies offers for the first time the opportunity to connect all humans at individual and community levels and to facilitate communities with unprecedented access to knowledge. For the first time, these technologies enable a future where the "us" versus "them" can be replaced by a global "we" of a united humanity.

In recent years, a number of collaborative virtual tools have emerged (e.g., Google-docs, Sharepoint, Basecamp, Microsoft Team), but these tools are not designed to develop open, inclusive and cross-sectoral communities. More recently, knowledge hubs are emerging, but these hubs are not designed to provide an environment where, on the one hand, experts can work and where, on the other hand, at the same time societal agents can tackle their

wicked problems. There is a need to tackle these problems with a participatory transdisciplinary approach (Brown et al., 2010), but the emerging collaborative platforms and knowledge hubs offer limited capabilities to meet this requirement.

Unfortunately, the existing technologies are mostly not used for the purpose of a united humanity. Instead, they have been highjacked by corporations to serve the myth that growth is necessary (e.g., Lanier, 2017). Extreme example include the *Social Media Platforms (SMPs)* that have emerged rapidly and fundamentally changed the discourse between individuals and groups. These SMPs were not designed to facilitate the "we" but rather to serve a growth-addicted economy with a new system of advertisement reaching into all private corners of every human. Individuals became the products that the owners of SMPs sell to advertisers (O'Neil, 2016). The algorithms used to select information that is streamed to participants combined with the lack of well-defined ethos of the companies maintaining the SMPs typically cause socially and environmentally negative developments (e.g., O'Neil, 2016; Lanier, 2017) The handling of user data and the extensive tracking of user activities on social media and the Web in general is increasingly leading to a surveillance capitalism (Zuboff, 2018; Anderson, 2022). Moreover, these platforms provide an inherent incentive for corruption and degradation (Lanier, 2017), and it is of fundamental importance to find new ways to organize the virtual world such that it supports humanity's survival.

In private ownership, SMPs inherently pose the danger of discontinuity. The most recent example is Twitter, where a change in ownership is leading to major changes in the functionality of the platform and comes with the possibility of total failure.

The existing social media and web-based forums do not provide sufficient community-focused means to facilitate the building of an open, inclusive, value-based and mission focused cross-sectoral community that could improve collaboration and communication amongst all stakeholders in wicked problems such as tackling the challenge of, e.g., deforestation, wildfires, climate change mitigation and adaptation, plastic pollution, marine debris and extinction. In fact, there is evidence that the current social media are divisive (Horowitz & Seetharaman, 2020) and increase polarization (Center, 2014).

Human perceptions of the world around them and the challenges in this world depend on the ecosystem of stories they have access to. Our lives, our communities, our self perception, our culture, all are based on these stories. It is not about faces, despite the success of Facebook. What really lives on social media are stories, and these stories have an enormous impact on our society and where we are heading. The existing social media have many systemic flaws that allow marginal and misleading stories to gain center stage (Rand & Pennycook, 2021) and poison many minds (Marantz, 2020). The ecosystem of stories on social media is one where dangerous predators can easily emerge, become invasive and consume other stories and occupy the minds of many people. The minds that come to the social media have little guidance in the choice of what to consume, and so to some extent they randomly pick what is pushed to them and often fall for fallacies and misleading stories.

The current widely used SMPs promote individualism, serve the interests of individuals, and multiply the views of individuals. With this, the SMPs not only progress technology, they also cause a disconnect with our human past and the nature of human societies. Humans are happiest and healthiest when they are embedded in well-functioning communities and cultures. Civilization is an emergent characteristics of human groups in which social capital is high and interrelations between the individuals are well developed. As Joseph Conrad in "The Heart of Darkness" (Conrad, 1902) illustrated beautifully, if the thin blanket of civilization is pulled off, individuals may lose their integrity, morality and ethics and some may become the worst they can be. The SMPs provide an environment that, in far too many cases, brings out the worst in both individuals and groups. Modern SMPs in many cases have pulled off the "blanket of civilization" and the results are often intolerable. First reports from Metaverse (e.g., Bokinni, 2022) seem to indicate that in the Metaverse, civilization has ceased to emerge or even exist.

There is a need for new SMPs that aim to overcome the systemic flaws in the existing ones. A fundamental quality of humanness is the ability to pass complex information between individuals and groups, and it is this quality that helps humans survive. Humans are inherently social animals and we all need to belong to a community. The current social media allow for some forms of community to emerge in informal and often transient ways. Examples are twitter threads and WhatsApp groups. But these communities are not very visible, have only very limited ways for the members to interact, and do not contribute much to the identity of the community members. Most of these communities are neither cross-sectoral nor cross-generational, and they are not inclusive. Above all, any such community has little community control over the development of its ecosystem of stories, and invasive elements can easily manipulate a group and push it into directions undesired by the group itself.

3 A Need for Novel Social Collaboration Platforms

In the book "Blessed Unrest," Paul Hawken (Hawken, 2007) estimated that there are more than one million organization that aim at a more sustainable, just and peaceful future. These organization need places in the virtual world where they can connect and collaborate in a GCM. Efforts have been made to utilize the existing tools and SMPs to provide virtual platforms for community building, to interconnect these organizations and to facilitate collaboration. Examples of stand-alone efforts focused on the unrest are Hawken's "Wiser Earth" and the Planet-Makers (https://www.planet.coop). What these attempts made clear is that utilizing the existing platforms does not result in significantly increased collaboration. Most of the existing community platforms are commercial and are more focused on specific groups or specific activities (e.g., Mighty Networks, https://www.mightynetworks.com, and Circle, https://www.circle.so, on creators; Tribe, https://www.tribe.so, for software companies, Discourse, https://www.discourse.org, for forums, Hivebrite, https://www.hivebrite.com, for professional networks). None of these platforms aims at enabling collaboration between communities. Most of the platforms are designed to separate the individual communities. Moreover, none of these platforms is mission-based and they are not aiming at bringing the global unrest identified by Hawken (2007) into a virtual global community. The generally commercial nature of the available collaboration platforms and SMPs leads to a development and governance of the infrastructure that is focused on profit instead of being controlled by the user community.

