Surviving map creation

(V 0.9.8 – English customized version)

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0. Purpose

This is a collection of tips gathered through experimenting and expirience ...
I am not responsible for any damage that may occur using or not using this tips!
The motivation for writing this collection was the need, to clarify some things, since the official sources available do not explain quite good this matter.

1. Functionality

To start the editor, click on the file *vgigant_editor.exe* in the proper directory, where it resides.

To properly initiate the editor, your screen resolution MUST BE **1280 x 1024** with **16 bit**!!! Only then you are able to see everything, what this editor offers. The users who are lucky to have monitors that support higher resolutions reported, that a higher resolution is possible, however the editor will take only his initial resolution, meaning only part of the screen. Failing to deliver the required resolution and exact color deep results in a crash or other unexpected behaviour.

A standard resolution lower then the prescribed resolution can be reached in some software driver combinations, but results in a partly shown editor, with missing buttons, so disabling the full editor features.

2. Connecting streets

- All set streets must be interconnected. Watch for the proper direction of the direction arrows on the driveway. They must all be connected. There must be NOT A SINGLE ONE pointing outwards a street into free space !

3. Semaphores

The semaphores should be set on the last field before the crossing. One Semaphore on the right side is sufficient. If a passenger crossing zebra is set on this place, it must be on the last field before (from the side of oncoming traffic). If you place semaphore on any other place, they just have the purpose of decoration.

4. Zones

By setting the zones, one must begin with 'Zone 1' ! The choice of zone 0 erases already set zones (so called Zone-rubber). Zones are used in real life to increase profit. According to the distance and difficulty of travelling from here to there and back, transport companies declare zones with fixed prizes. When you change zones, you pay the added prize, or the ticket prize of the most expensive zone.

5. Bedarf

There should be enough Work-/School-/Leisure- and Marketplaces. At least 200-300 more then the need. (The values can be read lower down right in Editor interface i.e. School: 'needed/available'). Failing to do so produces ruines right from beginning on, because the people are unsatisfied and leave your town/city.

6. How to get a ready map into game

1. The Map must be in subdirectory *Maps* in English or *Karten* in German version. (*mapname.vmp*)

2. A textfile *mapname.txt* must be made in the same directory (i.e. with Notepad). The text contained within will be used when choosing of (Endless)map. This is the description of the map when it is chosen.

3. A bitmap in format of 288 x 600 x 8 bit (256 colors) as presentation picture must be renamed in *mapname.jfl* and also placed in *Maps* or *Karten* subdir.

4. By saving the map, in the target directory a *mapname.zon* file will be created, which may be edited with a texteditor (ie. Notepad).
The informations contained within are:

　"Zonenumber"/"Year of availibility"/"needed worth of factory"/"needed placecoverage"/"buying 　price"

dummy.txt must be written in every line.
　The entries for not defined zones can be deleted (5 zones defined -> .zon File has 5 lines)
　If there are no zones in the map, the whole *.zon* file can be deleted.

5. In the subdir *Maps* or *Karten* accordingly to the language, there is a file called *karten.txt*.
　It contains for every map 2 entries.
　In most cases they are identical.
　The first one is shown in the game as the name of the map.
　The second one one must be the *mapname* of the *.vmp* file.
　On which place a new map is inserted does not matter.

Summary :
　　　　1. you need the following files (i.e. if your map is named mymap) :
　　　　　　　1. *mymap.vmp* - the data of this map
　　　　　　　2. *mymap.txt* - the description of this map
　　　　　　　3. *mymap.jfl* - an image, which is shown in the preview on the left side
　　　　　　　4. *mymap.zon* - zones on the map

4

2.you need to add **mymap** twice into *karten.txt*.

Always use the latest available game patch version to play map, because it should have the least number of programming bugs.

