

Car Wars Emulator

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Introduction:

Car Wars, by Steve Jackson Games, is a table top war game. A table top war game is similar to a board game in that tokens and dice are used, but dissimilar in that the play area is not necessarily confined to a small board but can range to as large as 100 square feet or more, restricted only by how far players can reach. Most war games, including Car Wars, include maps with grids (car wars uses squares) to define movement and game mechanics, though occasionally scale miniatures may be substituted for the maps and rulers and protractors used to align pieces. In Car Wars, small colored cardboard counters are used to represent various vehicles including cars, trucks, motor bikes, helicopters, planes, air ships, boats, and hover craft; as well as pedestrians and obstacles. The maps usually show buildings, trees, and other objects that would not normally be moved. The Car Wars game also includes many rule books that state how to equip the vehicles and include other game mechanics that define movement, shooting, etc. As the game progresses, dice rolls are used to add uncertainty to the game. The object of the game may vary, but usually involves destroying one's opponent.

Requirements:

Background:

The Car Wars Emulator will allow multiple people to play Car Wars easily over the Internet. It will also allow the creation and modification of any visual aids required to play the game. The game will also be secure to ensure that illegal copies of the game do not function. To accomplish these goals, there will be two different pieces of software, a Client program and a Server program. The role of the client software is to provide the user with an easily used interface through which to play the game. The role of the server program is to provide connection information to the client software, and to observe the client software in order to maintain the security of the server/client network. SJG (Steve Jackson Games), the legal owner of all rights of the Car Wars war game, will be the exclusive owners of the server program and will be responsible for monitoring it via client program to its customers, each with unique serial numbers and passwords, which the sys-admin will use to update the server with.

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Client:

From the user's point of view, the client software will be split into four distinct parts, the equipment designer, the graphical designer, the play interface, and the user interface. The client program will be written to run in a windows environment. No effort will be given to making it Mac portable.

The equipment designer will be used to equip a counter, whether that counter is vehicle, pedestrian, building, or other object with relevance to the game. In this designer, the user will be able to adjust certain game related values on a spread-sheet type console and package them as an object to be checked by the software (to ensure compliance with the game rules) and assigned to a graphical counter. These values will be related to the unit's offensive and defensive strengths as well as any special abilities it has.

The graphical designer will be used to design a graphical counter or icon to be matched with an equipped object. In this designer, the user will be able to adjust certain game related values on a 2-D CAD-like display and package them into a counter to be checked by the software (to ensure compliance with the game rules) and assigned to an equipped object. These values will be related to the size, shape and color of the counter.

The play interface will be used to initialize, play and record a game. This will include setting up a map of the playing area and enforcement of the game's rules as the game progresses. If a user is designated the GM or Game Master, that user will be able to adjust the map and any effect of the rules in any way and at any time.

The user interface will be used by the user to communicate with the other users via text and sketches. This interface will be available whenever any of the other functions of the program are running. The client software will also support the ability to be upgraded later with an optional sound based communication setting.

Server:

From the user's point of view, the server software will provide two interlinking services, connectivity and security. There will only be one copy of the server software running anywhere, anytime. The purpose of the security side of the server is to ensure that copies of the client program are distributed solely by authorized persons. The server will be written with the idea that it will later be ported to a UNIX environment which has better security than windows.

The server provides all the connection information to the client program. For the user to use the client software, the user's client software must establish and maintain a connection with the server program. Once the connection is made, the user may use any of the functions of the client program listed above. Should the user wish to use either the play or user interfaces, the server will provide the

connection information. The server will not provide any other game information or act as a bridge between the clients for more than their connection information to be passed.

The client program being required to be attached to the server in order to function ensures the security to the program. Each client program will be unique in that it will have its own passwords to start and its own serial number. Should the client be unable to contact the server, the client program will not initialize. Should multiple copies of the client program with the same serial code attempt to maintain a connection with the server at the same time, both copies will freeze all functions except the user interface until the user contacts the sys-admin and explains why there were two copies of his/her software running at the same time. Should the client program lose contact with the server, all functions except the user interface will freeze until the connection with the server is re-established. Not only will the server monitor which client is connected, it will also monitor which clients are attached to each other. Should a copy of the client program with an invalid serial number appear, all clients interacting with the client will display an error message and close and the copy with the invalid serial number will attempt to corrupt itself.