Making progress towards a transformed EOM requires a transition from the existing SMPs and commercial collaboration platforms to a novel concept of *Social Collaboration Platforms (SCPs)* that are owned and governed by their participants. The design of these SCPs results from the purpose of promoting collaborative communities that are aiming for a humanity embedded in a healthy ELSS. It is important that a virtual space is created where communities can exists and develop their EOM around a geographical location or a topic and mission. This space should be designed for inclusive, participatory, cross-sectoral and inter-generational communities. It should support these communities in providing informal learning opportunities and allowing for the development of skills and capabilities. It should give community members ample ways to interact and contribute to the EOM of which the community is an integral part.

In the following, we present our approach to the such a new SCP. The Place4Us SCP is embedded in a broader concept that links the activities on the SCP to the abundant knowledge on the viability of the ELSS that is available through many Web resources. In the next Section, we briefly introduce the broader corporate, social and virtual environment for the development of Place4Us. In Section 5, we introduce the concepts for Place4Us as a SCP and the *Virtual Community Centers (VCCs)* as virtual homes for communities and ecosystems of communities, as well as the concept of Place4Us participants and VCC members as a bais for a global community. The governance of Place4Us and the VCCs is discussed in Section 6 and the architecture and design of Place4Us is outlined in Section 7. In Section 8 we assess the initial experience with Place4Us and the pilot VCCs.

4 The Corporate and Web-Based Environment for Place4Us

4.1 The Earth Viability Center, Inc.

Place4Us is developed and maintained by the *Earth Viability Center, Inc. (EVC)*. EVC is a not-for-profit 501(C)3-tax-exempt corporation registered in Virginia, USA. The EVC focuses on utilizing the enormous potential of the digital technologies available to us today to make progress towards a more united humanity. The EVC supports the integration, dissemination and use of the best available scientific knowledge on the ELSS in an effort to increase the understanding of the reciprocity of humanity and the ELSS. The EVC develops and provides web-based services that support access to knowledge for communities focused on tackling the sustainability challenges humanity is facing in an ethical and just approach. The ethos of the EVC supports its vision and the mission is based on widely accepted co-operative principles for community-governed organizations (Table 1).

Vision of Earth Viability Center, Inc.
A future where a global citizen movement through self governance maintains an open, inclusive and just society that works together to ensure the health of the Earth's life-support system on which the welfare of all human and non-human life depends. A future that brings humankind into balance with the rest of nature, and where the purpose of nature including humans is clearly articulated, respected and protected.

Table 1. The activities of the EVC are based on a set of clearly identified values. These values provide a solid basis for the assessment of planned and implemented actions. There are also seven widely-accepted co-operative principles for community-governed organizations, which the EVC adheres to.

The Values	**EVC Co-Operative Principles**
The ten most important values are: • Caring for others • Democracy • Equity • Equality • Honesty • Openness • Self help • Self responsibility • Solidarity • Social responsibility	EVC adheres to these principles: • A co-op is owned and controlled by its members. It exists for the benefit of its members, who may be customers, workers, suppliers or the wider community. • A co-op is democratic – this means every member has an equal say in how it is run and how profits are used. • Every member contributes financially in some way – from buying products, working for the co-op, investing in it or deciding how to spend its profits. • A co-op is an independent business, owned and controlled by its members. • It offers education and training to everyone involved, so they can develop the co-op and promote the benefits of co-operation. • It co-operates, works with and supports other co-ops. • A co-op supports the communities it works with.

To make progress towards its vision, the EVC works to heal the ELSS. As elaborated above, the development of human communities to a large extent is determined by the dominating EOM that provides guidance for decisions made at individual and community levels. The services and projects of the EVC therefore aim to facilitate a broad conversation about the myths that are central to our cultures and the global civilization. The EVC promotes the development of an EOM that reflects the unity of all life in the ELSS.

The EVC postulates that today's Internet and Web-based technologies allow the creation of a virtual world that facilitates progress towards the vision of the EVC. A keystone in this vision is an economy designed to meet the needs of human communities while safeguarding the ELSS. Likewise, governance by and for the people rather than governments controlled by the GRC is central to this vision.

4.2 EVC Web-Based Services and Projects

The three interconnected and interdependent services the EVC is developing and operating are:

- **Place4Us** is a SCP that unlike all other existing SMPs is mission-driven and community-focused. With Place4Us, a community focused platform for the first time allows communities in the physical world to coexist with mirrored communities in the virtual world. Thus, Place4Us utilizes the 21st-Century technology to interconnect the members within a single community as well as the communities in a global ecosystem of communities. With this, Place4Us aims to harvest the benefits of the new technologies without breaking with our past as social beings embedded in well-functioning communities. VCCs are the places where communities can exist in the virtual domain and where the members of these communities can interact and have access to local, regional and global resources and knowledge. Place4us provides the services and building blocks to construct a VCC according to the community's needs. Place4Us also provides the services that are needed for access to knowledge resources that exist in the virtual world. VCCs can link to other VCCs and share resources with all VCCs interlinked in a network. This ecosystem of VCCs eventually will facilitate progress toward a united humanity.

- **PalaverZ** is a SCP for a dialog of the young generation about the future they want. While PlaverZ is not based on defined communities, emphasis is on collaborative creative activities aiming at a broad discourse about the desired future and actions to make progress towards this future. PalaverZ is a place where young people can share their stories with others across cultural and ethnic boundaries. Knowing the stories of others creates a basis for a peaceful future. This platform, which is under development, will facilitate a global dialog, especially among young people, on their desired future. Youth, the world over, are recognizing that "business as usual" is destroying their future but they so far lack any good way to talk about either the crises facing them or what they want for the future. PalaverZ will allow, e.g., a Canadian youth and a Nigerian youth to explore their respective life experiences and their hopes and dreams for their future. PalaverZ will support the emergence of a shared vision of a transformed and healed Earth that our youth can work toward.

- The ***Earth Viability Dashboard (EVDB)*** aims to present the abundant knowledge we have about the recent past, present and likely future of the planetary system in a way that can easily be understood by the general public. The vision of the EVDB is a future where knowledge related to the state of the planetary system is freely available to all in a form that allows everyone to base decisions on this knowledge. In particular, the decision on how we meet our needs while safeguarding the ELSS will be informed by the EVDB. The EVDB is comparable to the many instruments in the cockpit of a modern airplane that inform the pilots about the state of the plane, as well as the plane's past and future trajectory. The EVDB is a crucial infrastructure for the communities in the many VCCs on Place4Us as well as the people engaging in the dialogs on PalaverZ. The EVDB also informs the two main projects the EVC engages in.