7. Editor shortcut keys

G   Fade in/out the buildings
R   Fade in/out the direction arrows on the streets (the green markings symbolize the possible directions on their field)
W   Fade in/out the shadows of clouds
Z   Switch the steps of zoom

F1   Save part of a map (press F1 then mark and save. - overwriting previous saved parts is not allowed)
F2   Load and set a part of a map
F5 Fade in/out the resident buildings
F6   Fade in/out the recreational buildings
F7   Fade in/out the school buildings
F8   Fade in/out the shop buildings
F9   Fade in/out the work buildings
F10 Fade in/out the buildings which hide the view

    (**Space**) Setting layout Of semaphores and Gehsteigobjekten
D   Test the street system (The map is searched for errors in the street system - no indication)
E   Show street system errors (Throught repetitive pressing the view of the picture jumps to next error). Errors in curves and crossings are not found ! You have to search manualy.
CTRL + **F** Generate Graphic libraries (only necessary after changing the building parameters, which may be done throught a right mouseclick on the coresponding icon). Save your current *lib* (*Bibliothek*) dir !

0   Show all zones (it is recommended to fade out all buildings)
1   Show zone 1
2   Show zone 2
3   Show zone 3
4   Show zone 4
5   Show zone 5
6   Show zone 6
7   Show zone 7
8   Show zone 8
9   Show zone 9

8. Crashes of maps from the map editor

Unfortanelly, the bad design of the game itself (not so of the editor, it seems to be made more robust, except for the big startup problem), there are many ways to crash a game with a wrong deigned map. Finding map errors is very tedious. Only thanks to many devoted people and many hours of trial and error, we isolated the most frequent causes :

1. Never make so called street islands (a combination of unallowed curve/crossing overlap).

2. You must also never make a curve immidietly joining a crossing!

3. You must never immidietly join two or more crossing !

4. 4-lane roads must not end als sackgasse!

5. Not every field is reachable by street. (This is, in fact, also a street error).

6. 4-lane roads must not have arrows, which go vertical along them, only horizontal ! If they have vertical arrows, the map might start, but if laying a line, the whole map crashes!

7. the approach to bridges must be a two-way street, never a one way!
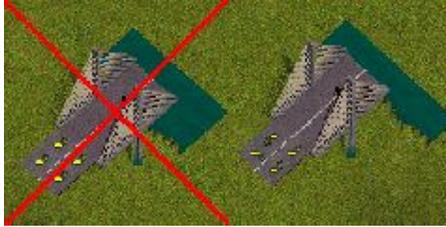
8. directly on the approach to the bridge, must never be a T-crossing! At least one straight piece must be between!

9. A hidden object under/over the street.
10. One way streets. These seem to confuse the game. In editor they look ok, but the game can not handle all combinantions, but it can some ... The answer is not clear, if the game will handle yours ...
11. In fact, street errors are the most common errors which lead to a crash!
12. When you make crossings, a good method is to first lead every street to the crossing without building the physical crossing, meaning leave a hole. Then press on the right button and the editor will place correct direction arrows.
13. You must be very carefull desiging one-way streets, because improperly designed, they can lead to a map and game crash.
14. The flaw in pathfining may not show immidietly, but also when you try to plan a route over wrongly designed sector of the street, and may result in a crash or unexpected behaviour.

Finding errors is the most tidious task of all. You design a super-duper map and trying to play crashes the game. You should already be very carefull designing it. To test for street errors automatically, use the combination D and the E repetitive, until it leads you to the last error. There may and will be situations, especially if you are careless, that a this procedure crashes the editor. The cause of this is a programming glitch. When a map has more than 10 errors, it crashes the editor, by trying to find them. The errors are only found, if they are not on a 4-lane road, one-way road, and on curves and crossings!

The only thing to do in the end, is to manually look for errors. It is done easiest, if you fade out all buildings, zones and all shadows. Fade in the direction arrows. Look very carefully from upper left to lower right corner. Especially look for odd looking street sectors. The most common error is a crossing leftover which has been forgotten. It has no street markings in the middle, and may be spotted with some effort.

If you are fully concentrated, check often your streets and accessibility of buildings, already from the begin of making the map and save very often and IMMIDIATELY test the saved game, you should be able to make your dream map quickly and smoothly.

9. Creating missions

The Missions are in reality just savegames. Important note! The names of the map, missiontarget and picture showing the mission must be identical! To make a mission do the following :

- create the desired map with map editor and save it
- start TG (the game) and save the map as savegame
- make the target of this mission. Missiontarget is a file, with a content similar to this :

END_YEAR	3

COMPANY_VALUE	0	0	0
COVERAGE	0	0	0
TRANSPORTED_WORK	0	0	0
TRANSPORTED_SHOP	0	0	40
TRANSPORTED_SCHOOL	40	40	40
TRANSPORTED_AMUSEMENT	0	40	40
TRAFFIC	0	0	0

The meaning is pretty descriptive, if you speak English ;) The three columns show values which must be reached for stars. The first column is for 1 star, the second for 2, and the third for 3.

