

# Class Project Overview: Text Editor

CSE 3150

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# Text Editor: design and implementation in OO

- Purpose: practice object oriented (OO) design and programming in C++ in a non-trivial setting
  - Challenge to practice OO in class:
    - OO make more sense in a large software
    - But limited time and resource in the classroom settings
  - Approach: do a moderate but still non-trivial project
  - Main objective: apply design patterns and good OO principles
  - Deliver a (reasonably) working software tool at the end of the project
  - Reasonable quality
    - Shouldn't crash for major use cases

# High-level plan

- Console-based (no GUI)
  - GUI: too complex for cross-platform C++
- An editor like the popular vi, with the following features (may change)
  - Text insertion/remove
  - Cursor manipulation
  - File I/O
  - Document formatting
  - Undo/redo
  - Command mode and insertion mode
  - Copy/cut/paste
  - Line numbers
  - And more...
- Several milestones
  - You may have to change your design/implementation for next milestone

# ECTextViewImp: a very simple C++ library for text view

- Console applications with UI: non-trivial for cross-platform C++
- I will provide very simple C++ console UI library: ECTextViewImp
  - Ported from a simple GitHub project called Kilo
  - No dependency; should be able to run on all major platforms.
- Key features supported by ECTextViewImp
  - View display: display text (in terms of a number of rows of text); refresh.
  - Cursor manipulation: allow you to place cursor at a position you like (caution: must be within valid range; otherwise, the code may **crash!**)
  - Event-driver key stroke handling
    - Implemented Observer pattern.

# Milestones (planned)

- Milestone 1
  - Set up the application
  - Basic text editing (insertion and removal of characters/rows)
  - Learn proper cursor manipulation
- Milestone 2
  - File I/O
  - Document formatting
- Milestone 3
  - Command mode and insertion mode
  - Cut/copy/paste
  - Embellishing of user interface
  - TBD