

Computer Science Project Proposal

CMSC 451 - CS23-304

App to help implement Virginia CS Standards with CodeVA

Project Proposal

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Problem Statement:

We are looking to develop an app to support school divisions in implementing the Virginia CS standards. In VA there is a mandate that CS be integrated for all students from kindergarten through 8th grade, and most school leaders are struggling with designing instructional programs to meet their students' needs. This is not to develop lesson plans or classroom activities, but to do the back end design work that school leaders must do to ensure equitable access for all students.

Business and Functional Requirements:

User-friendly app for teachers, faculty members and administrators to navigate. Should include all information, integration suggestions, grade standards, etc. all in one app! Think of a matching game, where teachers can match each standard to their respective subjects. Multiple standards can map to one subject and multiple subjects can map to a single standard. Overall reiteration of information (repetition of standards in other subjects) are encouraged.

This app will facilitate that decision making process by providing all the information of the standards with examples of integration for different subjects. This tool will allow the teachers to continue the process of integration techniques efficiently, without expending effort towards the navigation of what each standard/terms mean.

This will be a model for the staff at each school and can be revised and edited throughout the academic year(s).

Stakeholders:

Users: Teachers and administrators

CodeVA- Rebecca Dovi (CodeVA Mentor) and Natalie Rhodes (CodeVA leader of app project)

Dr. Leonard - Instructor

VCU Capstone Students: Komil Chaghtai, Jaafar Maksoud, Ali Kradi and Isam Makkie

Assumptions/Constraints:

We assume that this will be used in an educational setting. This should serve as a model for each division (as they choose integration techniques) and can be modified as curriculum, standards and time evolves. We assume that this will be used by the entire grade level in question. We also assume that teachers are aware of how they can best instruct their students in an engaging manner, any examples for integration are merely suggestions.

Some constraints are every teacher, district and student have a different way of digesting information. There is no one size fits all program plan to implement these 18 standards, but allow them to navigate the first step of the deviation of these standards.