The two main projects of the EVC are directly related to its vision and mission:

- **MyRivers** is an ecosystem of VCCs built around rivers or river segments. The Earth's book is one of river stories. Human communities have always evolved at, along, and with rivers. River systems are natural entities in the planetary physiology. The stories of rivers are tightly linked to the stories of the people within these river systems. The VCCs in MyRivers make heavy use of the EVDB.

- The ***Governance Dashboard (GDB)*** explores a new governance structure that is based on river systems as the defining boundaries for governance entities. This new governance respects the boundaries of river systems more than the arbitrary boundaries of states and countries.

These two projects (MyRivers and GDB) are implemented on the three services. MyRivers is a cluster of VCCs with each VCC focusing on a river segment. MyRivers heavily depends on information and usable knowledge provided by the EVDB. MyRivers also benefits from activities on PalaverZ in that young people active on PalaverZ will be informed about MyRivers and increasingly participate in relevant VCCs in the MyRivers cluster. The GDB will utilize the MyRivers VCC cluster to research options for governance aligned to river systems. Again, young people active on PalaverZ will be invited to participate in GDB activities in an effort to develop new governance approaches attractive to young people.

4.3 Corporate Framework of the Earth Viability Center, Inc.

The overarching goal of the efforts made by the EVC is to support the global unrest identified by Hawken (2007), and to enable the emergence of a GCM. SCPs play a central role in reaching this goal.

Building new SCPs that are community focused and mission-driven requires a purpose that is different from the purpose of the existing SMPs. The purpose of those existing SMPs that are owned by for-profit corporations is to increase the wealth of the shareholders. For most, if not all of them, wealth generation results from selling user time to advertisers. Their algorithms are designed to increase profits. While this by itself is damaging in many aspects, advertisement is also a main reason for overconsumption. Its sole purpose is to increase consumption and consumers. With this, it is in direct conflict with the mission of the EVC and all services the EVC provides.

For the success of the EVC, it is of fundamental importance to develop a corporate framework that ensures a purpose of the services consistent with EVC's mission. While this framework can integrate other partners, it is mandatory that the not-for-profit character of EVC remains unchanged. The business models for the platforms, services and projects have to ensure that no participant data is being utilized to generate financial flows to the EVC. In particular, none of the platforms, services, and project will generate financial flows through advertisements.

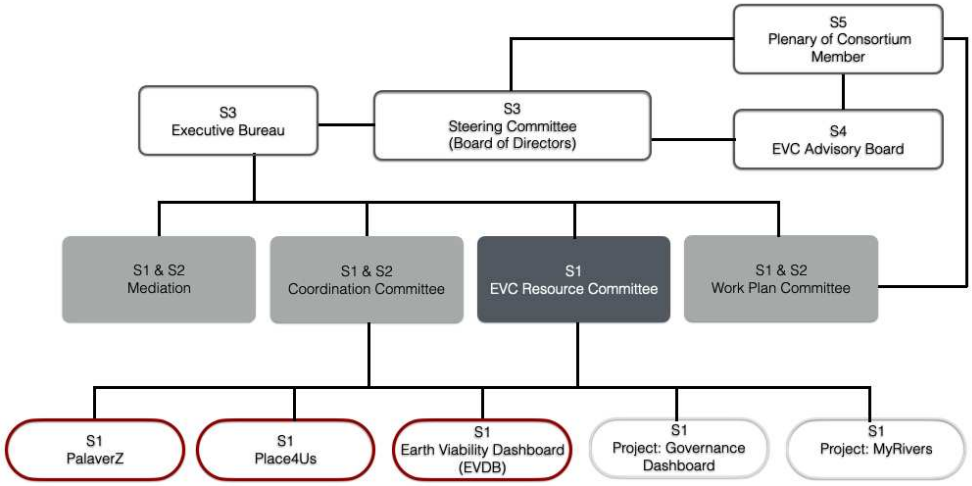

Figure 1. EVC Governance: EVC is developed as a consortium of member organizations. The organizations eligible to participate in the consortium of the EVC are those that Hawken (2007) identified as the "Blessed Unrest." The governance is based on the VSM, and the five basic functions of the VSM are indicated by S1 to S5.

The corporate framework also has to be one based on participation of the broad community benefiting from the services the EVC makes available. The model chosen for that is a consortium of EVC consortium members. Eligible consortium members include organizations in all societal sectors that have an ethos compatible with the ethos of the EVC.

4.4 Governance of the Earth Viability Center, Inc.

The governance structure of the EVC is designed according to the structure of a *Viable System Model (VSM)*. The VSM is a model developed by Stafford Beer (e.g., Beer, 1979, 1981) and utilized for many companies and organizations. The VSM is based upon the notion of viable semi-autonomous units. In order to be viable within a changing environment, certain functions have to be essentially continuously carried out. Therefore, wherever one looks within a large organization (top, middle or bottom), if this organization is viable, one finds semi-autonomous units with the same functions being carried out.

The VSM ensures system components for five fundamental functions at different levels within the system. These functions are associated with systems that are usefully defined as:

- **S5. Identity**: What is the system and what is its fundamental vision and values?
- **S4. External and Future**: What is the relevant environment and what needs to change to flourish in that environment?
- **S3. Internal and Now**: What must be done to keep everything on an even keel right now?
- **S2. Coordination**: How are the various activities of the system scheduled and coordinated?
- **S1. Operations**: What are the key productive functions that do the primary work for the system?

The diagram in Fig. 1 indicates to which units these functions are assigned. The organization of the EVC is designed to ensure that the broad community participants of all services and projects of the EVC are in charge of decision making to the largest extent legally possible (Fig. 1). By assigning the S5 function to the consortium plenary it is ensured that the identity of the EVC is one that is supported by the consortium members and the services and projects of the EVC meet the needs of the global community of participants in these activities. It also ensure that no individual or single consortium member can change the identify according to the specific interests. A take over of the EVC is ruled out through constitutional regulations in the By Laws of the EVC.

Importantly, the platforms, services and projects of the EVC are organized as VSMs by themselves. The VSM for Place4Us is introduced in more detail below in Section 6.1. The governance of the ecosystem of VCCs as well as individual VCCs is explained in Section 6.2

5 Conceptualizing Place4Us and Virtual Community Centers

5.1 Place4Us Vision and Mission

Place4Us is a SCP for communities in their VCCs and networks of such VCCs. The VCC are semiautonomous units (recursions) on Place4Us. The VCCs hosted on Place4Us are developing collaborative communities of shared interests and goals. Eventually, a network of millions of VCCs will support the synergistic and intersectional work of activist groups worldwide. This global village of VCCs will be the backbone of a GCM powerful enough to transform our governmental and economic systems such that humankind will live in harmony with nature and understand that **humanity is an inseparable part of nature**.

