Constraints and explanations of the ClientModel

JSON Structure

Example:

```
ClassName {
    propertyName (PropertyClass): ValueDescription
}
```

ClientModel {
    bank (ResourceList): The cards available to be distributed to the players.,
    chat (MessageList): All the chat messages.,
    log (MessageList): All the log messages.,
    map (Map),
    players (array[Player]),
    tradeOffer (TradeOffer, optional): The current trade offer, if there is one.,
    turnTracker (TurnTracker): This tracks who's turn it is and what action's being done.,
    version (index): The version of the model. This is incremented whenever anyone makes a move.,
    winner (index): This is -1 when nobody's won yet. When they have, it's their order index [0-3]
}

ResourceList {
    brick (integer),
    ore (integer),
    sheep (integer),
    wheat (integer),
    wood (integer)
}

MessageList {
    lines (array[MessageLine])
}

MessageLine {
    message (string),
    source (string)
}

Map {
    hexes (array[Hex]): A list of all the hexes on the grid - it's only land tiles,
    ports (array[Port]),
    roads (array[Road]),
    settlements (array[VertexObject]),
    cities (array[VertexObject]),
radius (integer): The radius of the map (it includes the center hex, and the ocean hexes; pass this into the hexgrid constructor),

robber (HexLocation): The current location of the robber

} 

Hex {
    location (HexLocation),
    resource (string, optional) = ['Wood' or 'Brick' or 'Sheep' or 'Wheat' or 'Ore']: What resource this tile gives - it's only here if the tile is not desert.,
    number (integer, optional): What number is on this tile. It's omitted if this is a desert hex.
} 

HexLocation {
    x (integer),
    y (integer)
} 

Port {
    resource (string, optional) = ['Wood' or 'Brick' or 'Sheep' or 'Wheat' or 'Ore']: What type resource this port trades for. If it's omitted, then it's for any resource.,
    location (HexLocation): Which hex this port is on. This shows the (ocean/non-existent) hex to draw the port on.,
    direction (string) = ['NW' or 'N' or 'NE' or 'E' or 'SE' or 'SW']: Which edge this port is on.,
    ratio (integer): The ratio for trade in (ie, if this is 2, then it's a 2:1 port.
} 

EdgeValue {
    owner (index): The index (not id) of the player who owns this piece (0-3),
    location (EdgeLocation): The location of this road.
} 

EdgeLocation {
    x (integer),
    y (integer),
    direction (string) = ['NW' or 'N' or 'NE' or 'SW' or 'S' or 'SE']
} 

VertexObject {
    owner (index): The index (not id) of the player who owns this piece (0-3),
    location (EdgeLocation): The location of this road.
} 

Player {
    cities (number): How many cities this player has left to play,
    color (string): The color of this player.,
    discarded (boolean): Whether this player has discarded or not already this discard phase.,
    monuments (number): How many monuments this player has played.,
name (string),
newDevCards (DevCardList): The dev cards the player bought this turn.,
oldDevCards (DevCardList): The dev cards the player had when the turn started.,
playerIndex (index): What place in the array is this player? 0-3. It determines their turn order. This is used often everywhere.,
playedDevCard (boolean): Whether the player has played a dev card this turn.,
playerID (integer): The unique playerID. This is used to pick the client player apart from the others. This is only used here and in your cookie.,
resources (ResourceList): The resource cards this player has.,
roads (number),
settlements (integer),
soldiers (integer),
victoryPoints (integer)
}
DevCardList {
  monopoly (number),
  monument (number),
  roadBuilding (number),
  soldier (number),
  yearOfPlenty (number)
}
TradeOffer {
  sender (integer): The index of the person offering the trade,
  receiver (integer): The index of the person the trade was offered to.,
  offer (ResourceList): Positive numbers are resources being offered. Negative are resources being asked for.
}
TurnTracker {
  currentTurn (index): Who's turn it is (0-3),
  status (string) = ['Rolling' or 'Robbing' or 'Playing' or 'Discarding' or 'FirstRound' or 'SecondRound']: What's happening now,
  longestRoad (index): The index of who has the longest road, -1 if no one has it
  largestArmy (index): The index of who has the biggest army (3 or more), -1 if no one has it
}

A Sample JSON Skeleton

{
  "bank": {

"brick": "integer",
"ore": "integer",
"sheep": "integer",
"wheat": "integer",
"wood": "integer"
},
"chat": {
  "lines": [
    {
      "message": "string",
      "source": "string"
    }
  ],
"log": {
  "lines": [
    {
      "message": "string",
      "source": "string"
    }
  ],
"map": {
  "hexes": [
    {
      "location": {
        "x": "integer",
        "y": "integer"
      },
      "resource": "string",
      "number": "integer"
    }
  ],
  "ports": [
    {
      "resource": "string",
      "location": {
        "x": "integer",
        "y": "integer"
      },
      "direction": "string",
      "ratio": "integer"
    }
  ],
  "roads": [
    {
      "owner": "index",
      "location": {
        "x": "integer",
        "y": "integer",
        "direction": "string"
      }
    }
  ]
}
"settlements": [
  {
    "owner": "index",
    "location": {
      "x": "integer",
      "y": "integer",
      "direction": "string"
    }
  }
],
"cities": [
  {
    "owner": "index",
    "location": {
      "x": "integer",
      "y": "integer",
      "direction": "string"
    }
  }
],
"radius": "integer",
"robber": {
  "x": "integer",
  "y": "integer"
},
"players": [
  {
    "cities": "number",
    "color": "string",
    "discarded": "boolean",
    "monuments": "number",
    "name": "string",
    "newDevCards": {
      "monopoly": "number",
      "monument": "number",
      "roadBuilding": "number",
      "soldier": "number",
      "yearOfPlenty": "number"
    },
    "oldDevCards": {
      "monopoly": "number",
      "monument": "number",
      "roadBuilding": "number",
      "soldier": "number",
      "yearOfPlenty": "number"
    },
    "playerIndex": "index",
    "playedDevCard": "boolean",
    "playerID": "integer",
    "resources": {
      "brick": "integer"
"ore": "integer",
"sheep": "integer",
"wheat": "integer",
"wood": "integer"
},
"roads": "number",
"settlements": "integer",
"soldiers": "integer",
"victoryPoints": "integer"
}
},
"tradeOffer": {
"sender": "integer",
"receiver": "integer",
"offer": {
"brick": "integer",
"ore": "integer",
"sheep": "integer",
"wheat": "integer",
"wood": "integer"
}
},
"turnTracker": {
"currentTurn": "index",
"status": "string",
"longestRoad": "index",
"largestArmy": "index"
},
"version": "index",
"winner": "index"