

CIS 476/566 Graduate Student Term Project

Document/Program Due Dates: Monday 04/10/17

Demo Time: 04/10/17 6pm

This project is required for all graduate students. Undergraduate student who chooses to work on this project and successfully finishes it will get additional 10 points. No team work on this project

In this project, you are required to design a parent control software 'E-Guard' that will monitor and control internet usage in the real time. The E-Guard is a standalone software that can be run in MS Windows or Linux or Mac operating system with the following functions/features.

- The E-Guard shall generate reports to allow parents to check web activities (web sites browsed and how long).
- The E-Guard shall keep a local DB of unhealthy website category and website in each category. To establish categories, please refer to <http://sitereview.bluecoat.com/categories.jsp>
- The E-Guard shall allow parents to configure the setting. The setting includes, blacklist, whitelist, blocked keywords, internet time control, categories to be blocked.
- For any web site a child is trying to visit, E-Guard will take the following steps to allow or disallow the visit
 1. If within time allowance, check black list and white list first to disallow or allow. If not in either list then go to step 2
 2. Check local DB, if the site belongs to the category that parents wish to block, block it.
 3. If local DB doesn't have information about the site, go to <http://sitereview.bluecoat.com/sitereview.jsp> to identify its category and take step 2 if necessary and update your local DB
 4. If <http://sitereview.bluecoat.com/sitereview.jsp> can't tell the category of the site, block it and put the site in unidentified category.
 5. If a site doesn't belong to any blocked category or unidentified category, allow the visit.
 6. Inform parents via email about the web site in unidentified category and provide a GUI for them to review and assign a category.
- Only authorized users have access to the configuration and uninstall.

You will get bonus points if you can implement the following features

- The E-Guard shall remove unhealthy words from search engine (note: it is parent's responsibility to provide blocked keywords), 3pts
- In addition to report web activities, you also provide reports on keystroke, opened applications, identify and report blocked keywords in emails, IM, 3 pts

- **Notes:**

- **Perform some preliminary analysis on what design patterns you will use to solve the problem.**
- **Provide detailed design of patterns used in the solution via class diagram with mapping of pattern classes to the actual application classes.**
- **You are required to use at least 3 design patterns while solving this problem.**
- **The developed code must be thoroughly commented and synchronized with the model.**

- **Submission**

- **Submit One .zip file that contains the followings**
 - **Source code**
 - **A report that includes class diagrams and their descriptions, database schema and descriptions, user-interface screen shots and descriptions, references.**