Place4Us has a vital role to play in healing the ELSS. The ethos of Place4Us is aligned to the ethos of the EVC and includes the basic values listed in Table 1.

Place4Us Vision: *A global ecosystem of Virtual Community Centers that constitute a Global Citizen Movement aiming to bring humanity together in an effort to reestablish the health of the Earth's life-support system and to ensure a future of wellbeing for all human and non-human life on Earth.*

Place4Us Mission: *To make progress towards a GCM that shares the vision of Place4Us, Place4Us provides a virtual platform that facilitates community-building and the interconnection and collaboration of communities¿ This platform can host a global ecosystem of Virtual Community Centers with the common mission to emphasis the reciprocity of humans and the Earth's life-support system and to ensure that we humans meet our needs while respecting and protecting the purpose of the systems that constitute the Earth's life-support system.*

5.2 The Concept of Virtual Community Centers

VCCs are designed as virtual buildings that offer a number of floors dedicated to specific activities. These floors can be reached from the reception through an elevator (Fig. 2). A VCC is a unit with it own vision, mission, governance and administration.

Floors in a VCC typically are similar to floors in a real-world buildings. For example, a floor can be an exhibition hall for booths where members of a VCC can exhibt their activities and meet other members and guest. A floor can have rooms for experts, class rooms or deliberation rooms. Floors also can provide access to tools, be dedicate to news and newsrooms, have a townhall, or provide a kidspace.]

The floors constitute recursions within a VCC. A floor typically has a floor administration that ensures that floor activities adhere to the overall principles and the Place4Us ethos. Each floor can have many semi-autonomous units (recursions). For example, the Deliberation floor has individual deliberation rooms, and each deliberation room has an "owner," i.e., the VCC member that opened this deliberation room. This owner ensures that participants in the deliberations contribute within the platform-wide ethos.

In total, there are more than twenty floors from which a subset can be chosen to meet the needs of a community. Table 2 in Section 7.2 gives an overview of the available floors. As Place4Us evolves and more experience with VCCs is gathered, additional floors will be added as needed.

A guest or member normally enters the VCC building through the reception. Place4Us participants and VCC members can sign in at the reception. Guests can visit many of the floors and view public material. This may include, for example, booths in the Exhibition Hall, classes and lectures in the Classrooms, and some of the deliberations in the Deliberation Rooms. Guest may also have access to some of the experts on the Meet-the-Experts floor, and there may be exercises in the Envigym that guests can participate in. In general, it is up to a VCC how much of the material available on the different floors is open to guests. However, guests have very

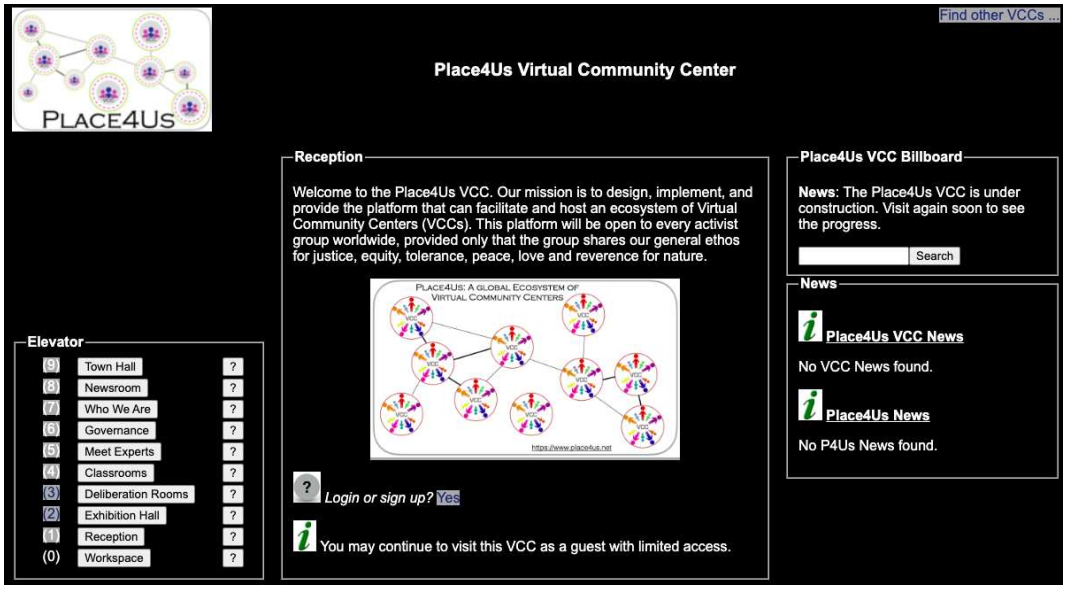

Figure 2. VCC Entrance: A guest or participant enters a VCC through the reception. Most floors are accessible to guests but guests cannot actively participate in activities. A Place4Us participant can login and after that receives billboard and news information based on the login record and preferences.

limited options to make contributions. In general, there are limited feedback options and messaging options for guest.

Besides the elevator and a reception desk, the reception also can feature a billboard that provides messages and announcements. Some of these messages may be for the public, for signed-in Place4Us participants, or only for members of the VCC. A News Box provides latest news concerning the VCC and also new pertaining to the Place4Us platform.

5.3 Ecosystems of VCCs

VCCs hosted on Place4Us share the vision of Place4Us. In general, VCCs will engage in cooperation and collaboration with other VCCs. In some cases, two VCCs will share resources and have joint membership. In other cases, small clusters of VCCs will jointly organize activities such as Town Hall meetings, workshops, or courses in the Classrooms. Experts may be accessible in all VCCs of a cluster. Larger clusters of VCCs may cover a topical area at different scales from local to global.

