

CS-M24 Software Team Project

SwanTech Chess Engine



This presentation describes our progress in the M24 Software Team Project assignment, creating a Chess game

The team comprises

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- Preceding work:
 - Initial Report
 - Software Requirements SpecificationCompleted on time and well rated.

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- What we achieved:
 - Working game of person vs StockFish engine
 - Class structure that allows other chess players to be implemented in place of the Stockfish engine

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- What went well:
 - Use of libraries
 - StockFish engine
 - Co-operation through GitHub
 - Shared development

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- What could be improved
 - Not enough time! This semester seems to be particularly back-end loaded, all three of us were under time pressure
 - More shared investigation of Chess, and the formality of describing it in standard ways

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- Technical Approach
 - Extensive use of libraries
 - Extensive use of
 - Junit tests
 - Git and GitHub VCS
 - Swing

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- Java Libraries and other add-ons
 - ICTK library
 - Provides classes to describe a chess game – Board, Move, ChessPiece
 - Provides methods to find and validate legal moves
 - Provides game state and history
 - <http://jvarsoke.github.io/ictk/docs/>

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- Java Libraries and other add-ons
 - StockFish chess engine
 - StockFish is a well known and highly regarded chess engine
 - It operates as a stand alone executable, available for OS X, Windows, Linux.
 - It provides a simple, standard command line interface, which uses the UCI interface (see references)
 - <https://stockfishchess.org/>

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- Java Libraries and other add-ons
 - “StockFish port for Java”
 - A façade class that runs the Stockfish engine as a detached thread and manages the text, command-line interface to it.
 - Although it does not do much, it has proved to be robust and useful.
 - <http://rahular.com/stockfish-port-for-java/>

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- Swing
 - The standard Swing GUI library is used to create the chess board and menu

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- JUnit
 - The ‘back office’ functions that interface with StockFish and play the moves have an extensive Junit test suite, of about 20 full tests in 3 classes.
 - This has proved enormously valuable, on many occasions an extension or correction would break the build.
 - The tests ensured a break was quickly fixed, and code worked before it was checked in

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- Git
 - Each team member installed Git on our local machines
 - A shared GitHub instance was created (M24)
 - Discipline was fairly good in always running a ‘pull’ before starting work, and a commit and push at each development milestone.
 - Branches were used to develop new directions, and we used pull requests for QA checks before merging the branch back into the master.