



Introduction

Downloading and compiling the source code of Joy is one way to install the software on a system. Another way is an installer program, although that one is available only for Windows.

The installer was created with NSIS. Downloading and installing is still a frightening experience.

The many steps that are needed are shown in pictures.

Installation

The first step is building the joy.exe binary. This can be done in busybox, using the tiny C compiler. The result is shown in this picture.

```
joy.exe:      file format pei-i386

Sections:
Idx Name          Size      VMA       LMA       File off  Algn
 0 .text          00036e80  00401000  00401000  00000200  2**2
   CONTENTS, ALLOC, LOAD, READONLY, CODE
 1 .data          0000ac00  00438000  00438000  00037200  2**2
   CONTENTS, ALLOC, LOAD, DATA
```

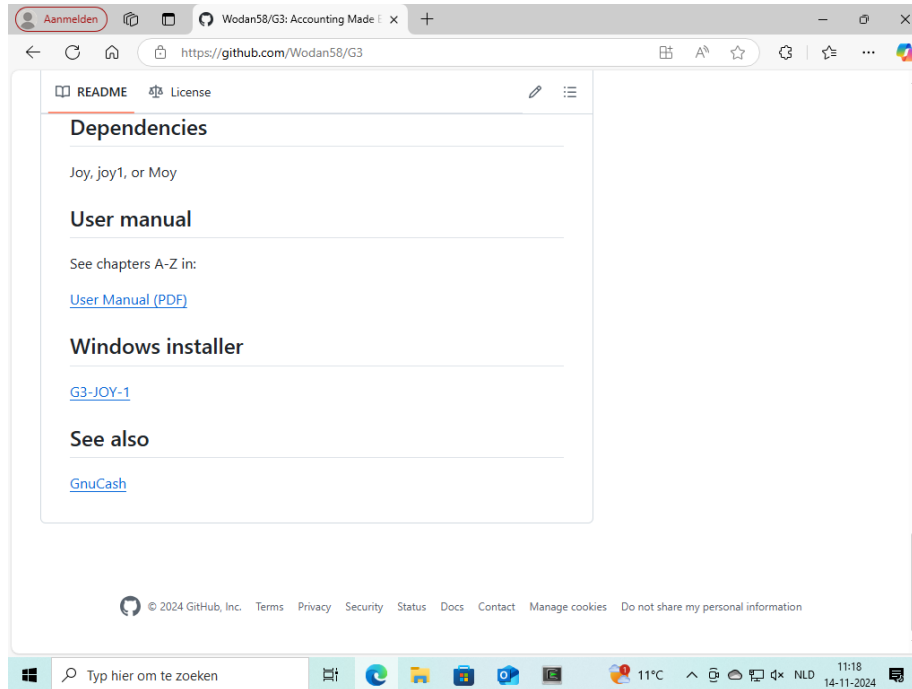
Instead of the many sections that the gcc compiler generates, this one has only .text and .data. That is more like Joy. It is a 32-bits binary, usable on almost all Windows versions. The 64-bits binary had one more section, containing read-only data.

As this is a binary for the Windows system, it is possible to add an Icon that will be displayed here and there. ResourceHacker can be used to add that Icon and the result is shown here.

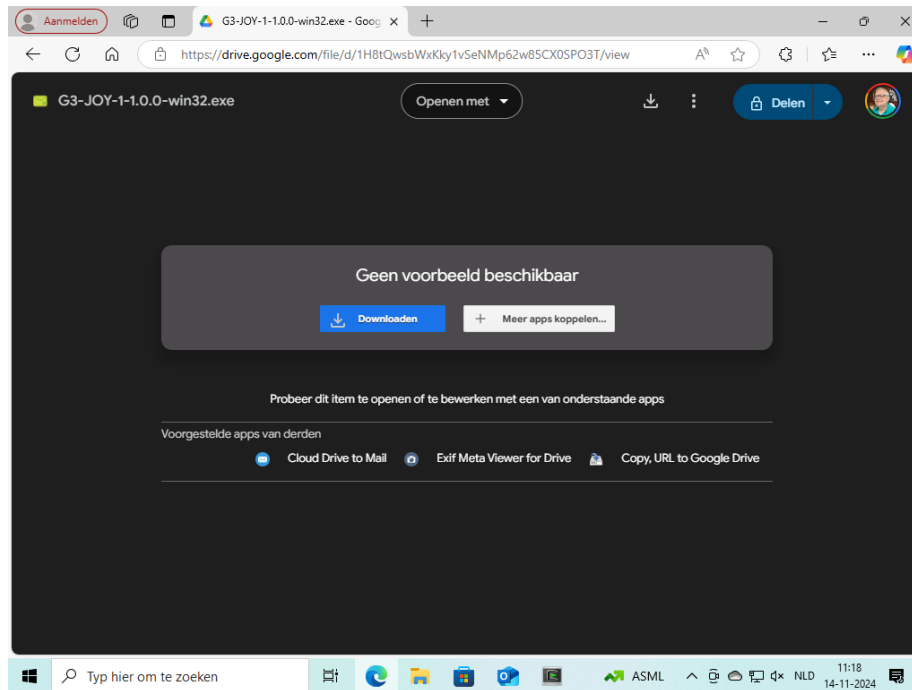
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    CONTENTS, ALLOC, LOAD, READONLY, CODE
  1 .data           0000ac00  00438000  00438000  00037200  2**2
    CONTENTS, ALLOC, LOAD, DATA
  2 .rsrc           00003958  00443000  00443000  00041e00  2**2
    CONTENTS, ALLOC, LOAD, READONLY, DATA
```

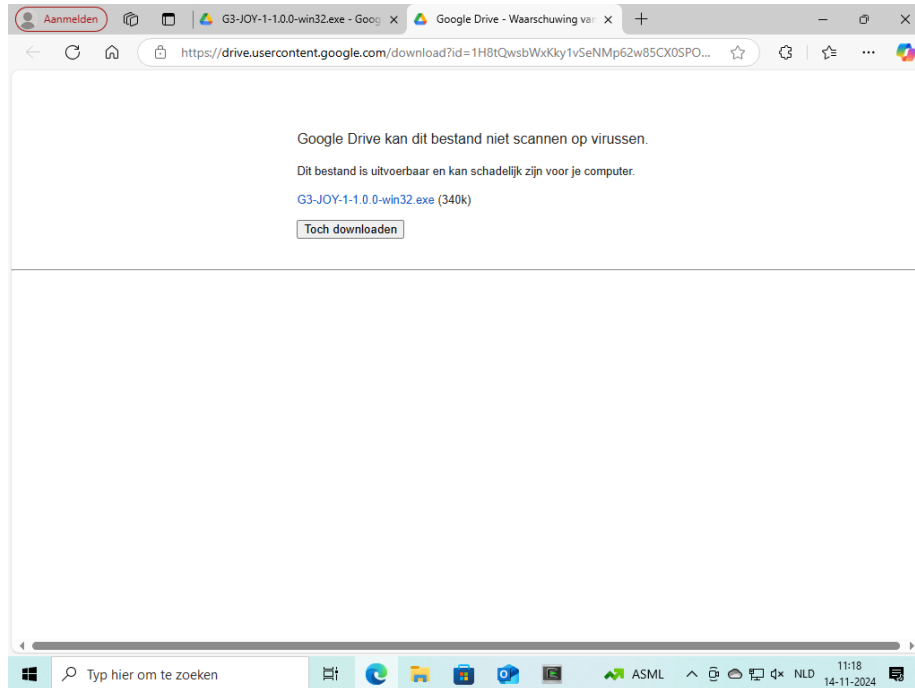
The download is supposed to be started from the link on the Github page, titled G3-JOY-1.



