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SFP GUIDE

PURPOSE

Your Science Fiction Prototype should combine a written narrative, footnotes, and a visual storyboard to tell a story about the future of our society and how it applies XR technologies. The overarching purpose of your SFP is to depict possible futures to capture innovative ideas about XR technologies (VR, AR, MR, etc) for education, science, social well-being, heritage, socio-political systems or other areas of your choosing, based on “extrapolating today’s science forward in time” (<https://www.instructables.com/Creative-Robotix-Science-Fiction-Prototyping-TimEE/>). For example, in a book called *21st Century Robot: The Dr. Simon Egerton Stories*, Brian David Johnson explores many scenarios of robots with free-will. The book is made available for you in the folder “SCI FI PROTOTYPING” under “Module Assessment” on the module’s page.

Your SFP should draw on the academic literature, covered in this module (in the core and further reading), on XR technologies as well as that found through your own research. They should be synthesised together with fiction – your imagination of the possible future depicted in your SFP.

This means that you need to describe the use of XR technologies in your SFP in some detail. You will need to indicate to the reader how this description is informed by your use of the academic literature (in a footnote – see below) and how the insights from that academic literature have been stretched, expanded, and re-imagined in the XR technology of the future. For example, we have covered many different kinds of immersion (Calleja) and presence (Samur) in the module which have highlighted the limitations of existing technologies in being able to realise several different kinds of them simultaneously. How might this situation be different in the future? How might our notions of immersion change in response to the radical development and applications of XR technologies? In what ways might the physical and the virtual worlds converge? How can this convergence affect our values, behaviours, and daily routines? How can this convergence help us tackle various crises, e.g. global warming, shortage of water, housing crises, loneliness, overpopulation, or any other issue that matters to you? What challenges might the use of XR technologies provoke in the future that are not visible today? How is the foreseeable future related to our uses, abuses and misuses of the current technology?

HOW TO START

Start by identifying the technology and its application as a product or service. Select the technical/scientific details that are relevant to set the background. Then identify a character and move on to develop a plot which is a sequence of events that take readers from introducing them to your imagined technology and its application to understanding its benefit and challenges. Do not overcomplicate your plot with many characters and plotlines. Focus on exposing your vision of the technology and what it innovates in the possible future.

Remember that your SFP should demonstrate your ability to think critically about technology and science. Although your science fiction narrative gives you freedom to speculate about possible futures, you should entertain critical ideas about where we are heading as a society and what consequences future technologies grounded in the current state-of-the art may have in the future. Think like designers searching for solutions rather than consumers. See an example here: <https://www.instructables.com/Creative-Robotix-Science-Fiction-Prototyping-TimEE/>.

HOW TO STRUCTURE

The length of your SFP is 2,000 words which will be split between the SFP narrative (~1,000 words) and SFP Footnotes (~1,000 words). This word count does not include References. Give your SFP a title and develop its narrative based on the underlying structure as follows (<https://creative-science.org/methodologies/sfp/>):

- Introduction: present your science idea and create a sense of place and time for your readers;
- Background: outline in greater detail the scientific inflection point which would represent a dramatic change caused by XR technologies in the future society as compared to how we live today (e.g., by giving details, you may depict to what extent VR headsets or AR glasses, for example, are used by humans in their everyday life, OR to what extent the Brain-Machine Interface will have advanced);
- Fictional story (this part makes up the bulk of your fiction): develop your story to expose the consequences – both positive and negative – of your imagined XR technology and its application to your fictional world. This is where you might place your storyboard to illustrate how you envisage the look and use of that technology. Some frames can convey the atmosphere (dystopic or utopic) of your imaginative world;
- Summary: identify the human inflection point which would represent a dramatic change in course. You may reveal that change as seen through the eyes of your character when he/she/it has a revelation or realization of the consequences of the imagined technology. Alternatively, you may conclude about the impact of the imagined technology from the perspective of a third-person or an omniscient narrator (an omniscient narrator knows what is

happening at all points of the story at all times and knows the feelings of all characters);

- Reflection: reflect on what we learn from your story about the ramifications of immersive technologies.

