# Lesson 8.4 - Project Implementation ## Learning Objectives Students will be able to... * Use the skills developed throughout the course to implement a medium- to large-scale software project * Realistically evaluate progress during software development and identify when cuts are necessary * Prioritize features and scenarios and choose which should be eliminated or modified if/when resources and/or time become limited ## Materials/Preparation * Students should each have their [Final Project Plan Organizer] and [Final Project Development Plan] * Review [4 Steps to Solve Any CS Problem] ## Pacing Guide | Duration | Description | | ---------- | ---------- | | _Days 1-15_ | | | 5 minutes | Do Now | | 10 minutes | Check-in | | 30 minutes | Lab time | | 10 minutes | Exit ticket | ## Instructor Notes ### 1. Do Now * Project the Do Now on the board, circulate around the class to check that students are working and understand the instructions. ### 2. Check-in * Point out how many days remain and have students check their implementation plan to ensure they do not have more work than time remaining. * If they do, they will need to create a tentative cut list in case they don't catch up. * Using previous days exit tickets, questions from students, instructor awareness of trouble points in the project, and/or any other resources to determine what needs covering * Use this time as an opportunity to remind students of previous labs or activities that may be applicable to their project, and/or how far along they should be by the end of the day ### 3. Lab time * Allow students to work on their project at their own pace * Provide a mechanism for students to ask questions of course staff as needed * Simply having students raise hands often does not work well, as it can be hard to keep track of in what order hands were raised; consider a queue of some kind where students write their names when they have a question * When there are no current questions, circulate and observe progress, stepping in if students appear stuck but are not asking for help * Be sure to meerkat and not spend more than a minute or two with any single student at a time ### 3. Exit ticket Before students leave, have them answer the following questions on a small piece of paper: 1. What was the last thing you accomplished on the project today? 2. What is the first thing you will work on tomorrow? 3. Are you currently ahead, behind, or on track with your schedule? 4. If you are behind, what tasks will you cut to get back on track? * If you are ahead, what are some extra features you can add? * What is the riskiest remaining task for your project? 5. These answers will help you determine which students to visit first the next day. 6. Any student who indicates they are behind should get a consult with an instructor the next day to help get them back on track. 7. Encourage students to save each day's version of their planning documents with a new name (possibly using the suffix `_mmdd`) so they can track progress and recover cut tasks if they make up time. ## Accommodation/Differentiation ## Forum discussion [Lesson 8.4 - Project Implementation (TEALS Discourse Account Required)](https://forums.tealsk12.org/c/2nd-semester-unit-8-final-project/lesson-8-04-project-implementation) [Final Project Plan Organizer]:https://teals-introcs.gitbooks.io/2nd-semester-introduction-to-computer-science-pri/content/units/8_unit/final_project_plan_organizer.docx [Final Project Development Plan]:https://teals-introcs.gitbooks.io/2nd-semester-introduction-to-computer-science-pri/content/units/8_unit/final_project_development_plan.docx [4 Steps to Solve Any CS Problem]:https://github.com/TEALS-IntroCS/2nd-semester-introduction-to-computer-science-principles/raw/master/units/4%20Steps%20to%20Solve%20Any%20CS%20Problem.pdf