COMP 3721

Lightning Week #2: Documentation

Reece Wilkin, Filip De Figueiredo and Benji Weichman

Nov 13th, 2014

For this week's Lightning Project, we decided to use the observer pattern to keep Ursule and Mireille up-to-date with trees in bloom. Our implementation has three classes. The Tree class stores the name and flowering times of a particular tree. The observable TreeCollector class keeps a list of Trees and notifies its subscribers when there is a change in bloom. The observer TreeSubscriber class represents a subscriber who wishes to receive updates about the flowering status of particular trees.

Our largest design decision in implementing our Tree class was to determine how to store the blooming time ranges. Originally we considered giving each Tree an array of 365 booleans in which a value would be true if the tree bloomed on that particular day of the year. This had two drawbacks: it required that we assume blooming patterns follow an annual cycle, and that an individual blooming period is never shorter than a day.

We instead utilized the GregorianCalendar class, which wraps a year, date, and time. We chose to store blooming time ranges as start/end pairs of GregorianCalendars. This grants us both precision and flexibility. As an additional bonus, the GregorianCalendar constructor permits us to omit the time of day if we do not require such specificity.