

Tips and Tricks for Developing Successful Technology Projects for Introduction to Programming and Outreach*

Conference Workshop

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There is a great need for a diverse and capable workforce to maintain our nation's excellence in science, technology, engineering, and mathematics (STEM). In particular, women and minorities are severely underrepresented in the information technology (IT) fields. In addition to a standard curriculum, outreach activities have been successfully used by many institutions to attract more students to IT. Our Technology Ambassadors Program (TAP) at Georgia Gwinnett College (GGC) has been a successful IT outreach program for eleven years, training a diverse population of college-level students to develop and conduct engaging and fun technology outreach projects to audiences ranging from K-12 students to general education college classes at GGC.

More recently, we have found that these projects [1], originally designed as outreach activities, are also very good resources for introducing basic programming concepts in our classrooms. Our previous work has shown that when our students use block coding as a means to slowly and easily introduce coding concepts, they are more prepared for text-based programming skills. Using block coding to program a game or activity to learn algorithmic thinking is not only more fun, but more importantly it is a better way to develop the step-by-step process of writing coding instructions and is more enticing to students. This flow allows them to understand and be able to apply basic computing concepts and enjoy the learning process.

In this workshop, we will introduce the audience to different types of en-

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gaging projects that faculty and students perform at our institution and to our TAP repository website where we host freely available projects. We aim to spark lively discussions about how to best introduce programming skills to engage audiences of any age and establish new collaborations with audience members.

References

- [1] Cindy Robertson and Anca Doloc-Mihu. Understanding college level student learning of basic programming at an open access institution. In *Proceedings of the 2023 ACM Southeast Conference (ACMSE)*, page 26–32, NY, USA, 2023. ACM.