Follow this structure as outlined in the SFP Template. Once you finish writing in the template, remove the signposts ‘Introduction’, ‘Background’, ‘Fictional story’ and the rest from your submission. They are there just to guide you through the underlying structure. Your final SFP narrative should be written as an uninterrupted flow. However, you may choose from a vast array of narrative techniques, e.g., you may tell your SFPs as dairy entries, letters, detective story, horror story, and the like.

FOOTNOTES

Footnotes: although you are presenting your reflections on the implications of XR technologies in a fictional story, you will also have to demonstrate your critical engagement with academic work. The purpose of this engagement is to back up your futuristic vision with the theory and knowledge of XR technologies as they are used today. The best way to reference the literature that you are using as support for your thinking without breaking the verisimilitude of the fiction is to insert footnotes (NOT endnotes) at the end of sentences where these academic ideas are being referred to. Remember that in Radical Ocean Futures, there were numerous links to articles throughout the writing.

Example:

There is a newsreport about the emerging trend for some people to be engrossed in playing games involving advanced haptic feedback suits in which their avatar is not necessarily humanoid shaped.¹ This has given rise to a ‘phantom limb’² phenomena whereby players exit the game feeling like the boundaries of their body are still that of a soaring dragon, hovering robot, or winged coatl. One individual is interviewed.

‘I don’t think of myself as the guy who is 5’8 and has asthma, you know? I feel like my wings are missing in ‘real’ life. Not just that but that I’m in a wrong body that can’t do very much. It sucks. It’s not just that I can’t teleport, fly, broadcast my voice, use telescopic vision but that there’s this disconnect between where I see my physical body and where I feel like I actually am.’

This phenomenon has led to a widespread social discussion around rehabilitation, ‘detoxing’, and gaming addiction. There are calls for restrictions on the way in which

¹ See Morris (2019) for the explanation of what constitutes an “epidermal VR” device which enables a human touch over distance. There are no current plans to map this technology to non-humanoid avatars. However, it is possible to envisage this changing in the future (<https://news.northwestern.edu/stories/2019/11/epidermal-vr-gives-technology-a-human-touch/>).

² See Ramachandran and Hirstein (1998) for the description of how the phantom limb phenomenon redefines our sense of bodily experiences (<http://www.rctn.org/bruno/psc129/handouts/rama2.pdf>). For example, the patients reported the sensation of warmth in their lost limbs after a drop of water was put on their faces (Ramachandran and Hirstein 1998, 1612-14).

haptics are used. However, there have yet to be any claims for compensation. Advocates of games like *Protean* (2041, Mirage Studios) say that no harm has been caused and that players have in fact been enriched by their experiences; they say that players have in fact explored what philosopher Thomas Nagel speculated about in ‘What is it like to be a bat?’³ and that these experiences have led to greater consciousness-raising concerning the plight of endangered species.

REFERENCES

All literature and other sources (e.g. films, non-academic books) cited in footnotes should be included in References at the end of your SFP. The limit of 2,000 words does NOT include References.

STYLE

Do not write in an academic style that you normally use in your essays. However, write in a clear and organized style, and in a matter-of-fact tone.

You may use dialogue or inner thoughts in your SFP narrative. The characters in your fiction might talk about or refer to the social effects and discourse around specific technological advancements that led to your fictional society having reached a specific point with regard to the use and availability of futuristic XR technologies.

However, do not get distracted by developing a literary decorum. This assignment is not meant to entertain your readers but to provoke their thoughts about the political, ethical, aesthetic, and other consequences of technologies. The genre of fiction is a less restricted and more creative form of writing than an academic essay, but its purpose is critical to speculating about and foreseeing the consequences – both positive and negative – of immersive technologies in the long-run.

Use shorter sentences instead of long convoluted sentences to convey the atmosphere of your imaginative world.