- copy the things into Mission(s) directory
- make a bmp picture, and set its extension to .jfl (this is the preview)
- add two times the name of savegame, anywhere in karten.txt (best place would be at the end)

Now you should be able to select your mission in the game !

10. Giving your streets on the map their names (optional)

In the directory *Karten (Maps)* is a file with the name *street.txt*. In it are the names of the streets. This file is a global listing of streets, meaning that EVERY map will take this names. So, if you want your names to be only in your map, create a textfile, in each line a streetname. This file must have 255 lines, or the game may crash at retrieving the streetname information! For an example, open the provided *streets.txt* in any texteditor.

11. Installing and troubleshooting the Map Editor

11.1. - Basic installation procedure

(You should have the required minimum requirements. Since Jowood never said what they actually are, no clue what they are???????)

- Be pacient, the editor may load for a while. 5-10 minutes is the usual, but may take to 15 minutes sometimes.

- This is the correct procedure to install the editor :

1. Download the editor from the webpage : http://www.verkehrsgigant.com/
2. If you do not own a GERMAN legal TG Gold Edition, you may also download the VG demo in German from the same web page.
3. Install the VG demo (only if you needed to download it in the previous step)
4. Install the Map Editor in the same directory where your Traffic Giant resides. It may be i.e. *C:\VgigantDemo*
5. Set the screen resolution to 1280 x 1024 pixels with 16 bit of colors.
You are normally done here and ready to start.

- Many reported huge difficulties in starting the editor. Here are some things you may try :

11.2. - Download http://home.t-online.de/home/320058911353/EditorPatch.zip

  - extract it in the same dir where the Map Editor and TG (or VGdemo) are.

11.3. - Check your system and the Editor for viruses.

Run a virus scanner software, but make sure it contains the newest available virus definitions. If present clean any viruses present!

11.4. - Should you run WINXP choose the right mouse button and select the compatibility mode tab.

Choose as follows :
- Run this program in compatibility mode for: Windows 98/Me
- Disable visual themes
- Turn off advanced text services for this program

11.5. - Try other tricks

- Click Start button
- Click Run... in the menu
- Clear the "Open" box and type in: **dxdiag**
- Click OK button
- The DirectX Diagnostic Tool should open.
- You should see : DirectX Version. It should be 7 or even greater !

11.5.1. If it does open
- Click Save All Information... button
- Write in the filename : *dxdiag.txt* (or any other) and save it (to your Desktop or anywhere else).
- Now you should see a text file called *dxdiag.txt* sitting on your Windows desktop.
- Check this file. If you see text like "error" somewhere, you should follow the next step (4.2 If it does not open).

11.5.2. If it still does not open
- Do you have a recent DirectX? Either that or your DX is really corrupted. Reinstall DX, at least version 7, but be carefull ! Recommended is always the last available version.
- They should all be downwards compatible. If you had i.e. Version 9, you normally can not install any previous version, because the existing version will not let you. If your version is however corrupted, it may. This might and most probably will result in an undefined state, where some files are leftover from the newest, and some from the old. This mix is fatal!

11.6. - Disable all unnecessary device drivers and all unnecessary system services

Be very carefull doing it!! Disabling a vital system service may render your system useless.

11.7. - if still startup problems, try other things

11.7.1. Deinstall everything (TG and the editor), and fresh install TG, then the editor. Save all your savegames and custom maps and custom missions, and restore them afterwards !

11.7.2. Set the file *Vgigant.exe* or *Vg_demo.exe* (whichever you have) to write only attributes! The editor seems to have a bug, which alters this files, so DAMAGING them! This bug appears more often on WinXP and NTFS combination, but can also occur on any other!

11.7.3. Set EVERY file, including the whole TG/VG directory , except the directory called :
     Save
It contains savegames, and they must be writable !

