

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 thie 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**, *optional*): The index of who has the longest road,
largestArmy (**index**, *optional*): The index of who has the biggest army (3 or more)

}

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"
}
```