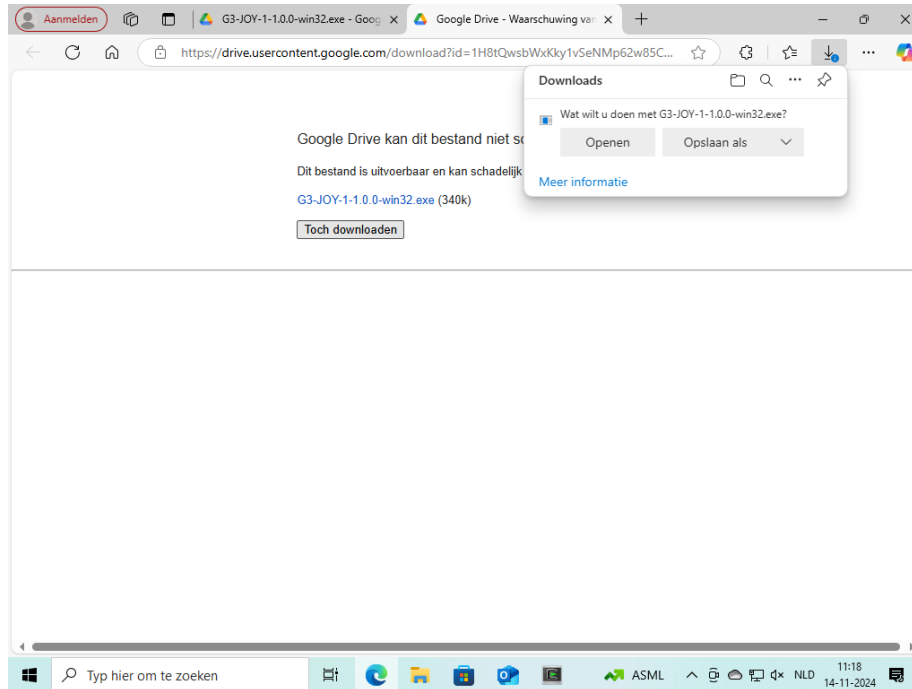
Google does not know how to display the contents. That is ok, the contents of an .exe file is quite complicated.



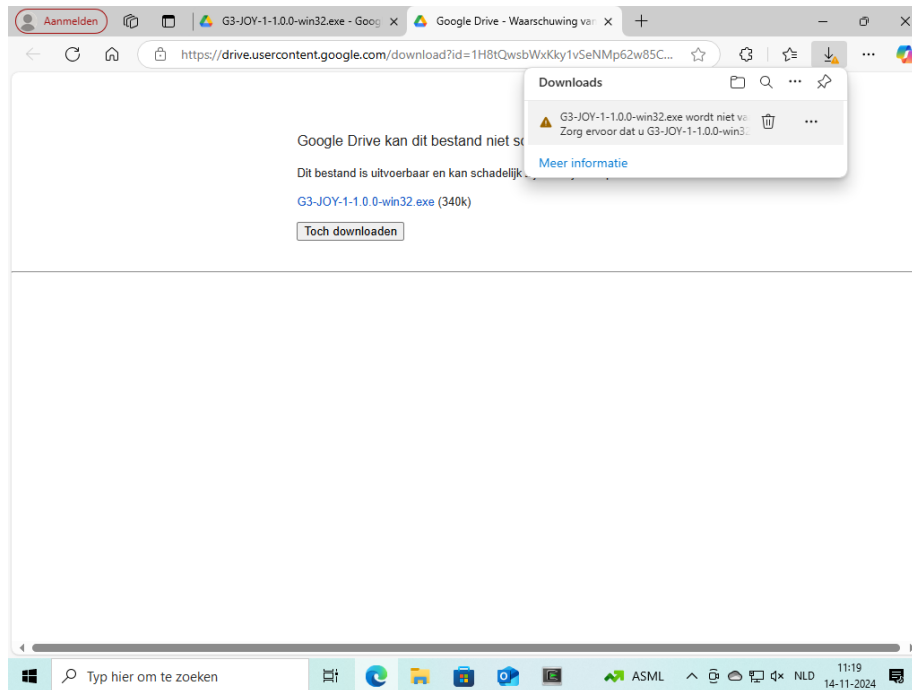
The next step is to press the download key and that leads to the following screen, that says that the .exe is an executable and can harm the computer.



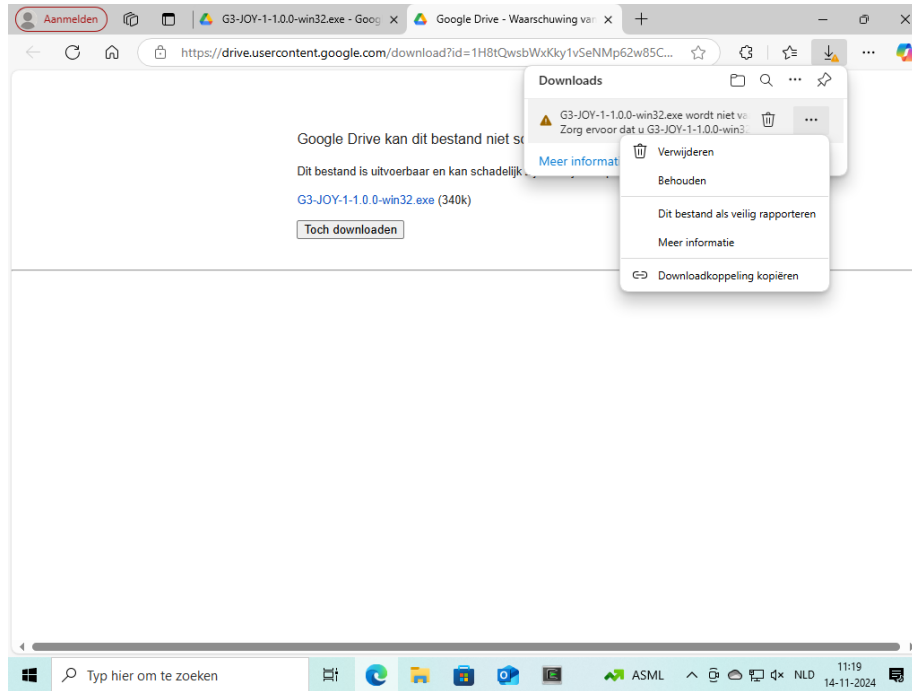
The 'save as' option should be chosen first. This is still harmless, as no code is executed.



