**Team no.:** 22

**Team members:**

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**Title of the Project:**

Implementation of Checkers using Zobrist Hashing.

**What data structure do you plan to implement :**

We are using a type of hashing known as Zobrist Hashing.

**What are the operations or application of this data structure:**

Zobrist hashing starts by [randomly generating](http://en.wikipedia.org/wiki/Pseudorandom_number_generator) [bitstrings](http://en.wikipedia.org/wiki/Bitstring" \o "Bitstring) for each possible element of a board game. Now any board configuration can be broken up into independent piece/position components, which are mapped to the random bitstrings generated earlier. The final Zobrist hash is computed by combining those bitstrings using bitwise [XOR](http://en.wikipedia.org/wiki/XOR).

**High level design :**

We are implementing checkers using Layered Pane (Swing GUI) in Java.

We are mapping each position/pawn on the board using Zobrist hashing.

**User  Interaction (Demo) :**

The input is the position which the player selects and output is, if that move is valid or not and the consequences of a valid move on the current game state.

**Language or implementation/Tools that you plan to use:**

Java