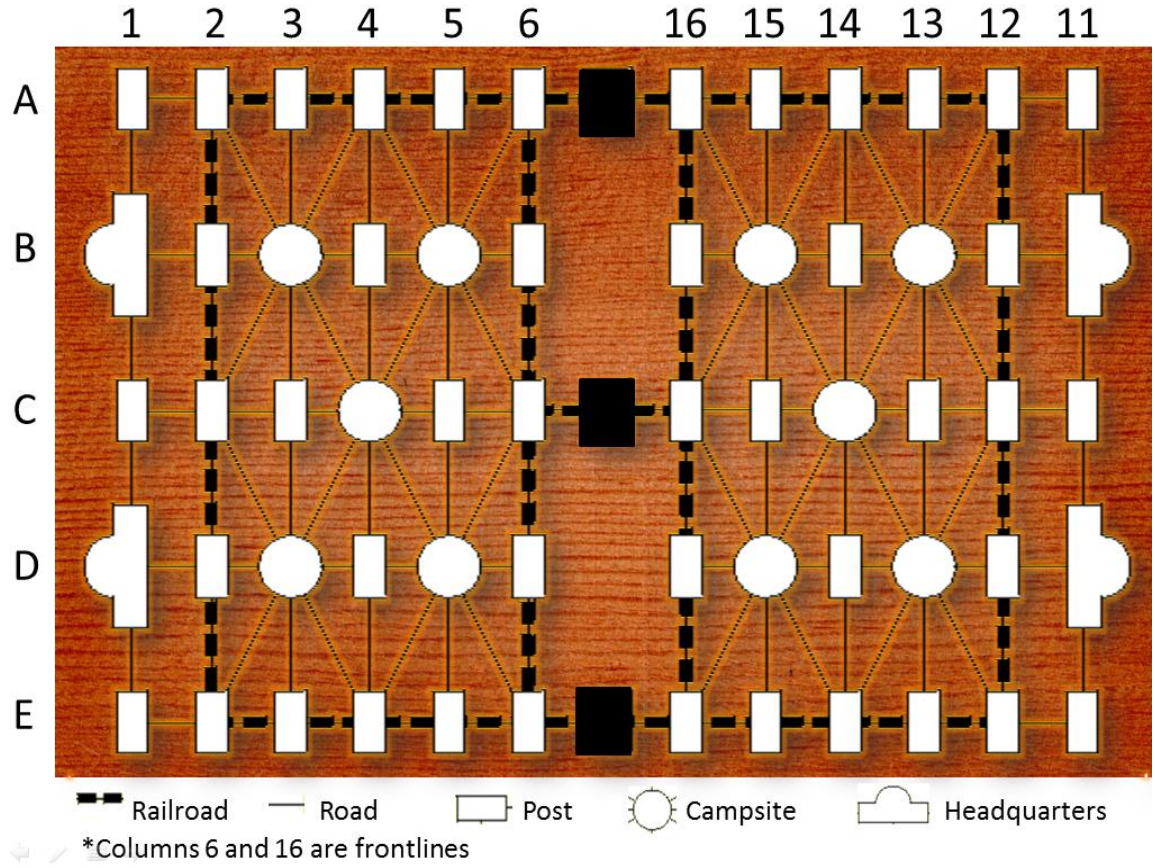
Criterion A Planning

1. Defining the problem

Luzhanqi (Land Battle Chess) is a 2 player strategic Chinese board game that simulates land warfare. The aim is to create a computerized version of the game where rules from the original game are adapted. The board on which the game is played is illustrated below.



My computer science teacher agreed to be my advisor and my dad, who often plays luzhanqi, offered to be my client.

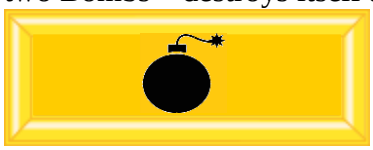
Pieces:

Ranked pieces, from highest to lowest order with their piece symbols:

Field Marshall	General	Two Lieutenant Generals
		
Two Major Generals	Two Colonels	Two Majors

Three Captains Three Lieutenants

Pieces with special abilities:
two Bombs – destroys itself and any enemy piece



three Engineers – destroys landmines

three Landmines – destroys any enemy piece, except engineers and bombs

one flag

Rules of the original variation of the 2 player game:

Each player places their pieces, with markings indicating rank faced towards themselves, on a post. Flags must be placed in one of the headquarters; landmines must be placed in the columns 1,2,11 or 12.
Players take turns, moving 1 piece per turn except landmines and the flag which cannot be moved.
Pieces can move once to any connected post or campsite. Pieces on the railroad can move any number of posts linearly, given that there are no pieces between the path of the piece and its destination.
In a collision between pieces, the lower ranking piece is eliminated, if the attacker is successful, his piece is placed in the position of the eliminated defending piece.
Pieces on campsites cannot be attacked.
If the Field Marshall is eliminated, the player must show the disposition of the flag.
If an enemy piece successfully attacks a piece in headquarters, and it is not the flag, the piece is rendered stationary in that position.

Eliminated pieces remain unrevealed to the opponent.
A player wins when the opponent flag is captured or bombed by an enemy piece.

Rationale:
My rationale for creating a computerized version of Luzhanqi is that, it is a game I have enjoyed playing the game as a child. However now immigrated to Canada, there has been few places, or next to none at all where this game is available. Therefore I have decided to make a computerized version so that this game will be accessible for my client and other players of this game.
The computerized game also doesn't require a 3rd person as a referee but still guarantees the integrity of the game and compare ranks of the pieces correctly. The saving functionality allows players to replay the game from any point in the game and evaluate variations of possible outcomes of the game. It also allows new players to better learn the rules and some strategies of the game. This program will, similar to the board game, provide graphics where opponent's piece are undisclosed to the player.

I decided to use Java because it is the course teaching language that I am comfortable with.

[Word Count: 499]

Criteria for Success:

1. Interface is representation of the board showing each piece in its intended position
2. All game data and moves are saved and can be undone
3. Players set up their pieces on their respective side of the board, according to the rules
4. Player can easily move each piece by inputting board coordinates
5. There is an accurate determination of which piece(s) gets eliminated when pieces collide
6. The rules are correctly implemented.
7. Winner is announced when the opponent flag is captured or bombed.