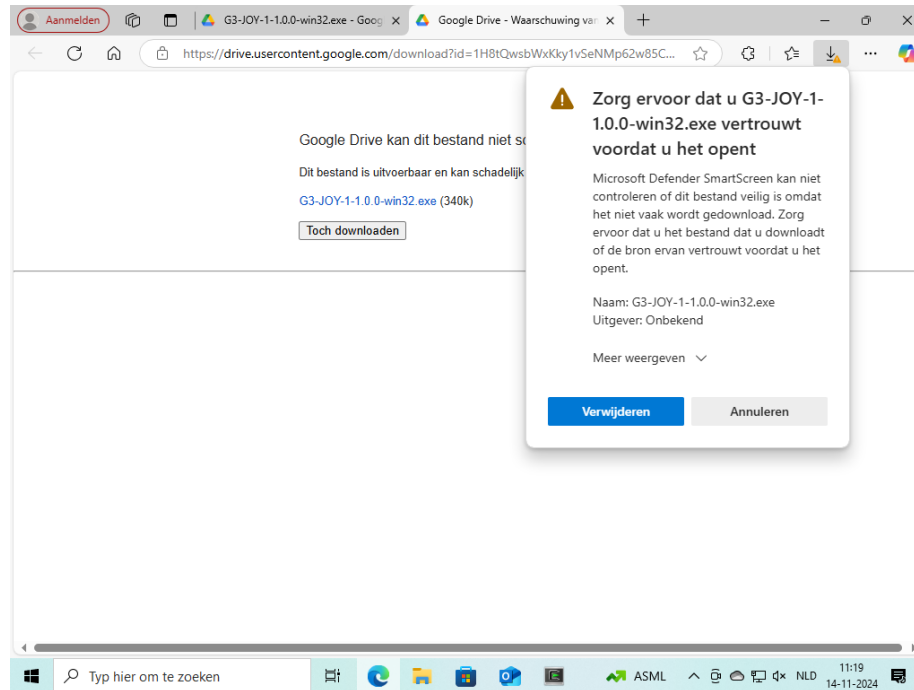
After pressing the 'save as' option, there is another warning, telling that this particular file is unknown and should only be opened, when trusted.



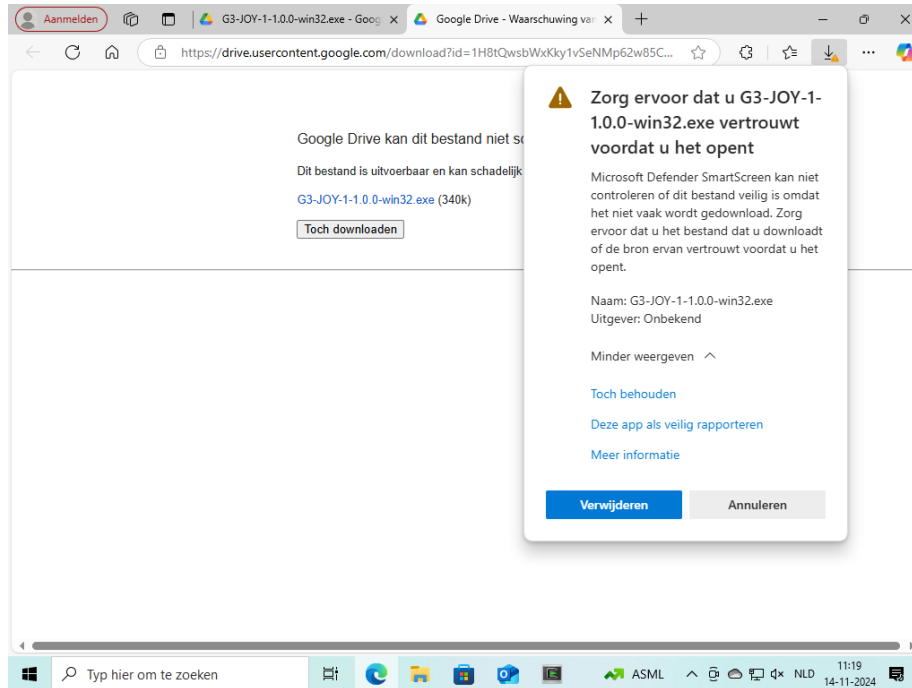
The way to open it, is to click on the ellipsis next to the message and to press the 'save' button.



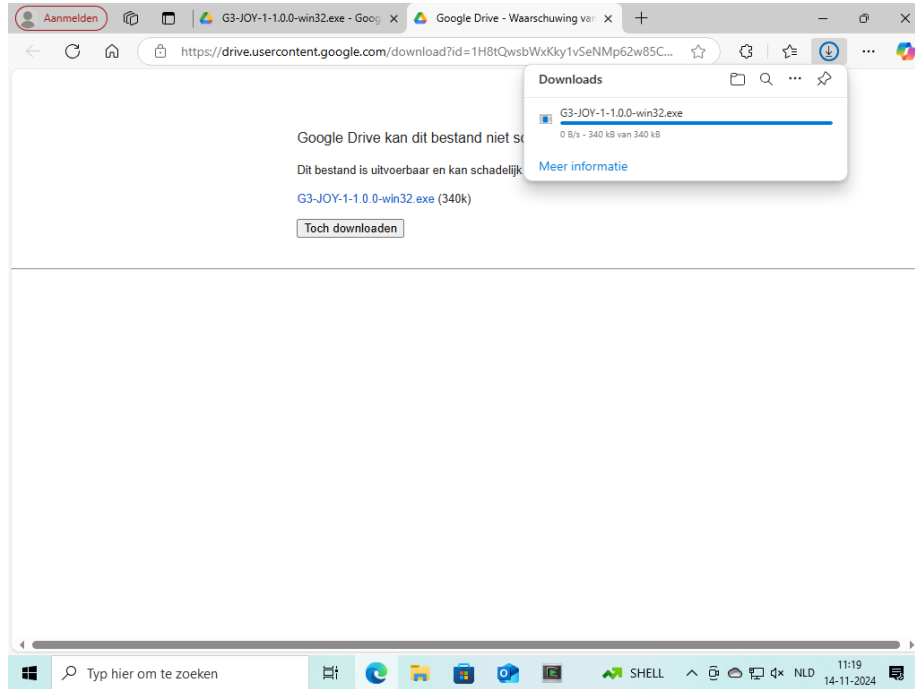
The text warns that an .exe file can be dangerous and downloading should only be done if the user understands the risks. The only way to proceed is by pressing the ‘more’ button.