- To play some maps in the non-german edition, you need the following :
     http://www.verkehrsgigant.info/bibliothek/
However, be carefull and backup your old bibliothek (directory *lib* in TG and *bibliothek* in VG). The editor MAY NOT FUNCTION under certain conditions, if using Karel' s Bibliothek, or any other selfmade ! The reason is some memory access problems, because the editor seems to have been programmed using very "dirty" techniques.

- There seems to be some memory problems in the editor starting procedure, some non standard memory access, which causes errors and crashes. I am still investigating, but not 100% sure. The reason why Windows 9x are more prone to crashes is, that they allow non standard memory access, while Windows XP does not!

And finally some experimental stuff, for which I am not sure why it works, but it does for some reason for me (I suspect now, it is because of a memory problem I am investigating). I accidentaly discovered this trying to debug this messy editor, and it did not, as excepted, crash. This was the first time in my life I managed to start the editor (have lost tons of paitence before ;)).It worked at first for me with this freeware monitor :

http://www.rohitab.com/apimonitor

Configure it as follows. In the menu:

Capture -> Process Filter

Choose the option :

Include Filter (Monitor Processes Specified Below)

Do not enter any process name. If you do, the program will watch that processes, what may slow down your computer, or not, depending on the number of watched processes, but we are not interested in them now. Next do this :

Capture -> Capture API Events

Capturing should have started now. Now use :

Capture -> Load Process

Choose the directory and filename of the Editor. If you are lucky, that is it. Now it should have started.

Funny thing is, I managed to replicate this behaviour also with a german debugger called OllyDbg. Hm... Without it I get a crash, and with it, it starts ;) It seems that this debuggers use some protection for memory, which is omitted from editor.

11.7.4. What to do in case of very bad starting problems? Despite your best effort, it may be difficult to start the editor properly anyway. You could try, if you dare, to start the editor software under a so called "Virtual PC", which means, that you simulate a computer inside a computer. To accomplish this, try for example a software called WMWARE (it is commercial), or the Linux Windows Emulator WINE, if you run Linux also. You could also run one inside the other, but this would be to crazy to try, just stating that it is possible. For more informations about this topic please see:

http://www.wmware.com/
http://www.winehq.com

12. The description of the buttons in editor and working with the mouse

- working with files (save file/load file/end editor)

- creating a new map (choose size and then click on the button for map creation)

- working with streets (you can choose between two-way, one-way and 2 and 4 lane street, field-way, bridges and semaphores)

- manage habitats (edgehouses, old houses, houses, mansions, suburban houses, flats, skycraper, family houses)

 - managing leisure facilities (single buildings, zoo, fair, cementary)

 - workplaces (bureau, office, infrastructure, shops, schools, industry, diverse)

 - landscape (grass, fields, water, riverbank, kay, trees, bushes)

 - zoning of the city itself (click and drag to mark)

 - sight (chooses zoom and shows/hides buildings)

 - erase (choose what to erase)

      - On some features you can click and drag inside the actual map, so for example quicker creating random houses, or streets, or water, also trees (forest).
      - left mouse selects feature, holding the mouse over a button, displays an online help.

13. Other map related configuration

As the following information can be used for cheating, I strongly discourage this. I do write it here, just to be used for map testing purposes.

In the directory *Karten(map)* are following files:

Potential_1.cfg
Potential_2.cfg
Potential_3.cfg

Real_1.cfg
Real_2.cfg
Real_3.cfg

They have some parameters, which may be modified,here are the interesting ones. This values are taken by each new begin of a new game :

INITIAL_USER_MONEY	**200000**

You can set this value to one you like. It is the available money on the begin.

ADVERTISING_COSTS	**5000 10000 20000**

The three values, separated by tabs, specify following costs of :
   1. simple advertising
   2. radio advertising
   3. TV advertising
Please let these values where they are, meaning DO NOT MODIFY the tabs between them!

DEFAULT_VEHICLE_DRIVER_SALARY	**0 200**

The last value is the salary. The value before is the type of vehicle.

DEFAULT_VEHICLE_DRIVER_TRAINING_COSTS	**0 50**

Here you can specify the training costs, so making the chance of an accident less likely, but making the training expensive, if set high. The first value is the type of vehicle.

Here are some untested, but probable meanings of parameters :

STATION_RADIUS	0 8

The first value is the type of vehicle for this station, the second is the radius.