The many ways VCCs can establish links, interact and collaborate are one of the major benefits for communities to establish their own VCCs on Place4Us. Examples of collaborations include, but are not limited to:

- Topics: VCCs at different spatial scales or in different locations focusing on the same topic may want to cluster. For example, small local VCCs aiming to tackle the challenge of plastics in the environment and the ocean might want to collaborate with national, regional and global VCCs focusing on the same challenge.
- Geographic: Several VCCs around different challenges in the same region might benefit from forming regional clusters.
- Activities: VCCs that have similar types of activities can benefit from linking and collaborating. These activities could include lobbying, direct action, public education, etc. For example, local groups of Greenpeace and Extinction Rebellion would benefit from linking their VCCs to increase publicity.
- Resources: VCCs might want to share scarce resources including specialized expertise, tools, libraries, databases, contacts, supporters, and paid-for resources. For example, several VCCs might want to share one paid account for visual communication).

- Parent-Child: VCCs at a large-scale level (global, regional, national) may want to facilitate VCCs at smaller-scale levels and have a parent-child relationship with these VCCs. These smaller-scale VCCs would establish siblings relationships.

A good example of the last type of interconnected VCCs is the MyRivers project mentioned in Section 4.2. VCCs at the level of the major river systems are the parent VCCs for many child VCCs focusing on smaller river segments or tributaries to the main river. Another example is marine debris (e.g., Smail et al., 2020; Plag et al., 2021), where local VCCs host communities focusing on limiting marine debris in their location, and these VCCs are linked to regional and national VCCs focusing on both marine debris. At the top level, regional and national VCCs are linked to a global VCC that connect to relevant United Nations agencies.

Within the global ecosystem of VCCs, any given VCC might have different types of links to various other VCCs. For instance, suppose a wetlands restoration group had a Greenpeace sort of mentality, i.e. wanting to do pretty much whatever was necessary to get the existing wetlands laws enforced and to strengthen those laws. Such a VCC might link to a VCC specializing in creative acts of civil disobedience, to Greenpeace, and to the MyRiver group operating in their region as well as to wetlands groups in other geographic regions. This group would then have three or four different types of links with other VCCs.

Linked VCCs can share resources in many different ways. Sharing of selected floors is one option. For example, if a group of two or more VCCs share the Library floor, then all documents available in the library are available to all VCCs in the group unless they are specifically restricted to a single VCC. If the Classrooms floor is shared, the items that are member only are then available to the members of all VCCs in the group. Sharing the Newsroom Floor implies that all news items (newspapers, newsletters, commentaries, billboards, podcasts, etc.) are available in all VCCs in the group. This flexible sharing of resources provides a powerful incentive for collaboration.

5.4 Operational Concepts

Place4Us is the acSCP designed to host the global ecosystem of all VCCs. For individual VCCs, it provides building blocks that allow a construction of a VCC according to the specific needs of the community in that VCC. For groups of VCCs, the platform provides means to connect VCCs and to share resources between the VCCs. The platform also provides access to resources and services available to all VCCs. In particular, the EVDB is available to all VCCs. In many of the building blocks for VCCs, this access to the EVDB is integrated.

In order to ensure an operation of the platform and a behavior of all participants and communities within the overall ethos, careful consideration are needed for the development of the operational concepts. Here we introduce the concepts for establishing new VCCs and for the monitoring of the activities on the platform.

5.5 Establishing a VCC

Organizations or groups that truly want to contribute to a tomorrow with ecological and social sustainability and social and environmental justice can establish their VCCs on Place4Us. A new VCC can only be established after a request for a new VCC has been submitted by a Place4Us participant and accepted by the *Place4Us Ethos Committee (PEC)*. In making a decision, the PEC is guided by comments and ratings from Place4Us participants. After submission, a request is open for comments and rating from all Place4Us participants (Fig. 3).

Once a request has been reviewed and rated by the Place4Us participants and accepted by the PEC, an initial VCC will be established automatically. This initial VCC only has a reception and a workspace. The requesting participant who is the "owner" of the new VCC will be able to fully construct this VCC according to the specific needs of this community. The owner can also assign roles to different VCC members and share ownership with other members.

VCCs can share their resources with other VCCs and VCCs also have access to many platform-wide resources. Place4Us provides the functions for the creation of clusters of VCCs with a wide range of options for sharing VCC building parts, membership, resources, and activities.

5.6 Monitoring of Activities — the Algedonic Channel

The monitoring of activities on Place4Us in all VCCs as well as clusters of VCCs is delegated to the Place4Us participants. In accordance with the principle of supporting those who are working towards the joint vision and

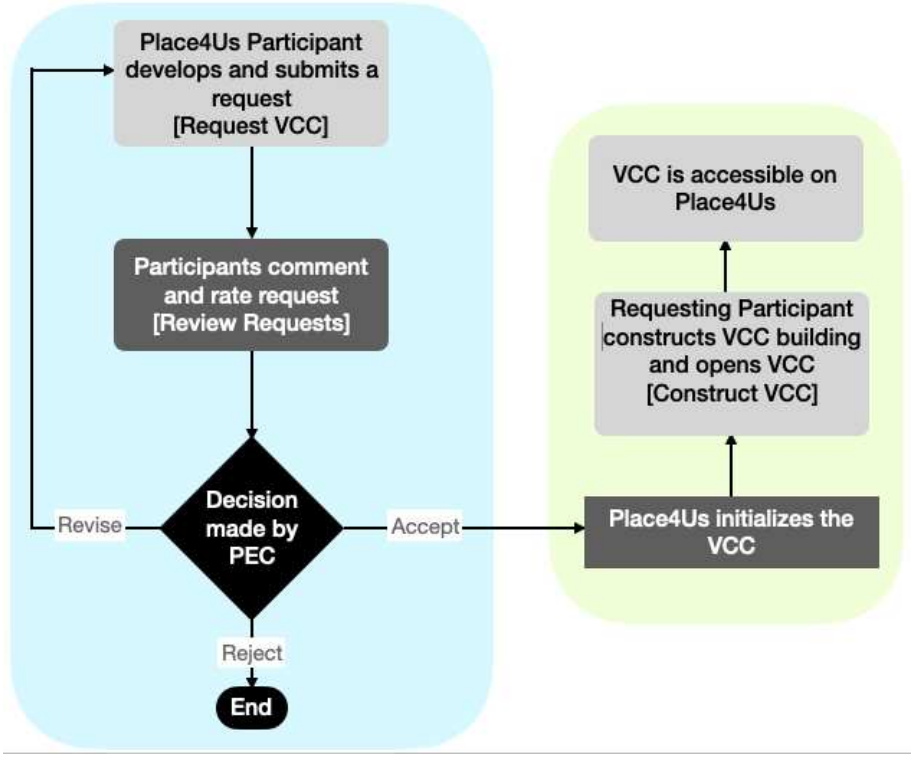

Figure 3. Request for new VCCs: After a request has been submitted by a Place4Us participant, the request is opened for review and rating by all Place4Us participants. The PEC makes a decision based on the comments and rating provided by the participants.