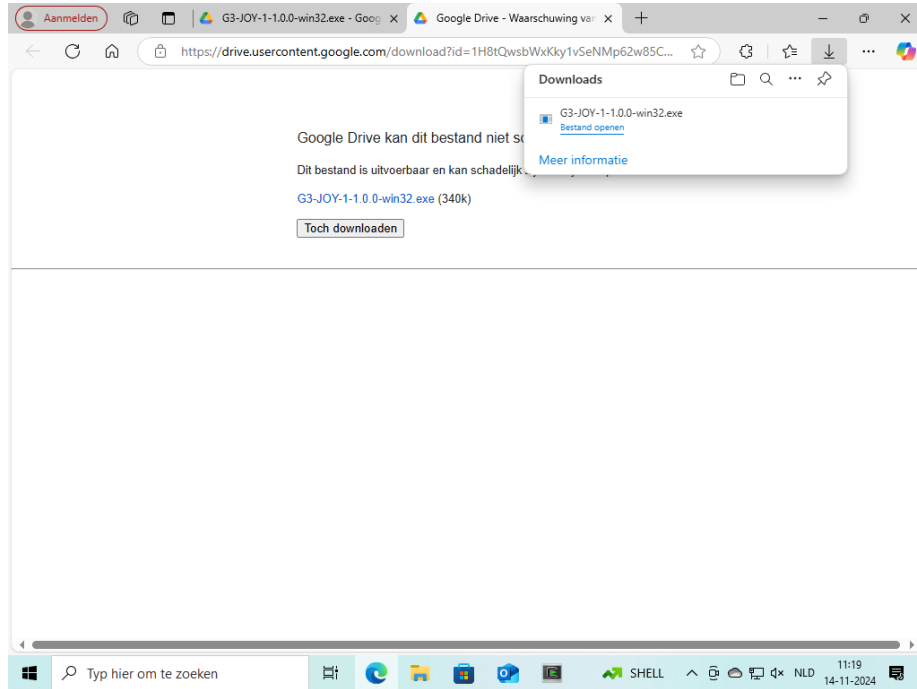
The 'more' button expands the screen and the way to proceed is by pressing the 'keep' button.



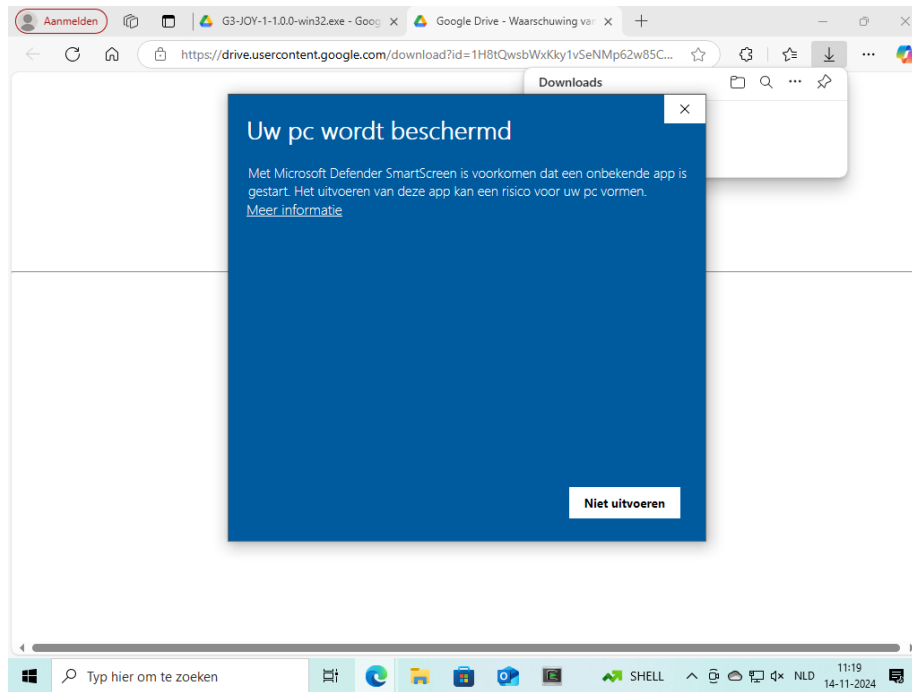
The download is finally going on.



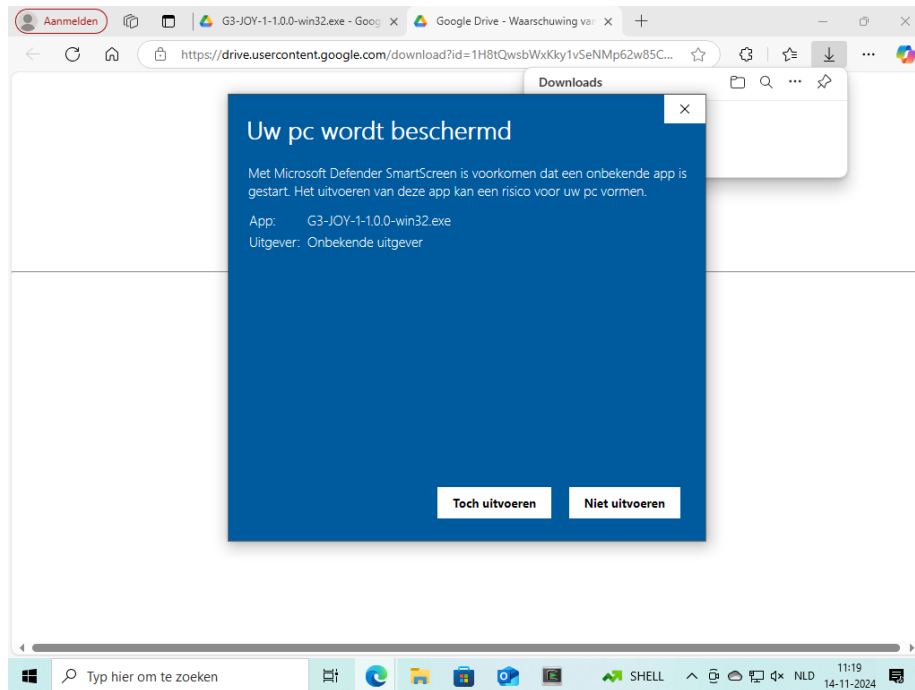
When done, there is the possibility to execute the installer.



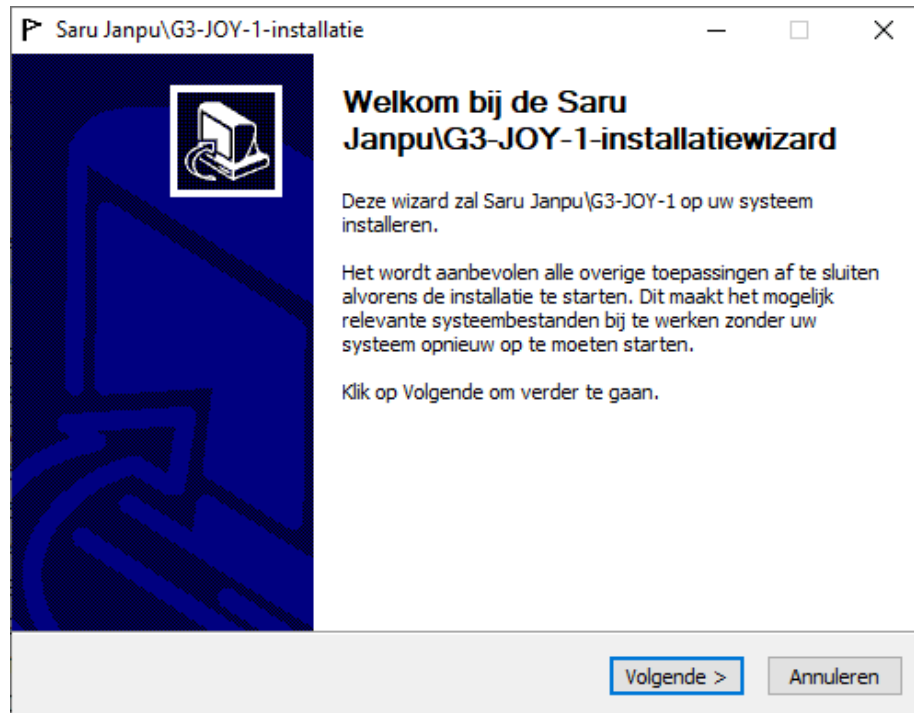
Doing that triggers the Microsoft Defender to come into action.



