Future Portal: The Collaborative Encyclopedia of the Future

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Abstract

The ripple effect of a small twist can sink a great ship or let a dark horse win. Futures studies try to find these tiny but critical twists to pave the way for stakeholders' preferable futures.

In this paper, we explore the design and implementation of an online collaborative encyclopedia. The Future Portal is a free encyclopedia intended to aggregate futuristic entries. We describe an information architecture and its implementation that facilitates the futurecasting and experiencing of future scenarios. We then introduce a collective-intelligence based method for evaluating futuristic knowledge creations.

This encyclopedic approach promotes the interaction between future thinkers and eases access to information about different paths to the future.

Keywords: Futures Studies, Collective Intelligence, Encyclopedia, WordPress, Information Architecture

Introduction

Futures studies or futurology is an essential interdisciplinary field that deals with understanding the future and planning for the desired outcomes. Humanity tried to acquire knowledge of future events from supernatural forces with the help of divination fortune-telling from the beginning of civilization, but futurology is a scientific field that attempts to conceptualize the impact of the occurred incidents in our tomorrows. Bell (2009) provided a comprehensive explanation of the goals of futures studies: "The purposes of futures studies are to discover or invent, examine and evaluate, and propose possible, probable and preferable futures."

The importance of futurology is beyond the scope of this paper. However, it is worth mentioning that this field of study played a critical role for policymakers after World War II. The futurology has been used to change and impact the Cold War and post-Cold War world (Andersson,2018).

In this project, we aimed to apply an encyclopedic approach to futures studies by connecting futurists and their compositions. We intended to serve the following objectives:

- Various entry types: an online directory that aims to include a wide range of futuristic entries.
- License type: Authors can choose Attribution-NonCommercial 4.0 International (CC BY-NC 4.0*) for their original articles.
- Collaboration: The platform should facilitate collaboration among futurists.
- Timelines: authors must be able to assign future dates to their entries.
- Worldbuilding: The users should be allowed to create fictional worlds, and other users can extend their works.
- Moderation and Review Policy: Content creators should use real names. The review process should minimize subjectivity.

In the next section, we discuss related works. Then we explain the Future Portal's information architecture and the implemented future thinking tools. After that, we discuss the content review policy of Future Portal.

Related Works

Wikipedia is the world's most popular online encyclopedia, but it wasn't created to serve futures studies. For example, writing original research is prohibited in Wikipedia ("Wikipedia:No original research," n.d.).

Fandom†, also known as Wikia, is an entertainment platform that lets users start their wikis. Most wikis that are hosted in fandom are dedicated to the entertainment world. For example, video game fans create wikis for their video game. So, it might not be the right choice for scientific works.

* https://creativecommons.org/licenses/by-nc/4.0/
† http://fandom.com

Futures Centre [*]is a helpful website for futurists to explore and share the signals of change about the future of sustainability.

The main contribution of our work is providing gdedicated to futuring medias to facilitates debate and ideation about the futures.

Information Architecture and Future Thinking Tools

Information architecture deals with organizing, structuring, and labeling content to help users find information and complete tasks (“Information Architecture Basics, n.d.”). The information architecture should allow users to find content whether they know about the existence of specific information or not. In order words, the content should be discoverable and findable. Suppose the user can find the content they assume is present on a website. In that case, this information architecture provides findability. If the new information can be found, even the users don't know that it exists yet, the site is benefited from discoverability (EK Team ,2017). To apply these concepts to the project, we need to understand the contents. Future Portal content includes the following information:

- Signals: A signal tells us about the future with cases in the current time, and they are an essential resource for futurists. Future thinkers use them as the foundations for their future planning efforts. A weak signal is more important because it might not be discernible (Griol-Barres et al, 2020), but it will affect the current standards, and there is usually a lag time before it will mature and become mainstream. Therefore, a weak signal represents opportunities and threats, but people typically don't see them amid other noises and powerful signals (Coffman,1997). A signal can be found from unforeseen sources. It can be new technology, a scientific breakthrough, a new business model, a new law or policy, or a governmental project (McGonigal,"n.d.").
- Short Stories and Scenarios: Scenarios are one of the deliverables of any futuring efforts, and they are about creating the representation of the future(Burnam-Fink,2015). Kosow and Gaßner(2008) defined a scenario as "a description of a possible future situation, including the path leading to that situation". Some futurists go further and use science fiction prototyping. They develop a setting based on a technology or trend and presenting the impacts of that technology on human life. This technique has received significant attention in the commercial sector. (Burnam-Fink,2015). For instance, leading-chip maker Intel has hired science-fiction writers to develop an actionable vision for computing. Science-fiction provides a way to think about the implications of the technologies they build on the people who use their technologies (Parrish ,2011).
- Alternate Worlds: Worldbuilding is the expansion of scenario planning with narrative elements. Authors can submit their extensive stories about the future worlds, and other authors can expand these worlds. Worldbuilding adds an emotional dimension to the scenarios about the future. In other words, A scenario may introduce an artificially intelligent companion; the science fiction world pictures what it means to fall in love with it (Zaidi,2019).
- News of Future: These entries are the output of the Head Line The Future technique. In this technique, the futurist, try to bring the scenario to life by writing a news article for the front page of a fictional newspaper in the far future (Institute for the Future,”n.d.”)

[*] https://www.thefuturescentre.org/submit-signal-of-change/

- Fictional Articles: These entries are about fictional concepts. For example, an author can write an article about a fictional blockchain based standard for communication. We decided to define these entries as categories, which include the following subcategories:
    - Artifacts from future: They give visitors a tangible experience about the future. They can be 3d objects, illustrations, or videos that are usually created alongside a scenario that helps us, people, to understand living in the future("Artifacts from the Future", "n.d."). These entries are in the format of video or photo.
    - Design Fictions & Speculative Designs: In broad, design fiction is an evolving field of study in design research that develops projects in speculative design like objects, graphics & narratives to challenge the consequences of current and emerging technologies (Lagnau,2014).

To maintain the contents efficiently, we considered three post types, as shown in Figure 1.

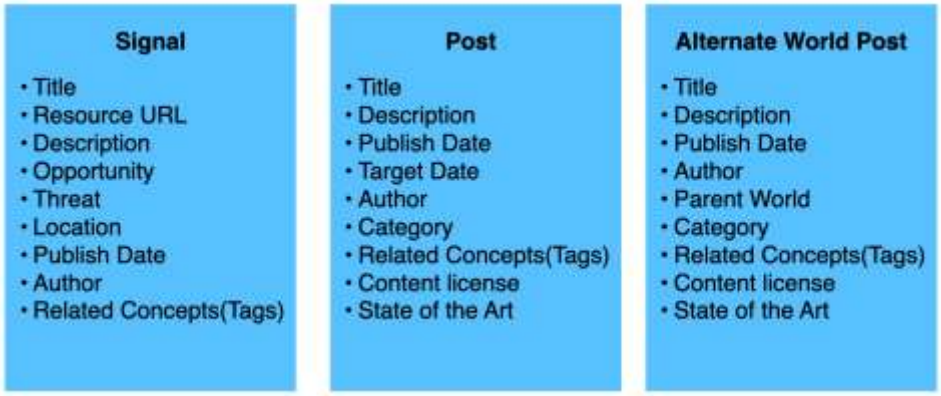

Figure 1: Content Models

Taxonomies were considered to promote findability and discoverability of contents. Tags and Categories are the most used taxonomies in content management systems. Furthermore, Target Date, Parent World were created as the custom taxonomies. The description of each taxonomy is listed below:

- Tags were dedicated to the classification of content according to their topic, such as Blockchain, Virtual Reality, etc., Signals, posts, and alternate world posts can be explored by tags.
- Categories are considered for posts and alternate reality posts. Entries of these post types are classified into the following main categories: News of Future, Fictional Article, and short stories.
- Target Date indicates the approximate timeline for the posts and alternate worlds posts.
- World parent: This taxonomy displays the entries for a particular alternate world.

Besides, authors are encouraged to list the facts about scenarios in the state of the art section. These facts can be the weak signals they have found earlier.
In the next step, the wireframes of webpages were designed using Balsamiq Mockup 3*.

