Attendance and Leave Management System

Consider an attendance and leave management system for a commercial organisation. The system keeps record of employees' attendance and leaves, and generates several reports.

The length of the working week is 40 hours: 8 hours a day and 5 days a week. The employees are required to remain in the premises for this period. Attendance is marked by the guards on duty standing at the gates. The employees can view their attendance details any time.

The organisation provides different kinds of leaves to its employees:
• Casual leave: This leave can be availed in case of short-term sickness or emergency. The leave does not require a prior approval. Each employee gets 15 casual leaves for a year. However she cannot avail more than 4 leaves at a time
• Earned leave: This leave is used when employee wants to take more than 4 days off. The leave requires prior approval. An employee can take 21 earned leaves in a year
• Official leave: If an employee goes to some official visit, she can file official leave. Full credit (8 hours) is awarded in this case
• Unpaid leave: An employee can avail unpaid leave for a quite longer period of time e.g. study leave for a few years. However prior approval is required, and the employee shall not get any salary during this period

For each leave application, different data items are recorded: employee name and id, type of leave, leave period (from, to), leave address (e.g. ex-Pakistan leave), reason, date of application etc. The system forwards leave application to the applicant's supervisor. When the supervisor approves application, the system notifies the employee and updates records. The system records date of approval as well. In case of long leave such as Earned leave, the system also requires approval of the company director.

The system generates the following reports:
• Show employees whose attendance for a month is less than a given percentage (e.g. 80%)
• Show employees with any outstanding leaves (e.g. earned leaves without approval, or casual leaves which are not filed)
• Show attendance details for a given employee
• Show leave details for a given employee (including leave balance)

Your task is to implement this system in C++. Secondly you need to provide the following four diagrams: class diagram, use case diagram, two diagrams of your choice. These diagrams will be counted as your third assignment, and its marks will be separately uploaded.
The deadline to submit diagrams is one week, and for the project it is two weeks. Submit a single pdf containing all the diagrams.

The graphical interface is optional. The TA may give you a few extra marks for any additional effort.
You are required to save system's data using files; you cannot use any database management system!
You are required to run CCCC tool on your code and submit its report (including CK metrics).
Submit your complete source code along with a working executable file.