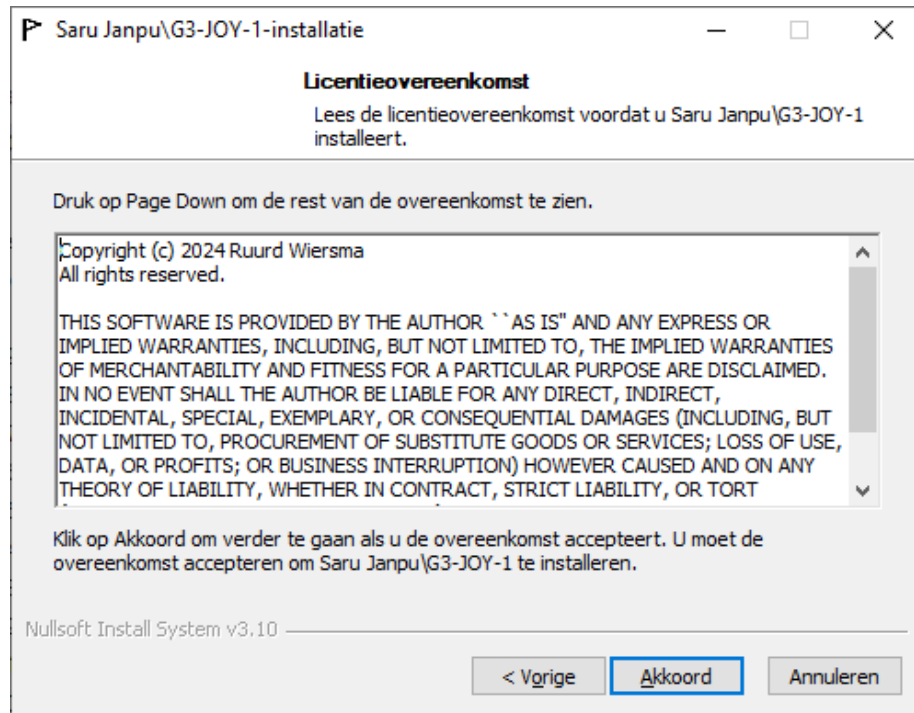
The only way to proceed is by pressing the 'more info' button. In this screen it becomes possible to trigger the installer.



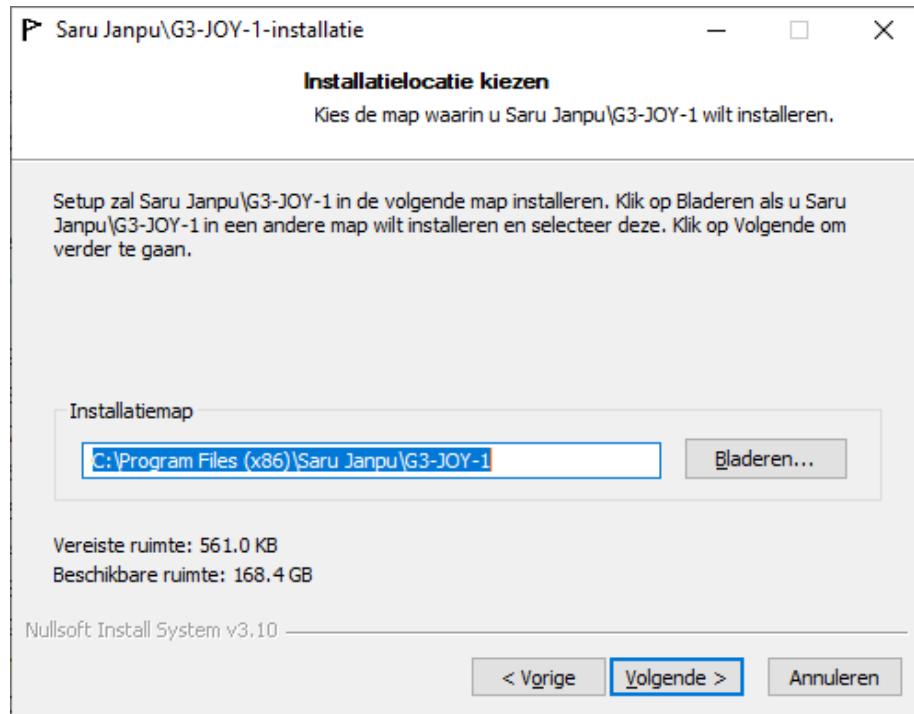
Before the first screen of the installer, there is a screen that asks confirmation. Only the administrator of a Windows PC can do the installation.



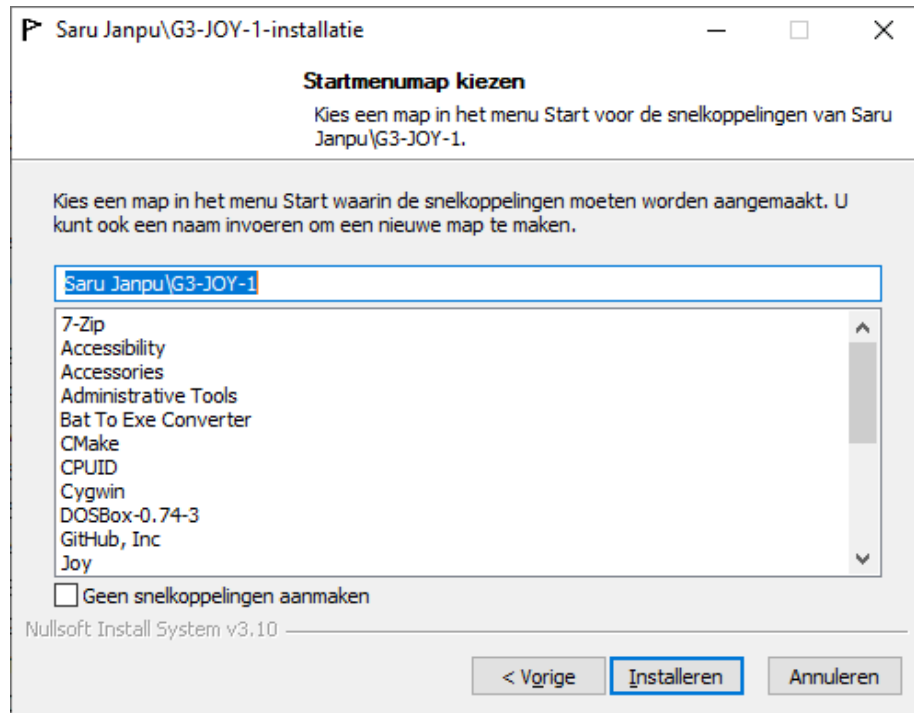
The LICENSE is shown. It says that this is Copyrighted software that comes without warranty.



