Automated Quality Assurance System or Clinical CT Systems

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Team

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Problem Statement

CT machines are carefully tested on a daily, weekly, monthly, and annual basis. Each time a CT machine is tested, many different components of the machine are analyzed to ensure the machine is properly calibrated and working. The complexity of the testing procedures makes CT quality assurance testing and reporting an extremely time consuming task. The results of each test are recorded manually and entered into spreadsheet-based reporting tools.

The reports and testing procedures often vary between medical physicists making it difficult for the results to be replicated by CT repair technicians. The two main goals of this project are to create standardized testing protocols for use within the facility and to automate the reporting process. The client would like a software program capable of reading DICOM images (images produced by the CT scanner) from various quality assurance tests, evaluating the images without user interaction, generating a report from the results, and writing the results to a database to track scanner performance over time.

Summary of Team Accomplishments

- Client meeting Thursday morning
    - Will send program to client and two residents to test
    - Few improvements to be made to program
- Our abstract was accepted to AAPM

Upcoming Week's Goals/Individual Goals

- Work on poster (poster will serve as BME poster and for conference)
- Make improvements to program
- Start working on final report

Project Difficulties

None