For some values you can even specify negative values, what leads to give you money, instead of costing, but this is cheating!

PASSENGER_MODEL	1

Specifies the passenger model.
It is always set to 1 in *Potential?* files and to 0 in *Real?* files.

14. Vehicles on the maps in game

The following information is just for testing purposes. It should not be used for cheating!

The file *vehicles.cfg* resides in the directory *Karten(maps)* and also in *Mission.* The one residing in *Mission* does not seem to be used... It is parsed once at start of a new game. This are the probable meanings of the fields, separated by commas and tabs (The ones marked with **?** are unknown):

1. **The succeding vehicle cathegory (0=Bus, 1=Tram, 2=Train, 3=Levitation, 4=Monorail)**
2. **Successive Vehicle numbers (starting with 0), relative to vehicle cathegory**
3. **Type string**
4. **Vehicle name string**
5. **? numbers 1 to 4? Defaults are : 1 for all busses, 2 for trams&levitation, 4 for trains and monorail**
6. **Year of introduction (relative to the year of beginning, i.e. 0 means at the beginning, 10 at 10-th year)**
7. **Capacity**
8. **Attractivity**
9. **Speed**
10. **? looks like some percentage (numbers between 1 and 99)?**
11. **? looks like some percentage ?**
12. **Cost to buy**
13. **? Seems to be some factor of a calculation ?**
14. **Running costs**
15. **Maintance costs**
16. **? always 2? Trying to change it, does nothing**

The number of vehicles is hardcoded (11 busses, 5 tramways, 5 trains, 3 levitation, 2 monorail). This seems to be due to existing graphics for a vehicle type. If you add i.e. a 11-th bus, it will not be available. If you remove i.e. a tram, only the ones not removed will be available. The successive vehicle numbers do not need to be in order, if not, they are sorted when they are loaded.

15. Some technical info about the bibliothek(library)

The library is just a collection of compressed files. It contains basically the same data, as the editor bitmaps, only compressed and collected in one file. But it is also much more. It contains even graphics for all vehicles and other stuff, that is not implemented in editor (yet). It is possible to recreate the library using editor, just by editing the parameters of buildings, streets, etc. For the graphics itself a bitmap editing tool is needed.

I was trying to decipher the exact format of the .jfl files (similar to .zip files), being able to edit vehicle graphics. I do understand 90% percent of the format, but I miss the compression technique used. In the header of every .jfl file there is just a list of available files inside.

Looking into it with a Hex-editor, you can see the same names in files, as they are decompressed in directories of the map editor (form *00_00_Eckhäuser* to *12_03_Autobruecken schablonen*). The thing I not understand yet is the format of *12_03_Autobruecken schablonen .jsh* files. The rest, after the header with the names, are the actual compressed data. There is a huge chance the algorithm used is the one of aplib library...

The files in *99_00.jfl* are the compressed vehicle bitmaps. If I would be able to decompress/recompress this file, there would be a chance to change graphics and probably the vehicles itself...

99_01.jfl to *99_04.jfl* are other graphics, being located in the *Interface_editor* subdirectory of the map editor.

16. Recommended links

http://www.verkehrsgigant.info/
- New created addon maps, tools etc. Great site!
http://jowood.forum.com/
- Click on the link : Traffic Giant official forum (Here you can sometimes meet me ;))
http://jowood.forum.de/
- German web page! Click on the link : Verkehrsgigant
http://www.verkehrsgigant.page.ms/
- German web page!
http://vgigant.de.vu/
- good fan page (in German)
http://www.nocheineaoe.de/VG/xp.htm
- Instructions how try to start the editor in WinXP (this page is in German)
http://www.hhdsoftware.com/
- freeware hex editor

17. Finally

Happy map creation, and have fun playing, at least or even much more than I did
writing this little tutorial!
Greets, be creative, have a nice game, and stay happy, because this is not all ...

Phantom25

Appendix A

Advanced Tips and tricks for the skilled map maker

0. The oldest tricks in the book : Copy/paste , Trial & error

You can copy/paste some parts of maps, or even, more important, from one map to another ?! This is a wonderfull thing. So, you can take a foreign map, and copy an exotic street combinantion or parts of scenery.

Anyway, be aware! Please respect authors prohibit to use any parts of the map, if he/she wishes it so. Think how you would feel, if somebody unwantedly misuses your work!