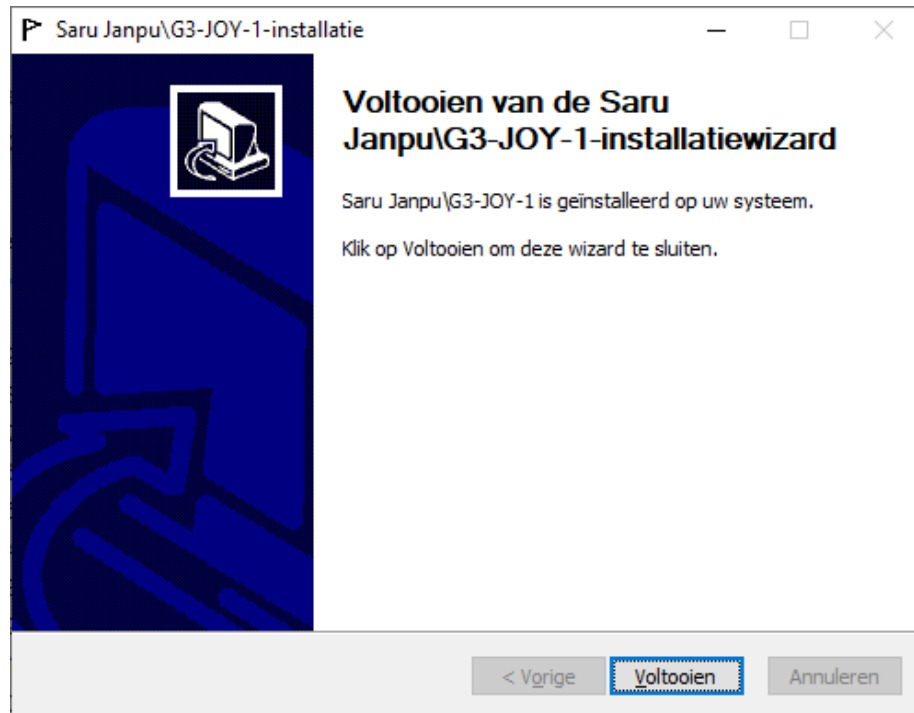
The installation location is shown. It can probably be modified, but that has not been tested.



A map is proposed in the start menu where links to the programs are displayed.



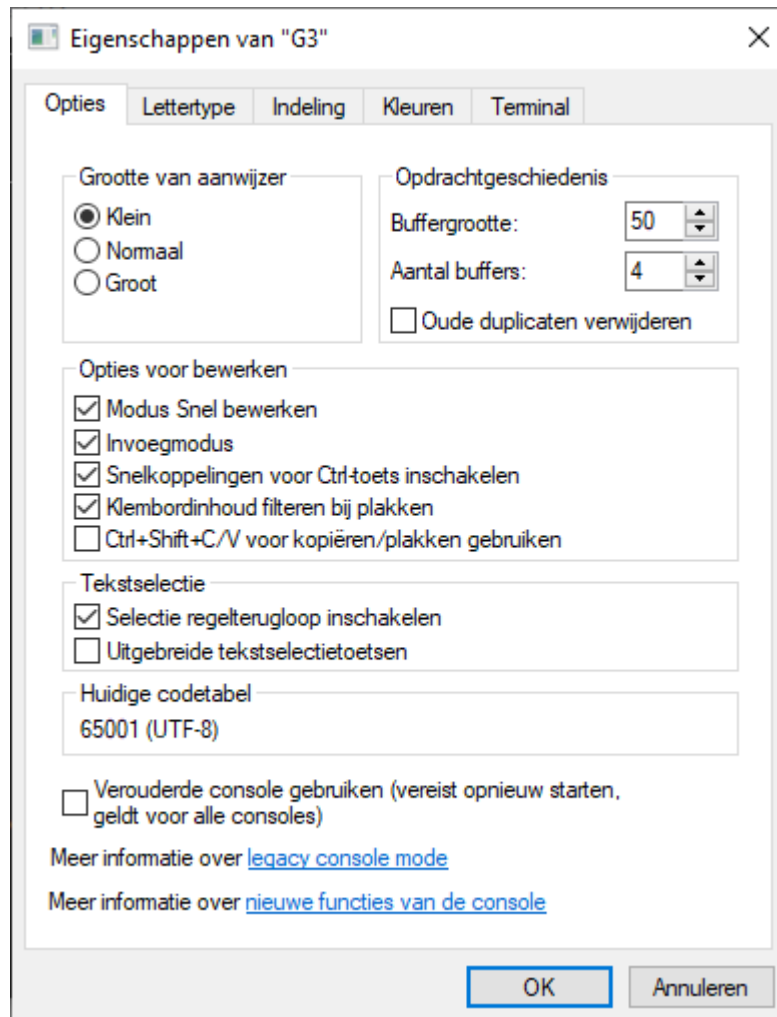
After installing, it does not take long, this screen ends the installation procedure.



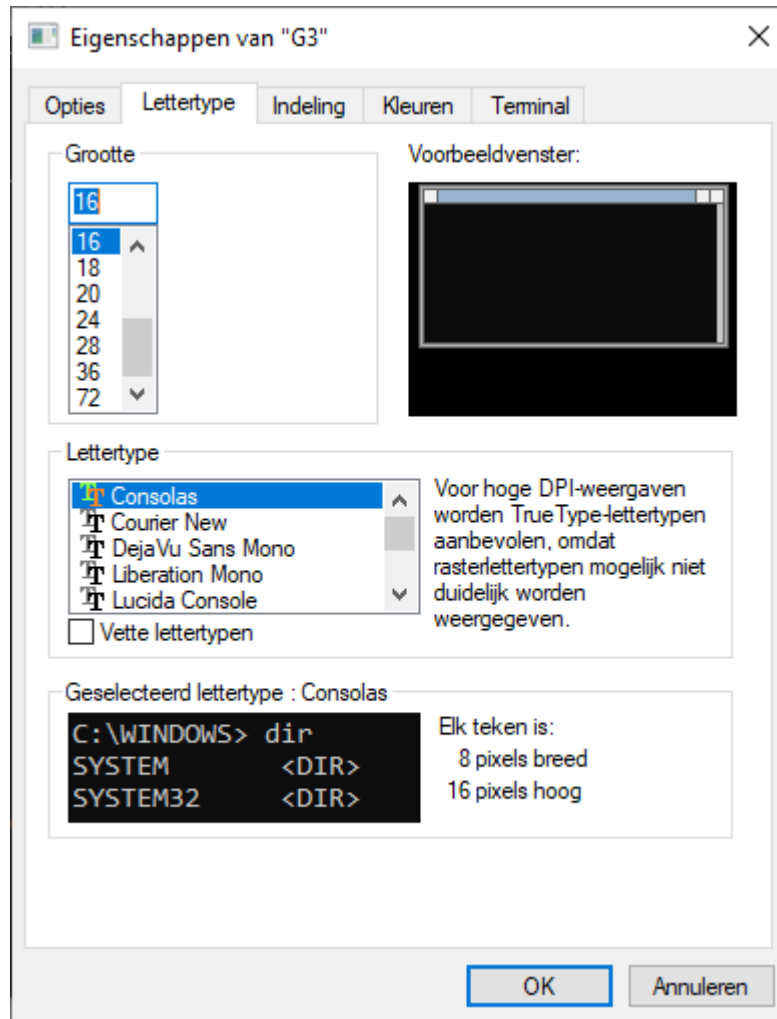
The installer places an icon on the desktop. After starting G3 from that icon the splash screen is shown with standard settings of the Windows console application.



