CS451 - SomeRandomTeam - Specification Document

1. Maze cell types and states

   A. Types

      i. ' ' (empty) floor cell

      ii. '#' wall cell

      iii.'h','H' home cell (floor)

      iv. 'j','J' jail cell (floor)

   B. States

      i. Unoccupied (all cells)

      ii. Occupied w/player (only floor cells;

                    display some player information)

      iii.Occupied w/flag (floor cells not including jail; display 'f' or 'F')

      iv. Occupied w/both player and flag (floor cells not including jail)

2. Player states and attributes

   A. Attribute

      i. Team

      ii. Position (i,j)

      iii.Name?

   B. States

      i. Free or Jailed

      ii. Has flag or doesn't have flag

      iii.Is or is not capturable

      iv. Can or cannot capture others

3. Player actions

A. Move

user indicates the direction they want to move in and if it is
valid, their new location is displayed on the map. A jailed player
cannot move.

B. Get Flag

user steps onto a cell containing a flag. change the player's hasFlag
state. server announces flag has been taken.

C. Capture Opposing Player

(happens during a Move action) if the player can capture and runs
into an opposing player who is Capturable, the opposing player is
sent to jail. The current player stays in the same spot.

D. Free Jailed Player

(happens during a Move action) if the player is Free and runs into
a teammate who is jailed, the teammate is freed. The current player
stays in the same spot.

E. Be Freed

(happens after a Free player uses the Free Jailed Player action)
the jailed player's state is set to Free and transported to their
Home Base.

F. Get Captured

(happens after an opposing player uses Capture Opposing Player action)
the captured player's state is set to Jailed and transported to the
opposing team's jail.

G. Return Flag

(happens during a Move action) if the player runs into an opposing
player carrying the flag, then the flag is transported to Home Base.

H. Lose Flag

(happens after an opposing player uses Return Flag action)

the player's hasFlag state is set to false.

5. Conditions and Rules associated with winning the game

   A. A player on the winning team must capture the opposing team's flag and take it to their Home Base, and their own flag must also be in the Home Base. All players on the winning team must be in the Home Base.

   B. If all players on both teams are in jail, the game ends in a draw.

6. Extra specification

-Flag always starts in the Home Base. When it is returned, it teleports back to the Home Base. It may be picked up by at most one player at a time.

-To pick up a flag of an opposing team, the player must be on the flag square and type the command to get a flag.

-When a player is in their Home Base, they are not Capturable.

-When a player is in their Home Territory, they are not Capturable, but if they are holding a flag, it can be stolen.

-To capture an opposing player, the player just has to run into them (be on the same square)

-When a free player reaches the opposing team's jail, all of the captured players of the same team are free and teleported to their Home Base.

-When a player is jailed, they cannot move.

-When a player tags an opposing player carrying the flag, the opposing player is sent to jail no matter where he is.