

Overcoming Barriers for Conducting Computational Thinking Opportunities in Minecraft

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When distributing computing related resources for a study, controlling for hardware and environmental conditions can be nearly impossible. This issue is even more prevalent in areas where opportunities for computing related activities is scarce, as they rarely have the infrastructure or technical expertise necessary for a successful event. Among the most common barriers that one might face to hosting a successful event are: capable hardware, internet speed and connectivity, and software dependencies. We present our findings about the obstacles we faced and methods for overcoming them when deploying a research platform based around Minecraft in a mobile and distributed method. The project required that the software be accessible on our mobile van initiative as well as on computers controlled by schools or other third party partners around the city. These initiatives sought to address computing deserts in Chicago by bringing opportunities and technology into the communities that needed them most. In the first summer, a pilot program was run at one CPS school, where we were able to generate a baseline of requirements for students and mentors in the physical and digital spaces. The following fall and summer utilized the mobile van initiative to discover barriers for hosting workshops at various locations and for further refinement of the requirements needed to host a successful event. These sessions have led to the creation of the Digital Youth Network's Minecraft software suite, a collection of applications which addressed many of the issues of deploying the Minecraft platform with the expectation that multiple sessions of separate groups, utilizing the same licenses, could be run in a single day. While not every logistical barrier can be addressed by software, we believe that these tools make running computing sessions a viable option for any interested party with even minimal computer skills or when administrative access is limited.