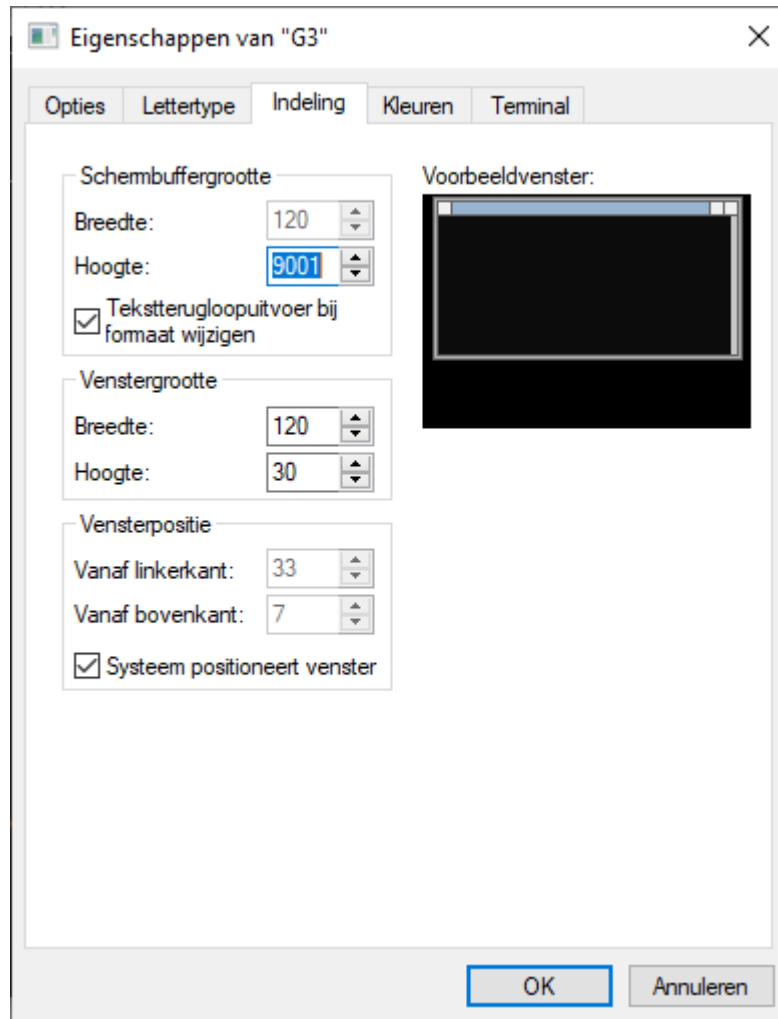
The standard needs to be modified. This can be done while the G3 program is running. It can also be done in the shortcut itself. The properties page shows 5 tabs and a lot of checkboxes.



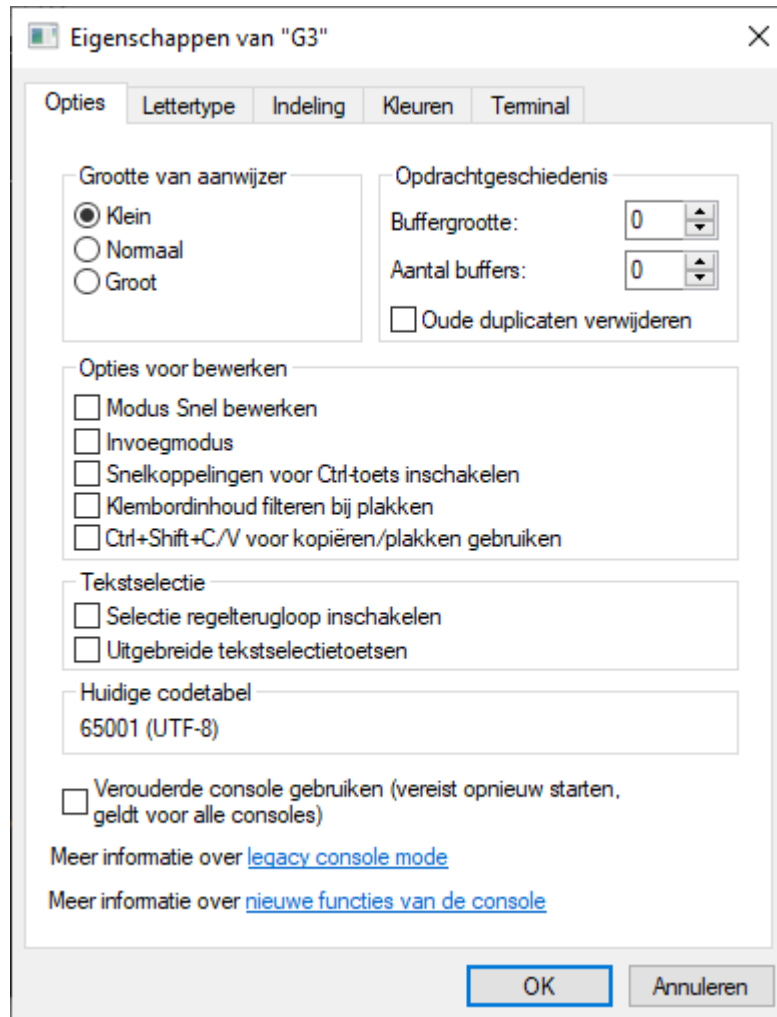
The font selection and size of the font can be adjusted, if so desired. The font settings as they are seem ok.