Be informative when describing your future technology and its impact on human lives.

³ Nagel (1974) argues that human beings could not experience what it would be like to be a bat – to have a bat’s senses and consciousness, its experience of the world. Imagining oneself as a bat falls far short of this. See <https://www.jstor.org/stable/2183914?seq=1>.

STORYBOARD

Your storyboards may be executed in whatever media you want (e.g. hand drawing, digital drawing, photo collage, AI generated text-to-images, etc) as long as it is not a dynamic element (e.g. animated image). You may include your original Unity work in your storyboards. You can reuse the visuals created collectively in the classroom. However, do not include Unity files if you create something with Unity. Instead, you may take screenshots of scenes created with Unity or another software and combine those screenshots as frames into a storyboard if relevant to your SFP. Whether you repurpose the visuals created by your group or someone else, always provide credits.

Note, however, that you are not required to use any dynamic tools, and your mark will not depend on the artistic prowess of your storyboard. Your storyboard is instrumental in helping you to think of the possible futures and consequences of your envisaged XR technology in spatial and concrete ways. The visual component also communicates your ideas to your readers.

The frames of your storyboards may be placed in one place in the main body of SFPs. Alternatively, you may distribute the frames across the narrative in whichever way you find it suitable to illustrate what is happening in your stories. Do not strive to depict action and interaction in detail, which would require high skills in illustration. Use storyboarding to set the mood of the technology-driven aspects of life, communicate emotions, the look of XR devices, or their effects, and the like.

Here is a list of a few free storyboarding tools if you cannot find one on your own:

- Milanote templates for storyboarding:
<https://milanote.com/templates/storyboards/filmmaking-storyboard>
- Storyboarder
<https://wonderunit.com/storyboarder/>
- Canva
<https://www.canva.com/create/storyboards/>
- MakeStoryboard
<https://makestoryboard.com/>

You may also use human and AI-made visual content, or a combination of both, to create your storyboards. Make sure you acknowledge the authorship of visuals if you choose to recycle visuals created by someone else by giving credit in captions and in references. The guidelines specific for AI-made visuals are as follows:

- Treat the AI tool as the author of the visual content.
- Briefly describe the prompt used to generate the content in the text. You can include this information either in a visual's caption, or footnotes.

- The date used in your citation will be the date the content was generated.

More guidelines for AI citations are available here:

- <https://liu.cwp.libguides.com/c.php?g=45846&p=10098410>

CRITERIA OF ASSESSMENT

Imagination and creativity are important in this kind of assignment. Yet think of creative ideas as a tool rather than an end in itself. This creative genre allows you to employ the knowledge of today in order to foresee the plausible scenarios of how technologies can evolve, affect our lives, offer solutions to some present problems that are likely to last but also cause other problems that we might not be experiencing today. In our assessment, we will pay attention to the following: 1) whether you develop your SFPs following the five-part structure outlined in the SFP guide and whether all five parts cohere; 2) whether your SFP has the following components: science fiction narrative; footnotes; storyboard; references; 3) whether you articulate your ideas in substantial detail (e.g. you depict XR technologies and their effects in detail) and whether your descriptions are plausible; 4) whether you demonstrate your critical thinking in how you engage with scientific facts and theoretical knowledge to depict the plausible consequences of XR technologies in the future; 5) whether you demonstrate critical engagement with the academic / scientific literature in the footnotes; 6) whether your footnotes provide a supporting academic / scientific argument to the narrative; 7) whether your storyboard is related to the narrative.

HOW TO SUBMIT

Submit only one file (see SFP Template) to the Turnitin area set up on the module's page. Incorporate the coversheet with the SFP template when submitting so that we could associate your work with your student number which you need to enter twice – in the coversheet and the template. DO NOT reveal your name in any parts of your submission to allow us to mark anonymously your work.

RESIT INFORMATION

In the case of failure, students will be assessed on the same task and along the same criteria, but they will need to design a different set of research objectives, question, and approach.