

High school students enjoy project-based learning with new computing technologies. Block-based coding with NetsBlox & integrating varied applications and ethics inspires students to try CS for their own interests.

**New Challenges & Next Steps**

We reconsidered rapid deployment in multiple individual schools & now apply for state-level course adoption, which has been difficult in NC because of staff turnover and long lead times. We also had to redesign all of our camps and PD to be online for COVID, and discovered some useful ways to work synchronously and asynchronously, especially using coding videos.

**Equity**

Research-based strategies include socially relevant applications and ethics integrated in each module. The curriculum uses project-based learning student team projects. NetsBlox is an extension of Snap*!* block-based programming to make advanced CS concepts accessible to students with less experience. Recruiting is targeted to girls through outreach and marketing design.

**Lessons Learned & Insights Gained**

Outstanding teachers are integral to successful curriculum design and deployment in schools. Our 4 modules are developed in iterative cycles: (1) researchers and graduate students create/curate materials and activities, (2) teachers refine activities during PD, (3) teachers pilot curriculum in summer camps, (4) project staff and students refine curriculum, (5) teachers adopt modules in classrooms.

**CS Frontiers: Beyond CS Principles: Engaging Female High School Students in New Frontiers of Computing**

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Project Overview: CS Frontiers is a new, high school CS curriculum designed to expand access, especially for girls, to the most exciting and emerging frontiers of computing, such as distributed computation, the internet of things (IoT), cybersecurity, and machine learning. After summer pilots, our classroom implementation is currently underway in Nashville, TN.

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