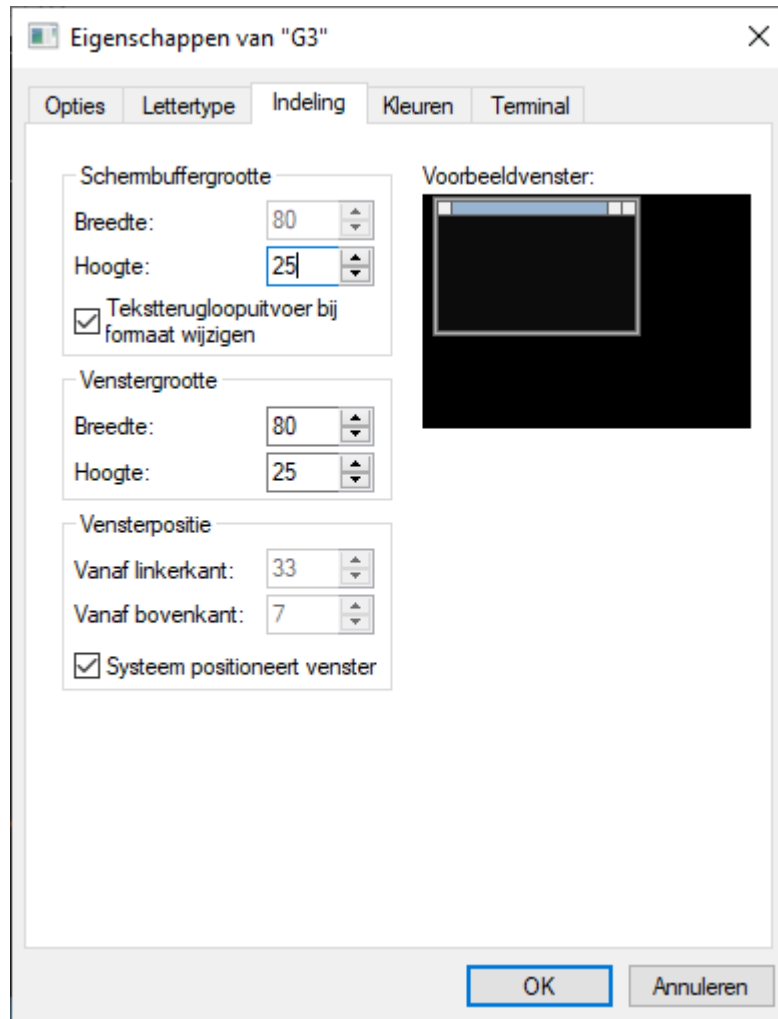
The 9001 in this picture is way too large. And the screen width and height need to be changed into 80x25, because that is what the program was designed for.



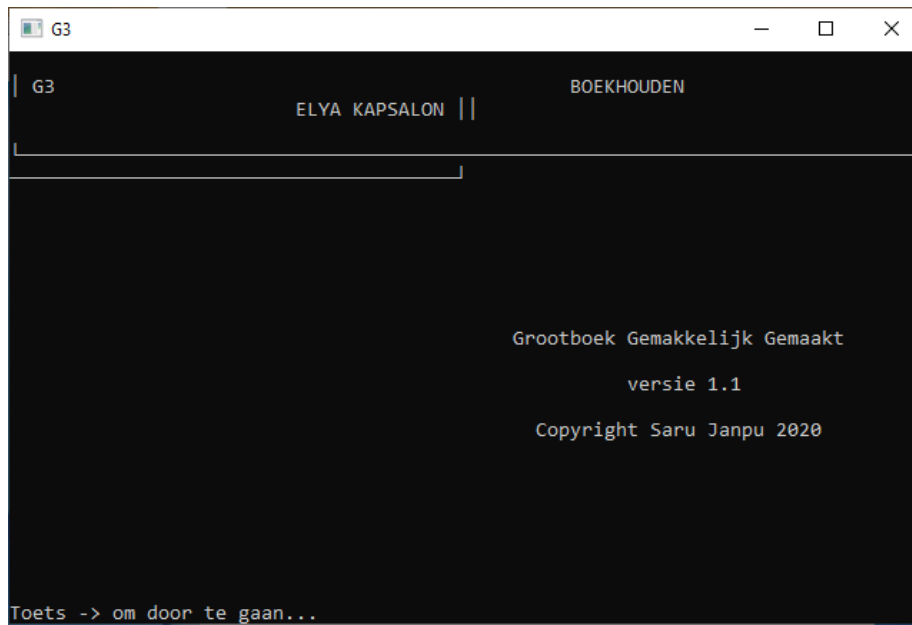
The first tab again with all checkboxes cleared. Buffersize and number of buffers is set to 0. This will be changed to 1 by the system. The codetable 65001 was set by the application. It is not visible when the desktop shortcut is modified without starting G3.



As can be seen here, the screen size is set to 80x25. That is what G3 uses and needs.



This is the effect when the application is running. It probably receives a redraw message from Windows, but G3 is not listening to Windows. It wants to tell Windows what should be done, not the other way around. The only solution is to restart the program and that can be realized by first pressing the right arrow key.



```
G3
```

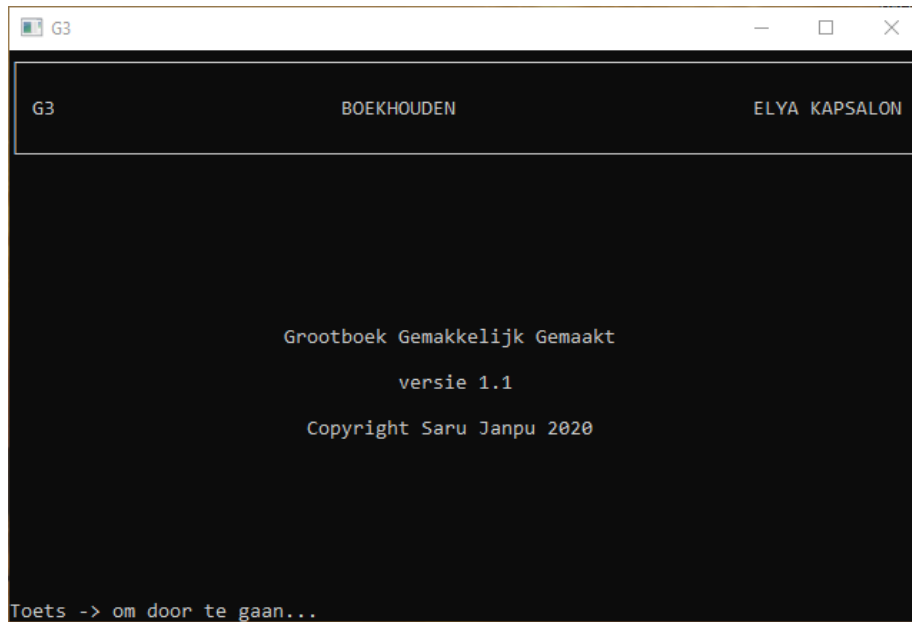
G3	BOEKHOUDEN
G3	HOOFDMENU
LYA KAPSALON	

1. dagboeken
2. instellingen
3. overzichten

Uw Keuze : [1]

Toets <- om het scherm te verlaten...

After restarting the application, everything should look normal.



Conclusion

Because of the many difficulties with installing from a download link, the advice is to just download the sources, install a C compiler and continue from there.

Compilation with tcc means that the makefile needs to be adjusted: tcc instead of gcc and the -lm in the linker flags can be removed.