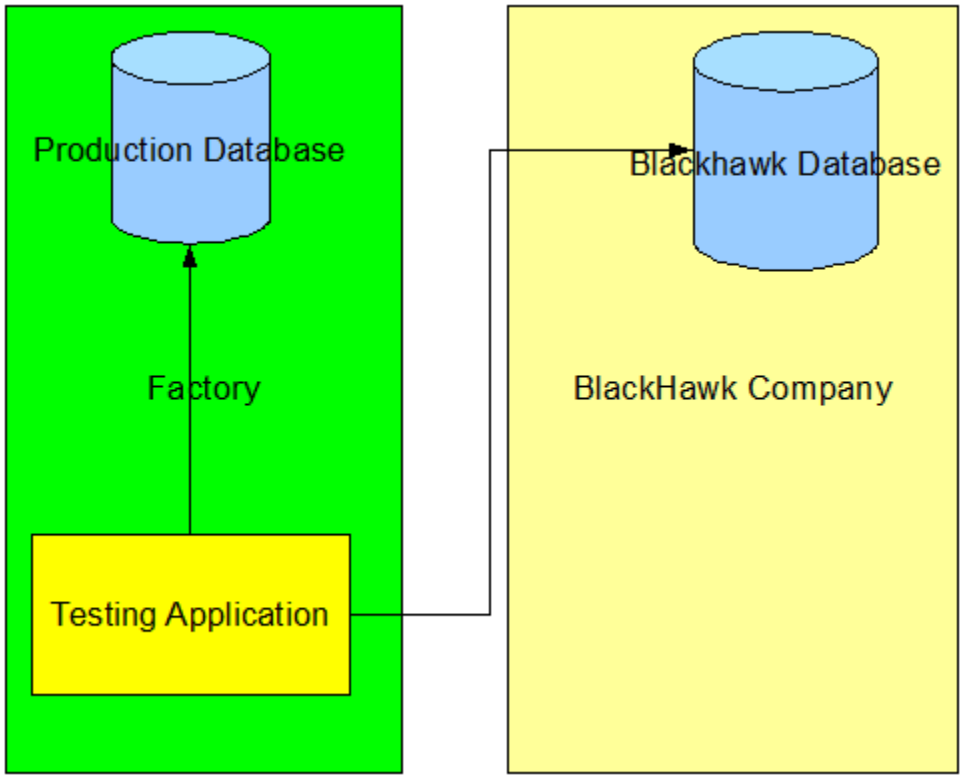
The Blackhawk Units Testing Application Proposal

The main aim of this project is designing an application that can check whether the new produced Blackhawk units are working and update the database accordingly. The application will also be able to generate a report of the test result. It may be able to do some statistical analysis based on the report generated.

The goal of this project:

It will be a pain to the company if a faulty Blackhawk unit enters the marketplace. Before the Blackhawk units enter the marketplace, the factory has to check whether the products work properly. This is being done manually at this stage. My project is designing an application that can assist the production staff to do this job more efficiently.

The main procedure is following:



When the new Blackhawk units are ready, hundreds of them will be put in a tray. The serial numbers will be scanned into the production database. Then the tester will start and login to the application. The login account of the tester will only have the permission to read and modify some of the database tables for security reasons. The application will connect to the production database and list all the untested Blackhawk units in the application one row at a time. Then the tester will power on all the Blackhawk units, so that all the Blackhawk units can be reset automatically. Thus, the Blackhawk units will try to send a function 1 report to the Blackhawk database. After powering on all the Blackhawk units, the tester then can click the testing button on the application to start the testing. The application will connect to the

Blackhawk database and keep checking whether the new Blackhawk units are online. If the application detects a Function 1 report which is sent by one of the new units, it will check whether the unit report fields are within tolerance of what is expected, for example, the Battery level should be 13.8V (plus or minus 0.5V); Correct Software Revision; correct IMSI number etc. If there is no problem, the application will highlight the corresponding row in the application with the colour green. Otherwise, the colour will be yellow. The checking process will be time out after 15 minutes. All the Blackhawk units whose reports are not found in the Blackhawk database will be highlighted red. Then the tester will be able to remove all the passed (green) units and test the remaining units again. If the units fail twice, they will be removed from the tray for repair. The corresponding data in the production database will be able to be removed by the tester. After testing, the information of the passed Blackhawk units will be added to the Blackhawks table in the Blackhawk database. The application then will generate a report of the testing result. The report will include all the information of the tested Blackhawk units. Anything wrong will be highlighted. The application may be able to do a statistical analysis with this generated report.

This is a very basic interface of the application (just a prototype, may be very different from the final application)