not worrying too much about catching all those who are misusing Place4Us, Place4Us has established a variant of what Beer (Beer, 1979, 1981) called the algedonic channel. Algedonic stands for pain or pleasure signal. The algedonic channel is designed to send signals up the recursion levels if there is a problem that cannot be resolved at the level where the problem originates. Examples of signals for the algedonic channel of Place4Us include:

- A whistleblower sends a message that the group or some powerful individual is abusing the platform or their position.
- A VCC may be floundering and may be too proud or whatever to ask for help.
- Someone in a VCC may simply want Place4Us to look over what this VCC is doing for whatever reason, including to get an assessment of the activities in the VCC and/or getting advice on how to increase collaboration with other VCC.

Conceptually, the algedonic channel is available at every recursion level, and at every recursion level, there are responsible receivers of messages that can react. If reactions do not take place in a reasonable reaction time, messages propagate to the next recursion level. This concept guarantees that no algedonic signal is lost and gives participants full control to ensure the activities are within the agreed-upon ethos. Importantly, participants can submit messages into the algedonic channel anonymously or with their identify attached.

5.7 Concept for a Global Community of Participants

All services provided by the EVC are for an open global community of participants. While there are many places where guests have access to services and information, the full potential of the services is accessible only to registered Place4Us participants. Individuals can sign up as participants either at Place4Us or PlaverZ or through specific VCCs or MyRivers centers. A new participant will have to agree to abide to the values and ethical princi-

ples of the EVC and Place4Us. Once signed up as a participants, the membership is recognized across all services and projects of the EVC.

A Place4Us participant who wants to engage in a VCC will have to sign up as a member for this individual VCCs. In most VCCs, Place4Us participants will be able to sign up freely. However, some VCCs may require an application to be reviewed by the VCC administration.

Participants are able to populate a personal profile and to share information in the personal profile freely or restricted to specific VCCs. The personal profile is available for sharing across all EVC services if the participant so desires.

Participants can have a range of different authorities and roles that allow them to carry out restricted activities. For example, VCC administrators have the authority to regulate activities in a VCC and assign roles and authorities to VCC members. In particular, VCC administrators can assign members as floor administrators. For example, the administrator(s) for the floor with class rooms decide on who can establish new courses or other items on this floor. Participants who are recognized as editors in a newsroom can accept other members as authors of news items.

This nested system of authorities at all recursion levels ensure that the basic principle of authority and responsibility are tightly coupled. In connection with the algedonic channel described above, this system also ensures that any issues are reported directly to the closes person with authority and responsibility to act on these issues.

5.8 Privacy and Participant Monitoring

Overarching goal of the concept for privacy and monitoring is to give a participant optimal choices and to meet the legal requirements in different countries. Therefore, Place4Us participants have a wide range of choices concerning the level of privacy and monitoring of their activities on the platform and the individual VCCs. They can determine the level to which information in their personal profile is accessible to other participants and the public. They can also choose to which extent they receive information from activities at all levels of recursion. They can also limit the level at which their own activities are monitored.

Participants can populate an extensive personal profile with personal information and information concerning their expertise, engagement and activities. They have many choice concerning the accessibility of this information. For example, they can make all or part of this information publicly available, available to all Place4Us participants, available only to members of specific VCCs or only available in certain activities. For example, an expert could make the choice to have most information only available in their expert room in the Meet-the-Experts floor in one VCC.

Participants can also makes choice concerning their discoverability. For example, a participant may decided to be discoverable by name, email or keywords in searches within a specific VCC or by keywords on global searches on Place4Us.

Place4Us has an extensive messaging service that informs participants about activities at all recursion levels. Participants can make choices on what messages they receive and how these messages are made available to them. For example, many participants will want to know when new remarks are being made in a deliberation they are involved in. These messages can be included into a personal file that is being displayed when the participant logs in, or they can be made available through email or other means. A participant may be interested in messages from the VCC administration but not from the Place4Us system administration.

Participants also have a choice to what extent their activities are recorded. In particular, they can make a choice whether their log-ins are recorded. The log-ins of a participant are only recorded to allow for tailored interaction of the system with a participant. For example, if a participant has allowed the tracking of log-ins, then the system will be able to inform the participants of any relevant news that were published since the most recent log-in.

6 Governance of Place4Us and the VCCs

6.1 Governance of Place4Us

In terms of governance, the governance structure and processes have to ensure that on the one hand Place4Us provides a platform that facilitates progress toward Place4Us's vision, and that on the other hand all decisions are based on the global community of participants. The governance of Place4Us aims to ensure representation and participation of all participants. At the same time, the overall governance of the platform is designed to make

progress towards the vision of the EVC. The organizational structure of Place4Us (Fig. 4) reflects the elements of the VSM (see Section 4.4):

- **S5. Identity**: Importantly, the global participant community of Place4Us represents S5. The Place4Us Plenary defines the system Place4Us and determines the fundamental vision and values of Place4Us. All participants of Place4Us are members of the Plenary. Meetings of the Plenary are virtual meetings, and the meeting proceedings are designed to allow for participation of all participants in deliberations and decisions. It is at these annual meetings that the vision for Place4Us and its mission are decided and directions are given to the Place4Us Steering Committee. The Plenary also mediates the dialog between the Design Committee and the Steering Committee. For that, the Plenary establishes dedicated entities that communicate with these committees.

- **S4. External and Future**: The Design Committee develops the architecture and functional design of Place4Us such that it corresponds to changes in the environment of Place4Us, including technological and societal progress. The Design Committee carries out research to ensure that the design of Place4Us accounts for changes in the global socio-economic environment and meets the evolving participant needs. The Design Committee communicates with the plenary and utilizes information from the global community of participants.

- **S3. Internal and Now**: The Place4Us Steering Committee oversees the operational performance of Place4Us and ensures that the platform meets all operational requirements. The Steering Committee integrates the directions from the plenary and the guidance from the Design Committee for the Development Committee, which carries out the actual implementation work.

