Chess Training App

# Overview

The goal for this app is to be a lightweight chess training app that targets all aspects of the game for fast improvement, vision training, memory, tactics, and recollection. The app is essentially a chess bombardment.

# Structure

The end-goal for this project is an app with multiple states and modes that tests a user across all aspects of the game of chess. User performance is measured by means of engine analysis or correct selection of move order/opening theory/puzzle completion and the time taken to complete each task. User performance is rated as a measure of accuracy percentage and completion speed and these metrics govern difficulty and speed required for future puzzles.

## Tasks

A task is a chess problem that a user must complete correctly. Tasks take many forms but only one task will be completed at a time. Time taken to complete the task and the accuracy will both be recorded for performance analysis.

Tasks can take many forms and will eventually broadly encompass all aspects of the game:

1. Puzzles
2. Imbalanced engine games (start to finish)

* Material imbalance both ways: vs easy, difficult or matched engine.
* Time will vary. Some games longer, some shorter, some Fischer increment.

1. Play from position

* Puzzles or engine games (varying difficulty)
* Sometimes play to completion, sometime play only a few moves.
* Varying time constraints

1. Opening theory
   * Given an opening name, play the correct moves in the correct order
   * Given a position, name the opening

## Performance

Given a users performance, future tasks will be made easier or harder. The app relies heavily on profiling a users past and present performance to weight future tasks.

# Limitations

* Algorithm has to be good. Custom or imported? Costs associated with each (ie time to develop and associated imperfections of amateur development vs financial burden of importing)
* Some depth and complexity in terms of user assessment techniques and associated computational strain