* Balsamiq Wireframes is a rapid low-fidelity UI wireframing tool that reproduces the experience of sketching on a notepad or whiteboard, but using a computer. Check https://balsamiq.com/wireframes/

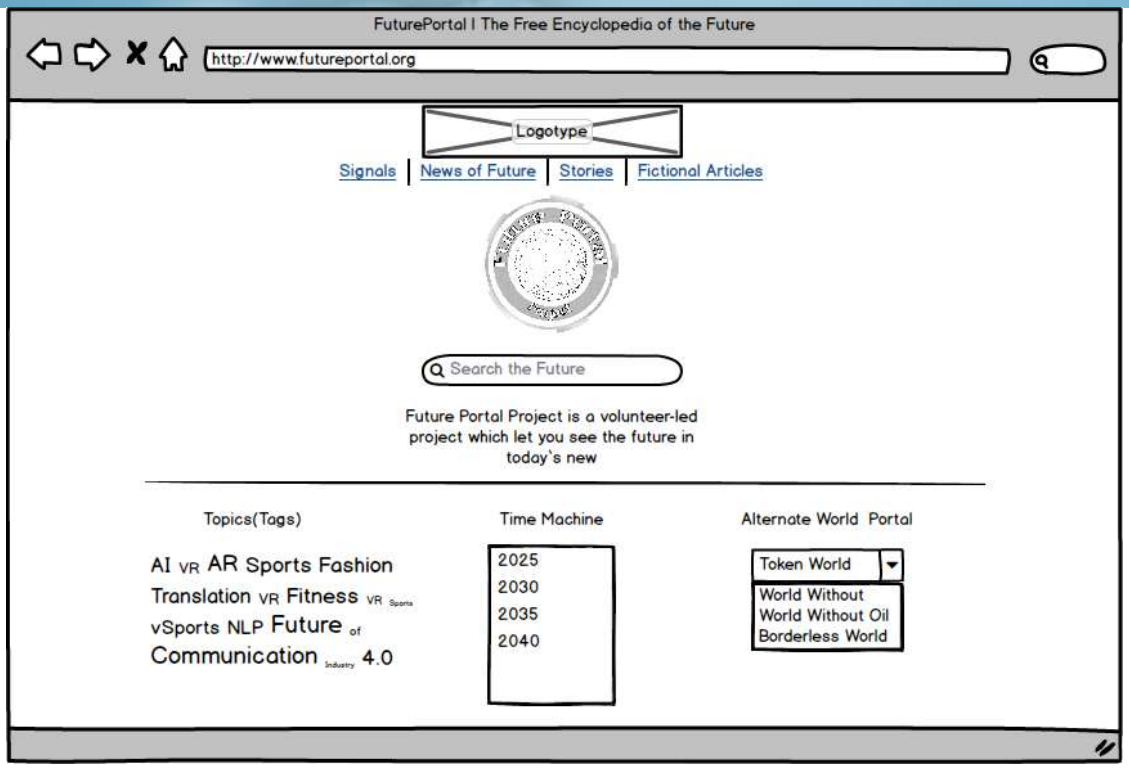

Figure 2: Homepage Wireframe

Figure 2 presents the wireframe of the homepage. It can be seen that the visitors can browse entries by various approaches. They can search or explore content by selecting a category or tag (topic). In addition, they can use the time machine or alternate world portal to foresee the future accordingly.

Content Review Policy

The subjectivity of the reviewers is a critical concern in any assessment activity. When it comes to futures studies, it becomes more critical because it is hard to bring verifiability about the future. The disruptive scenarios about the future may get lost in the reviewers' bias. Nonetheless, we need to filter fairytales from scenarios by using a review process.

To solve this enigma, we decided to follow the post-publication review policy based on collective intelligence. We noticed the usefulness of the informal post review policy in "#arseniclife" [*] controversy. This case has indicated that interactive online communication technology can facilitate a broader scientific community member to perform journal reviewers' role (Yeo et al, 2017).

Collective decision making might not be common in the academic publishing world, but the online communities are using distributed content moderation for many years. In these sites, the users' votes are aggregated in order to rank the contents (Mills,2013).