- **S2. Coordination**: The Steering Committee is also responsible for the coordination between the different entities of the organization Place4Us. The Steering Committee receives periodic reports for the entities in Place4Us and evaluates these reports. As needed, the Steering Committee initiates coordination actions. In particular, the Steering Committee ensures a coordination between the Design and Development Committees.

- **S1. Operations**: There are three main operational entities in the governance structure of Place4Us:

  - **Development and Implementation Committee**: This committee is responsible for the development of all algorithms and software, the implementation of the software in the platform, and the maintenance of the services. The committee follows the input from the Design Committee to ensure that the overall development corresponds to the evolution of the technological, social and legal environment.
  - **Community Committee**: This committee focuses on the development of communities within and beyond Place4Us. Communities new to Place4Us are supported in establishing and populating their VCC. Outreach activities are focused on meeting communities that might benefit from being part of the ecosystem of VCCs on Place4Us. The Community Committee will also maintain working groups that have the task to identify groups of VCCs that have high potential for collaborations between these VCCs. These Working Groups will facilitate collaboration to the extent possible.
  - **Ethos Committee**: The Ethos Committee has the important responsibility to ensure that the activities of the VCCs hosted by Place4Us are within the mission of Place4Us and compliant with the ethos of Place4us. Requests for new VCCs are decided upon by the Ethos Committee based on comments and ratings from the global participant community (see Fig. 3 for details on this process). The Ethos Committee also monitors the VCCs to some extent to ensure that activities in VCCs are consistent with established ethical requirements and rooted in the value system of Place4Us as defined by the Plenary. The Ethos Committee also considers requests from VCC members for reviews of activities in specific VCCs. The algedonic channel (see Section 5.6) is directly linked to the Ethos Committee and the Ethos Committee assess messages that it receives on this channel and decides on how and by whom potential incidences of misuse should be addressed.

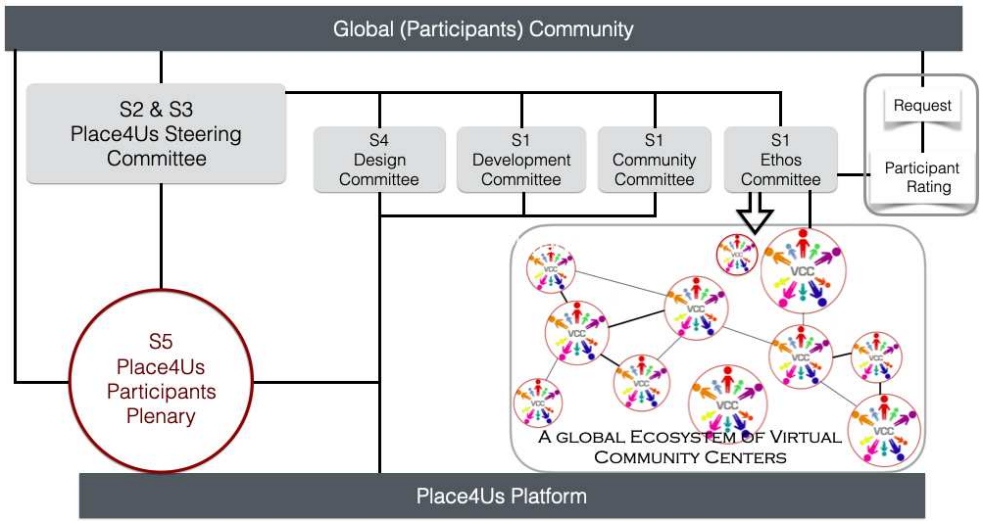

Figure 4. Place4Us Structure and Governance: The organizational structure of Place4Us is designed to allow for a governance based on the global community of participants.

6.2 Governance of Individual VCCs

The overall governance of the VCCs is founded in the principle that each VCC is an autonomous entity and all VCCs work towards the joint vision of the EVC. Thus, every VCC is organized, developed, and governed by its members, with the VCC vision and mission aligned with the vision and mission of the EVC. The governance of the VCCs will rely on equality, transparency, inclusiveness, collaboration, and accountability to increase harmony, effectiveness, and productivity in each VCC and in clusters of VCCs. Decisions should be whenever possible be based on consensus.

Each VCC will choose a governance structure compatible with co-operative principles. As a minimum requirement, the governance should adhere to equality and inclusiveness, there should be a high level of transparency and the governance should avoid any centralized authority.

Place4Us recommends that VCCs consider the VSM as the system model for their governance. Place4Us offers templates for the VSM approach to the governance of a VCC as well as other approaches. The governance floor provides a range of structural units that can be used to organize the governance of a VCC and to support the long-term operational governance. The structural units include a Steering Committee and Executive Committee. There are units for an Advisory Board and a Board of Directors. Establishing working groups is also supported as part of the governance units. A number of officers can be established (e.g., treasurer, secretary, chair, Ethos officer). Rules for populating the selected units and/or assigning officers, as well as the governance processes are up to the individual VCCs but the rules and processes have to be aligned to the co-operative principles. If wanted, VCCs can request support in developing their governance structure or select one of the templates available on the Governance floor.

Governance processes such as submitting motions, voting, various forms of ratings, etc. are provided. A general tool for managing the activities in VCCs is *Management by Action Items (MAI)* (Plag, 2012). MAI provides tools to initiate action items, to report on these action items, and to link action items in various forms into the agenda of meetings.

For smaller VCCs with less than 10 members, the formal structure can be kept at a very minimal level. Most decision can be reached by consensus. For medium size VCCs, a process may be necessary to develop the governance approach as a community effort. Such a process could be a participatory modeling (e.g., Guyot & Honiden, 2006; Le Page et al., 2011; Henly-Shepard et al., 2015) or a syntegration (Beer, 1994). Very large VCCs with hundreds or more members normally evolve out of smaller ones, and they inherit the governance structure developed earlier in the process.

Each VCC is responsible for its own finances. In general, VCCs do not have to pay any fees to Place4Us. However, if a VCC decides to institute a membership fee or other means to raise money, it is expected that this VCC makes contribution to Place4Us.

7 Comments on System Architecture

7.1 Place4Us Architecture

Place4Us is based on open software almost exclusively written in PHP. No packages are used. The programming adheres to all relevant standards.

The design of Place4Us aims to limit requirements on the participant side as much as possible. No assumptions are made about the browser used by a participant. Browser specific extensions are not utilized. Requirements to bandwidth are kept to a reasonable minimum to ensure global accessibility.

