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Place4Us / Earth Viability Center

Reflection #1

Completing 50 hours on my internship with Place4Us has been a quite different experience with cybersecurity from what I am used to in my courses. As I learn at school, I normally have an assignment along with specific instructions that tell me exactly what is required. In this internship, I have had to go through an existing platform, learn how it's different components operate, research different cybersecurity topics, and then formulate ideas for potential improvements.

When I began, I struggled with understanding what I was required to explore and what is meant by different 'areas' of Place4Us as I did not want to waste a lot of time for no reason. However, as I explored Place4Us and interacted with the interns, I came to better understand what is required, and how my research could contribute to improvements.

During the first 50 hours, I researched a number of areas including User Roles and Authorities, User Privacy, MyFiles and GAI Detection. Out of these, User Roles and Authorities has been my focus. I started by exploring different sections of Place4Us to see how users and administrators are currently presented on the platform. I looked at the VCC Administration page, Registered Users across multiple VCCs, Member Profiles, and administrator biographies.

From this research, I learned that a person's professional position and what they do on a platform are not necessarily the same. I may identify that someone is a professor, student, or cybersecurity intern, but I will not be able to identify what authorities that person has on Place4Us.

This prompted me to think more about what a role and what authority means. I currently consider a role as the responsibilities that someone is entrusted with in a platform, and an authority as what someone is enabled to do. I still need to research more about the role and authority situation on Place4Us because I want to know what roles and authorities already exist on the platform, how they are allocated, and whether they are for a single VCC or the entire platform. This aspect of the internship has allowed me to appreciate why access control is so important to cybersecurity. It is not simply enough to know the users of a system. The system needs to control what users are enabled to access or change.

Another topic I researched was User Privacy. One of the questions I was allocated was in relation to whether Place4Us would keep previous passwords unencrypted so that a user cannot reuse an old password. I may have previously thought that simple encryption of the password would resolve the issue, but during my research I developed a better understanding of hashing passwords and why passwords should not be stored in a decipherable form. I also learnt that it is possible to store a password history without storing readable copies of people's old passwords. This has been extremely useful in linking information about what is happening on the platform with what I have previously learnt about password security in cybersecurity.

I also explored how user activity is tracked on the platform. Certain activities are logged to help detect security issues or harmful behavior. I read the Terms of Use, and I identified that Place4Us already includes an indication of activity logging, including logins, login failures,

uploads, posts, comments, edits, reporting and moderation action. My initial question was whether tracking this amount of activity may impinge user privacy. After researching this further, I realized that activity tracking itself is not necessarily a privacy infringement as security logs can be vital in helping to identify suspicious activity and incidents. Nonetheless, this also prompted me to consider other issues such as who can access the logs, how long the logs should be maintained, and what level of activity needs to be monitored. This has allowed me to see that cybersecurity and privacy are sometimes balancing a spectrum as opposed to distinct issues.

I have also considered MyFiles and investigated how users upload files, categorize them, and decide who can access the files by selecting access categories of Private, Members, Users and Public. I also produced some ideas such as having the ability to make a file a 'favorite', to use bookmarks, and to have folders that can contain other folders. From a cybersecurity perspective, the issue I wish to further explore is access to files. All being equal, an interesting feature will also need to make it clear who will be able to access the information. It can be remarkably simple to select the wrong access category and accidentally disclose information to more members than the user intended.

A further topic of interest I researched was detecting AI-created images, videos, and text (GAI). Other interns were already researching indicators of AI-generated visual images, videos, and text, so I was interested in exploring a different area of the problem. I investigated how a false positive and a false negative in detecting AI will cause two different issues - a true human-created image, video or text can be flagged as AI and similarly a 'GAI' result may not be true. I also examined the existing Submit an AI Alert function on Place4Us and thought that an AI alert should not automatically be accepted as confirmation that an image, video or text is GAI. There should be an opportunity to consider the evidence before making that conclusion.

The virtual working environment has also provided a new learning environment. As I am not working in the office environment with a supervisor there to direct my activities, I have had to become more self-directed with my research. I have had to explore the platform, take notes, think up questions, keep a record of my research, and then communicate the findings in team meetings. I have also found working with other interns has reinforced the importance of communication, so we do not redundant our work by researching the same thing. In each meeting, we compare what we have found and determine what to research next.

In summary, I have learnt so much about how cybersecurity does not just involve fixing obvious security issues. It involves managing issues such as access control, privacy, passwords, data collection, data permissions, and new forms of technology such as GAI, and user behavior. Although I still have some more research and reading to do with Place4Us, especially around User Roles and Authorities, I believe I have developed a greater knowledge of what is happening on the platform than at the outset of the internship. In the next stages of the internship, I would like to try and focus more on understanding the existing roles and authorities and formulating a work plan accordingly. Overall, these first 50 hours have helped me develop my skills in conducting independent cybersecurity research and applying knowledge gained at university to a real-life platform.