[*] For more information check :https://www.theatlantic.com/technology/archive/2012/07/the-case-study-of-arsenic-life-how-the-internet-can-make-science-better/259581/

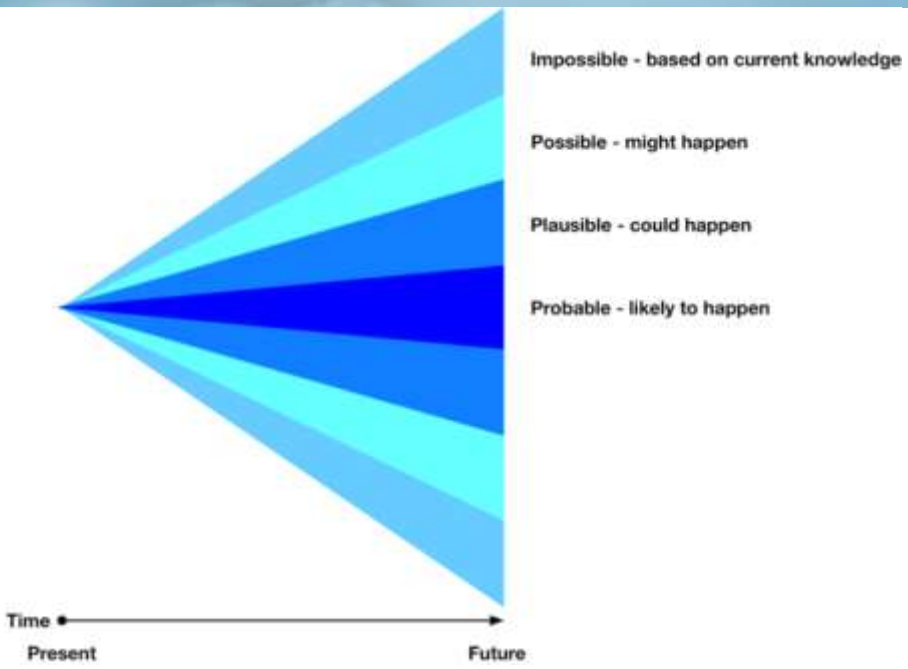

Figure 3: Probable, Plausible, Possible, and Impossible Futures (Coulton,2016)

Before going deeper into the design process of evaluation, we should define the criteria for evaluation. Figure 3 shows the different kinds of futures. The futures that belong to the impossible cone might give the reader a new perspective, but they are not useful as other kinds of futures. As mentioned in the previous section, the writers are encouraged to support their scenarios with scientific evidence. Scientific evidence is alike to signal of future. Evidence can be a new patent, a research article, a piece of news, or an observation about community behavior. Anything that can create a conceptual foundation in support of the scenario can be a piece of evidence.
So the assessment of the likelihood of an entry according to the provided evidence could be a useful criterion for the reader.

Facebook launched Reaction buttons to allow users to express their feeling about Facebook Posts. It inspired us to design Four Future Buttons (4F buttons). After examining the entry and evidence, users can vote on the future type. Through this evaluation process, a helpful assessment of the worthiness of an entry will be made. We believe the community-driven post-publication evaluation promotes the diversification of views and facilitates knowledge creation while maintaining the standards of futures studies.

Implementation

WordPress is a free and flexible content management system that powers more than 35% of the Internet (Barron,2020). Table 1 lists the plugins used in the implementation of the proposed system. These plugins enabled us to implement the most features without programming. However, we edited a few PHP functions and CSS files to achieve our preferred design.

Table 1: Plugin list

Plugin Name	Description	Developer
BuddyPress	This plugin was used to facilitate collaboration among the authors.	(The BuddyPress Community,2020)
Pods	This plugin was used for the implementation of content models.	(Pods Framework Team,2020)
Reaction Buttons	This plugin was used for content evaluation.	(Lenfers,2017)
WP User Frontend	This plugin was used for creating frontend entry submission forms.	(weDevs, 2020)

Concluding Remarks

This paper has presented a collaborative encyclopedia that is designed to serve future thinking demands. This platform accelerates collaboration for finding clues of future trends and exploring their probable consequences. It helps experts, decision-makers, entrepreneurs, and society to have a better perspective on the challenges and opportunities they may face in the future.

Further research should be done to explore new methods in the community-driven review process. Moreover, we are working on new to bring collaboration to other future-thinking techniques such as Futures Wheels.

Finally, we ask all researchers, practitioners, enthusiasts to join the Future Portal Project and contribute to the future of humanity.

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