All system and participant files are encoded in encrypted XML. The file structure is designed to enable a decentralized system architecture and to support rapid searches.

The system operates on Linux servers. Place4Us initially is implemented on a cloud service.

7.2 Virtual Community Center Design

As described in Section 5.2, the VCCs are designed as virtual buildings with a reception, an elevator, and a number of floors as needed (Fig. 2). Floors have specific purposes, and the administration of a VCC can decided on which of the floors are needed for the community inhabiting the VCC. Each floor can be populated with many different entities (e.g., rooms) as needed. The floors currently available are described in Table 2.

Most of the floors are open to visitors. This open concept allows guests to have access to the large public knowledge base inherent to Place4Us. It also allows them to get to know a community and to decide whether a membership in that community is of interest.

Besides a reception, each VCC has the Workspace floor, which allows for collaboration between the community members. The workspace in most VCCs is only accessible for VCC members.

Importantly, each floor is designed as a totally independent module. This independence enables a distributed development of the programs. Different groups can bring together the expertise to develop the floor software including all required tools. The Design Committee ensures that the overall design follows the same guidelines and the Development Committee ensures the necessary coordination between the platform services and the floor specifics.

At the current stage, Place4Us communicates with participants in English. A crowd-sourcing effort will be initiated to translate all communications in a number of major languages. Conceptually the software is prepared to easily switch between languages.

8 Discussion and Conclusion

Recent developments in corporation-owned SMPs underline the urgency to develop new approaches to bringing communities into the virtual space, where global collaboration can help to build a movement for a healthier ELSS and a better future for humanity.

Already in its early stage, Place4Us is providing solid evidence for the usefulness of the concept of community-focused and mission-driven SCPs. The experience so far emphasizes the importance of being vision-driven and mission-focused.

It can be expected that Place4Us will have spin-off activities. For example, initial request from research projects to get support for the establishment of VCCs for the project teams that could ensure a community sustainability beyond project time have been made.

Of major importance is the extension of the consortium of the EVC to ensure a participant-driven development of Place4Us. The EVC is actively reaching out to relevant non-governmental organizations, informal groups, appropriate companies, and governmental and intergovernmental agencies. For the non-governmental organization, the focus is on those that are part of the "Blessed Unrest." For companies, those that are identified by Laloux and Wilber (Laloux & Wilber, 2014) as companies aiming for the "next stage of human consciousness" are prime candidates. For governmental and intergovernmental agencies, the EVC is utilizing its broad network with such agencies to enlarge the consortium.

The EVC is in the process of initiating crowd-funding efforts to ensure a sufficient cash-flow that can sustain the further development of the software as well as the maintenance of the rapidly growing platform participant community. The growing consortium is expected to reduce the dependence on donations and crowd-funding.

Table 2. Floors for the VCC Building: The administrator of a VCC can select any number of floors to be available to meet the needs of the community.

Name	**Description**
Workspace	This is the VCC workspace where the VCC is constructed and many internal collaborations take place.
Reception	The reception is the place of entrance to a VCC, and this place can be populated with a welcome message and other introductory images.
Exhibition Hall	The Exhibition Hall is a place for community member to display their work in a booth and to meet other members and the public in their booth.
Deliberation Rooms	The Deliberation Rooms are for group deliberations, where members and the public can have focused conversations about relevant topics.
Town Hall	The Town Hall is a place for community-wide meetings focusing on broad issues that require input from the whole community.
Newsroom	The Newsroom is the place for members and the public to get news relevant to the group. Among others, the community can publish a community newspaper or a newsletter, maintain topical news feeds, have a group of opinion writers commenting on VCC-relevant topics, and maintaining a billboard.
Classrooms	The Classrooms are places where members and the public can participate in courses and lectures.
Envi Gym	The Envi Gym is the place to exercise knowledge relevant for this VCC.
Citizen Science	The Citizen Science floor provides space for both, training and certification as a citizen scientist and carrying out citizen science projects.
Meet Experts	Meet Experts is a place to engage with experts in various ways.
Rating Surveys	This floor provides areas for ratings for a number of different topics. The ratings aim at capturing the perception of the members or the general public of challenges that the community is facing.
Arts and Letters	The Arts and Letters floor provides places for a library, art exhibitions, concerts, readings, and workrooms for collaborative arts in painting, composition, and writing.
Kids Space	The Kids Space is a safe space for children to engage in games, exercises, and social interactions with other kids.
Community Activities	This floor is used to organize community activities that are informal and open for broad participation.
Library	The library is a place for the VCC to maintain a repository of documents relevant to the work of the community.
Workshops	Workshops can have many different forms. This floor is built for participatory workshops including companion modeling and syntegration.
Offers and Wants	Community members may want to offer something to other members or they have needs that others could meet. This floor is a market place for this, where services and objects can be offered to other members and needs for help and contributions can be announced. All exchanges are on a non-commercial basis with no exchange of money involved. This floor is only open to VCC members and members of linked VCCs.
Governance	This floor is the place where the governance elements are established and maintained, and where governance and regulatory process take place.
Peace Making	Tensions and conflicts between individual and groups of members always emerge. At this floor, individuals and groups can seek help to resolve such tensions and to end conflicts. This floor is only accessible for members of the VCC.
Who We Are	This floor is a place for community members to show who they are by publishing their personal profiles and by talking about their activities and their ethos. Others can comment and have dialogs with individuals and member groups. A dialog about the identity, vision, mission and ethos of the community is possible here.
Participatory Modeling	This floor offers advanced tools for participatory modeling activities.

The Place4Us Steering Committee actively is recruiting support for the development of Place4Us as a participant-driven platform. Besides extensive support for the programming, support in cyber psychology is crucial to ensure that the platform meets the diverse needs of the participants. Legal support is required for the many challenges in ensuring the Place4Us is compliant with the many very diverse relevant laws in different countries.

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Acronyms

EVC Earth Viability Center
ELSS Earth's life-support system
EOM Ecosystem of Myths
EVC Earth Viability Center, Inc.
EVDB Earth Viability Dashboard
GCM Global Citizen Movement
GDB Governance Dashboard
GRC Global Ruling Class
MAI Management by Action Items
PEC Place4Us Ethos Committee
SDG Sustainable Development Goal
SCP Social Collaboration Platform
SMP Social Media Platform
VCC Virtual Community Center
VSM Viable System Model

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