You can still research, by coping his parts, and recreating yours on the base of his knowledge. The knowledge gathered may be very handy to be used by building your streets.

1. How to get round terminating ends of the streets? (advanced)

You have to use a trick to achieve this.
You can use the key F1 and F2 on your keyboard, to copy parts from other maps and paste them in your own map.

First you have to copy a part of straight street with a left turning.
Then you copy a part of straight street with a right turning.

Then you have to delete a half of both copies, so achieveing the result of still having only one driving direction.
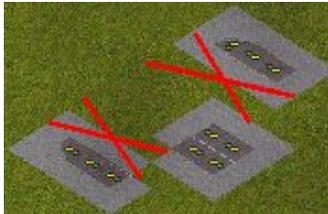
Now you join must the two copies.

The result is straight street with the characteristic soft swing at the end, unlike the original one. It is much simpler, to take a map of somebody that contains such combination, and then copy/paste it.

2. How to make small oneway streets? (very advanced)

You create a normal street. Then you connect it to another until the crossing. Then you delete one side of it, (the one direction, which is not needed) so getting only one line of direction arrows, not a pair anymore. Sometimes you have to manually correct the direction arrows. It is ABSOLUTELY important, that no arrow shows outside of the street!

So, you are also able to make special configurations, like this one :

3. Exotic street layouts (very, very advanced, be very, very carefull doing this)
Despite the fact of a few rules, these rules can sometimes be broken, and the game will not crash. There are even some street layouts which ship with the game, that break the rules. In one map is, for example, one crossing at which a direct one-way street, a 4lane and a normal street are metting themselves. The exact cirumstandes, in which such a layout works, are not fully clear to me, since I am not yet a mapmaking expert, but rather a researcher of the possibilites of the editor. Some maps I make, contain errors, that I do not understand. So I give some maps fully up after a while, and begin again ;)

Once you master these layouts without getting game crashed, you can consider yourself a master in TG Map creation ;) Be brave and dare, because, remember, at the end, only brave win.

Appendix B

Setting parameters of buildings and modding

In the editor, you can click with the right mouse button on any building. A dialog will popup.
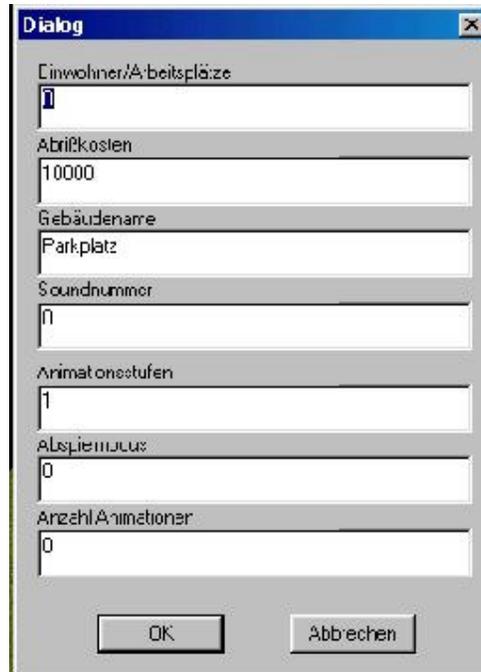
Here you can edit this values for that particular building :

- **Inhabitants/Workplaces (the ratio for this building)**
- **Teardown costs (how much must be paid for crashing this building)**
- **Name of the building (obvious)**
- **Sound number (the succeding number of sound for this building. The sound are in the directory FX_1)**
- **Animation steps (do not know what this is ?, -1 seems to also be valid)**
- **Playing mode (the meaning beats me ?, -1 seems to also be valid)**
- **Number of animations (whatever ?, -1 seems to also be valid)**

The entered value is valid for this building only, and will be used only in newly created games with that particullary graphics library.

The sounds can also be replaced with your own, but this would mess the sounds up in entire game, because the game sometimes chooses random one from the available sounds. The format of this sounds must be : PCM, 22050 Hz, mono (1 channel), 16 bits per sample. The maximal length of it should not exceed 8 seconds.

APPENDIX C (I can not it find such a big word, how advanced this is ;))

Many texts on the buttons in the editor are actually bitmaps. You can edit these bitmaps yourself in Photoshop, PSP, Gimp or similar Image editor software , if you dare.

