THE CHECKER GAME

### Project Proposal

## https://upload.wikimedia.org/wikipedia/en/1/1f/Bahria_Uni.png

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**Checker Game**

**Purpose**

The main purpose to choose this Game is to think in various direction or dimensions and make different strategies according to different situations effectively and efficiently in short period of time. It increases the Capability of a person to think and make decisions and strategies in short interval of time to win the Game.

# **Tools/Technology**

* Microsoft Visual Studio 2013(Professional)
* CS Photoshop

1. **Language Used**

* C# language

**3. C# Concepts Used**

* Forms
* Buttons
* Labels
* Panels
* Images

# **4. Milestones**

This project will take 7- 8 weeks to complete.

# **5. Introduction**

Each player begins the game with 8 pieces or checkers placed in the two rows closest to him or her. The object of the game is to capture all of your opponent's checkers or position your pieces so that your opponent has no available moves. Basic movement is to move a checker one space diagonally forward.

# **Objective**

The objective of this project is to create Checker game in which player can make move diagonally and capture all of opponent's pieces so that your opponent has no available moves.

# **Project Main Flow**

**Human Vs Human**

Algorithm is made according to the Rules of Checker game.as described below

# **Problem Description**

1. **Setup and Object of Checkers**

The checkerboard has 64 alternating light and dark squares. The game is played on the dark squares.

* Game board
* 16 discs (8 of 2 colors)
* Each player has 8 color(red, white) discs

**1. Movement**

**2. Jumping**

**3. Crowning**

* **Movement**

Basic movement is to move a checker one space diagonally forward. You cannot move a checker backwards until it becomes a King.

* **Jumping**

If one of your opponent’s checkers is on a forward diagonal next to one of your checkers, and the next space beyond the opponent’s checker is empty, then your checker must jump the opponent’s checker and land in the space beyond. Your opponent’s checker is captured and removed from the board.

After making one jump, your checker might have another jump available from its new position. Your checker must take that jump too. It must continue to jump until there are no more jumps available. Both men and kings are allowed to make multiple jumps.

* **Crowning**

When one of your checkers reaches the opposite side of the board, it is crowned and becomes a “King”. Your turn ends there. A “King” can move backward as well as forward along the diagonals. It can only move a distance of one space.   
A “King” can also jump backward and forward. It must jump when possible, and it must take all jumps that are available to it. In each jump, the King can only jump over one opposing piece at a time, and it must land in the space just beyond the captured piece. The King cannot move multiple spaces before or after jumping a piece.

1. Games Rules
2. Checkers is played by two players. Each player begins the game with 8 colored discs. (one set of pieces is black and the other red.)
3. The board consists of 64 squares, alternating between 32 dark and 32 light squares. It is positioned so that each player has a light square on the right side corner closest to him or her.
4. Each player places his or her pieces on the 8 dark squares closest to him or her.
5. Black moves first. Players then alternate moves.
6. Moves are allowed only on the dark squares, so pieces always move diagonally. Single pieces are always limited to forward moves (toward the opponent).
7. A piece making a non-capturing move (not involving a jump) may move only one square.
8. A piece making a capturing move (a jump) leaps over one of the opponent's pieces, landing in a straight diagonal line on the other side. Only one piece may be captured in a single jump however multiple jumps are allowed on a single turn.
9. When a piece is captured, it is removed from the board.
10. If a player is able to make a capture, there is no option the jump must be made. If more than one capture is available, the player is free to choose whichever he or she prefers.
11. When a piece reaches the furthest row from the player who controls that piece, it is crowned and becomes a king. One of the pieces which had been captured is placed on top of the king so that it is twice as high as a single piece.
12. Kings are limited to moving diagonally, but may move both forward and backward. (Single pieces, i.e. non-kings, are always limited to forward moves.)
13. Kings may combine jumps in several directions forward and backward on the same turn. Single pieces may shift direction diagonally during a multiple capture turn, but must always jump forward (toward the opponent).
14. A player wins the game when the opponent cannot make a move because all of the opponent's pieces have been captured

# Solution Application Areas

Checker is very interesting game and very fruitful for brain exercise because you can play in many ways, it will build your thinking strategy. The main target domain of this game is 10+ aged users. To explore and think useful strategies and ideas to win the Game