

ARCS NEWS

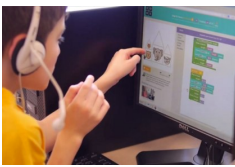
Advancing Rural Computer Science

Brought to you by The Center for Educational Partnerships at Old Dominion University

VOL. 2, ISSUE 3

DECEMBER 2021

Announcements



Greetings, and welcome to our December newsletter!

We hope you and your students enjoyed a relaxing Thanksgiving! How many computing devices and systems helped you to shop for your Thanksgiving dinner, or bring your loved ones together to eat it?!

This month, our theme is coding. We elaborate on the concept of how fast software needs to run, and provide links to code.org curriculum resources below. We also celebrate CS Ed Week! Scroll down for information about Commonwealth wide events during the week of December 6-10th.

Important Newsflash! Which CS resources have you tried, or wanted to try, in your classroom?

That is a question the ARCS team has been thinking about this month. We would like to hear from you so that **we can plan ways to support you!** Please click on this link and respond to the survey, which should take you 5 minutes or less to complete. We would love to hear from you by December 17th!

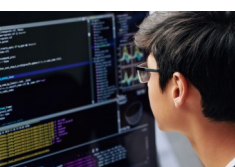
https://odu.co1.qualtrics.com/jfe/form/SV_1BbRemJkaJiEVE

We wish you all safe and happy holidays, and look forward to being in touch again in the New Year. If you are in the Microcredentials group, please know that you can still reach us over the winter break if you have questions, or need technical or content related support: TCEP@odu.edu.

Happy Holidays!

The ARCS Team

Concept Corner



One of the major factors that a software programmer needs to consider is how fast their code works. To the non-programmer, this might be a confusing concept to understand. The best way to explain this is with a few practical examples.

Let's say that you are programming a mail delivery robot for the Post Office. You have 10 mailboxes to fill with mail. Each mailbox is to get a bill from 3 different companies. You could program the robot to deliver the bill from the first company at each mailbox, then deliver the bill from the second company, then deliver the bill from the third company. However, that would mean the robot would have to make the same trip three times, or 30 mailbox stops for 10 houses! In this case, it is a better option to program the robot to drop off all the bills that belong to the address at each mailbox. That way, the delivery robot only stops once at each mailbox.

Suppose you have 100 people that are trying to run for president of the United States. You are programming a robot to check if these candidates meet the 3 eligibility criteria to become president: they're at least 35, have been a U.S. resident for at least 14 years, and have been born in the U.S. or have at least one U.S. citizen parent. If any of these requirements isn't met, you cannot run for president. You could program the robot to always check all three criteria, but what if somebody misses the first criteria? Why should the robot waste time and energy to continue to check the other two criteria? The best way to program this robot is to have it continue to the next candidate the second that it finds a criteria that is not met.

Pedagogy Pointers



Free Curriculum: code.org provides a comprehensive K5 fundamentals of coding curriculum, complete with videos, online and unplugged activities, and guides for educators to help facilitate teaching code in their classroom. Each grade level has its own course of material to cover. Aligns with CS K.1-3, 1.1-3, 2.1-3, 3.1-3, 4.1-3, and 5.1-3.

[code.org fundamentals curriculum](#)



Student interest lessons in coding from code.org are available to appeal to students' specific interests and keep coding relevant and engaging with hour of code activities. Popular examples include lessons based on video games, favorite movies, and different school subject areas. Aligns with CS K.1-3, 1.1-3, 2.1-3, 3.1-3, 4.1-3, and 5.1-3.

["Plugged" Hour of Code activities](#)

["Unplugged" Hour of Code activities](#)

Computer Science in the Commonwealth



Computer Science Education Week (December 6th-10th, 2021) is a national week that celebrates, highlights, and showcases computer science education. This week is declared each year by the Governor's proclamation, dedicated to celebrating and encouraging students, teachers, and families to engage with computer science. CodeVA, partnered with the VDOE and statewide CSTA chapters to offer an entire virtual week of speakers, kids activities, student competitions with prizes, and PD sessions for educators to get as many people across Virginia using, playing with, and learning about how computer science affects their everyday lives.

CodeVA's theme for Computer Science Education week this year is #MeMyDataAnd!! Powered by @Facebook and focused on data science, we will explore what existing data can tell us about ourselves and others. Join us to hear from speakers from across how they support data science and what their data says about them. For a schedule of all CS Ed Week LAUNCH events this year and to register, go to codeva.info/CSEdWeek2021.

Engaging All Learners



Just as computer programmers test the code they write until it works properly, educators must continually improve our instructional strategies to support the success of all students. The Wisconsin Center for Educational Research at the University of Wisconsin – Madison hosts the WIDA, an initiative that provides information and opportunities for professional development designed to help multilingual learners excel, though many of the resources found on their site can be used with a wide variety of diverse learners. [Click here](#) to visit the WIDA site and learn how strategies such as creating an engaging classroom and connecting with families can support an inclusive environment and capitalize on students' strengths and diversities to promote a multicultural setting where all students feel welcome.

United States Education Department Grant U411C190032. The contents of this newsletter were developed under a grant from the Department of Education. However, those contents do not necessarily represent the policy of the Department of Education, and you should not assume endorsement by the Federal Government.

Old Dominion University

The Center for Educational Partnerships

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