

# Specification: Primary Game Data File

## Purpose

This JavaScript file serves as the primary data store for a client-server strategy web application. It provides a centralized source of game state and configuration information, which is:

1. **Read and written on the server** via PHP using `json_decode()` and `json_encode()`.
2. **Read directly by the client** in JavaScript to render UI elements and execute game logic.

The file contains structured JSON-like objects representing game entities such as colonies, fleets, events, units, maps, and player/empires. It is intended to be authoritative for game state.

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## Data Structures

### 1. Colonies

**Variable:** colonies

**Type:** Array of objects

Each colony object contains the following properties:

Property	Type	Description
name	string	Name of the colony.
capacity	integer	Maximum statistics of the colony
fort	integer	Level of fortification.
intel	integer	Intelligence coverage.
morale	integer	Morale of the colony population.
owner	string	Owning empire, empty if unowned.
population	integer	Current population of the colony.
raw	integer	Resource richness index.
type	string	Environmental type (e.g., "Barren", "Adaptable", "Homeworld", "Dead", "Extreme", "Garden").
notes	string	Special features or historical notes about the colony.
fixed	array	Array of fixed structures or units that cannot move on their own, at the colony.

### 2. Empire

**Variable:** empire

**Type:** Object

Represents the player's empire.

Property	Type	Description
empire	string	Empire identifier.
maintExpense	integer	Maintenance expense.
miscExpense	integer	Miscellaneous expenses.
miscIncome	integer	Miscellaneous income.
name	string	Full name of the empire.
systemIncome	integer	Income from all controlled systems.
previousEP	integer	Economic points from previous turn.
techYear	integer	Current technological year.
tradeIncome	integer	Income from trade.
researchInvested	integer	Resources invested in research.

### 3. Events

**Variable:** events

**Type:** Array of objects

Each event object contains:

Property	Type	Description
event	string	Short event description.
time	string	Turn of event.
text	string	Detailed narrative or calculation for the event.

### 4. Fleets

**Variable:** fleets

**Type:** Array of objects

Each fleet object contains:

Property	Type	Description
name	string	Fleet identifier.
location	string	Current colony or sector.
units	array	List of ship/unit names in the fleet.
notes	string	Optional notes regarding fleet.

### 5. Game State

**Variable:** game

**Type:** Object

Property	Type	Description
turn	integer	Current turn number.
monthsPerYear	integer	Game months per year.
blankOrders	integer	Number of blank orders available.
turnSegment	string	Current phase of turn (e.g., "pre", "post").

Property	Type	Description
nextDoc	string	Identifier of next saved game file.
previousDoc	string	Identifier of previous saved game file.

## 6. Map Data

- **Map Points (mapPoints):** Array of [x, y, owner, name] coordinates representing colonies on the map.
- **Map Connections (mapConnections):** Array of [from, to, status] representing known or unexplored routes between colonies. Status is “Unexplored”, “Restricted”, “Minor”, “Major”

## 7. Orders, Treaties, and Projects

- **Orders (orders):** List of player-issued actions in the format of the following:

Property	Type	Description
type	string	Order Type
receiver	string	Thing being ordered
target	string	Where to perform order
note	string	User-entered value
perm	boolean	If 0, show order in drop-downs if 1, no drop down. Show text

- **Offered Treaties (offeredTreaties):** Array of treaties offered to other empires. Format is [ Empire, Treaty Type ]
- **Treaties (treaties):** List of treaties with other empires

Property	Type	Description
cooldown	int	Diplomatic cooldown value
type	string	Political state: War, Hostilities, Neutral, Non-Aggression, Trade, Mutual Defense, Alliance
income	int	Known income of other power
navy	int	Known naval construction value of other power

- **Intel Projects (intelProjects):** List of ongoing espionage or sabotage projects in the format of

Property	Type	Description
Type	string	Type of mission
Target	string	What system the mission is affecting
Location	string	Where the mission is sourced

## 8. Units and Purchases

- **Unit List (unitList):** Contains ship/unit types with ship name, yis year introduced, design type, cost, and notes.

Property	Type	Description
Ship	string	Ship designator or class (e.g. "FFE", "BCH")
YIS	int	The year that the ship becomes available
Design	string	The ship hull designation (e.g. "CA", "AB")
Cost	int	The cost of the unit, in EPs
Notes	string	Any notes on the units of this class. Comma delimited. Some notes are followed by a number in parenthesis.

- **Purchases (purchases):** List of purchasable units with name and cost.
- **Under Construction (underConstruction):** Tracks units currently being built at specific colonies.
- **Units in Mothballs (unitsInMothballs):** Same format as fleets, but always named "Mothballs".
- **Units Needing Repair (unitsNeedingRepair):** Array of unit identifiers who are crippled. Format of unit identifiers are [unit designator]+" w/ "+[fleet name].

## 9. Other Data

- **Other Empires (otherEmpires):** Array of names of AI-controlled or non-player empires.
- **Unknown Movement Places (unknownMovementPlaces):** Array of colonies where the statistics are not yet known. This is in the same format as colonies

# Server-Client Considerations

## 1. Server-side (PHP):

- Use `json_decode( )` to read the JS file into PHP associative arrays or objects.
- Use `json_encode( )` to write updates back to this file.

## 2. Client-side (JavaScript):

- Directly reads the file to display game state and update the UI.
  - All data must be kept in valid JSON-compatible format.
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## Notes

- All arrays and objects should remain consistent in key naming and type to ensure compatibility between server and client.
- This file serves both as the authoritative game state and configuration reference for gameplay mechanics.
- Colony and unit names must be unique identifiers.