Legally you may do it only for your own use and academic purposes!

IMPORTANT! Make a backup copy first of all files, which are being edited!

The final size of each sprite MUST be exactly like original in size, and colordeep (8 bit - 256 colors). Do not resize them! If opened, you will see buttons in them. Do not resize them. You can change their color if you like, and of course the texts inside them, making possibly a translation of the editor, when Jowood did not want to ;)

If you want to write a long word inside a button, it may not fit. So use a smaller font or abbrevations ;)

The bitmaps are located inside the folder *Interface_editor* .The final names of bitmaps must stay the same (in German!) :

ANSICHT.BMP
Arbeit.bmp
DATEI.BMP
FREIZEIT.BMP
LOESCHEN.BMP
NEUEWELT.BMP
STRASSEN.BMP
WOHNEN.BMP
landschaft.bmp

Note that by creating an graphic patch we are not doing anything illegal, as long you own the original game legally, because Jowood anyway discontinued the support for the editor. If you bought the game, you already have paid them their share in programming effort. The only difficulty is to translate some texts, which are hardcoded, like the ones for street creation :

- Kreuzungen
- Gehsteige

And also some other texts. They can, however be replaced by opening the executable (*vgigant_editor.exe*) in a Hex Editor, and searching for the appropiate values, which you want to raplace. You have to follow some rules :

- The length of the new text should be EXACTLY like the old one.
- You MUST not replace any filenames inside, including library and filenames, or your editor may function improperly! Some hints given are coupled with a filename.

Appendix D

My gift to you Englishman - I give you the translation

Here is a possible translation of the Editor texts for you (for you having trouble in German language) :

German	English
Zoom 1:1	Zoom 1:1
Zoom 1:2	Zoom 1:2
Gebaude	Building
Burogebaude	Bureau
Verwaltung	Office
Infrastruktur	Infrastructure
Shops	Shops
Schulen	Schools
Industrie 1	Industry 1
Industrie 2	Industry 2
Industrie 3	Industry 3
Industrie 4	Industry 4
Diverse	Divers

Beenden	End
Laden	Load
Speichern	Save
Einzlegebaude	Single building
Zoo	Zoo Garden
Jahrmarkt	Faire
Friedhof	Cementary
Wiese	Gras
Felder	Fields
Wasser	Water
Ufer	Riverbank
Kaimauer	Kay wall
Disabled	Disabled
Baume 1	Trees 1
Baume 2	Trees 2
Busche 1	Bushes 1
Busche 2	Bushes 2
Strassen	Streets
Sehr klein	Very little
Klein	Little
Mittel	Middle
Gros	Big
Sehr gros	Very big
Map erstellen	Create map
Zone 0	Zone 0
Zone 1	Zone 1
Zone 2	Zone 2
Zone 3	Zone 3
Zone 4	Zone 4
Zone 5	Zone 5
Zone 6	Zone 6
Zone 7	Zone 7
Zone 8	Zone 8
Zone 9	Zone 9
Gegenverkehr	Twoway
Einbahn 2spuring	Oneway 2lane
Vierspurig	Fourlane
Highway	***Highway***
Pflaster	Passenger sidewalk
Gehsteigobjekte	Passenger walk objects
Feldweg	Field way
Brucken	Bridges
Ampeln etc.	Semaphores etc.
Kreuzungen	Crossings
Gehsteige	Passenger walks
Eckhauser	Edge houses

Altstadt	Old town
Burgerhauser	Habitant houses
Villen	Mansions
Vorstadt	Suburban
Vorstadt	Suburban
Wohnsilos	Skycraper
Mietkasernen 1	Rented flats 1
Mietkasernen 2	Rented flats 2
Einfamilien 1	Single family 1
Einfamilien 2	Single family 2
Einwohner	Inhabitants
Arbeitsplatze	Workplaces
Soundnummer	Soundnumber
Animationsstufen	Animation steps
Abspielmodus	Playing mode
Anzahl Animationen	Number of animations
Kreuzungen	Crossings
Gehsteige	Sidewalks

Note there is a *highway* existing?! Anyone knows if it is used anywhere at all ? I have not seen it in the map editor, but it has been forseen for the editor for something...