Saving and Loading **grid** Graphics

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This is a general discussion concerning how you might go about creating (and reusing) persistent representations of **grid** graphics, and some of the pitfalls in the various options.

R code

The way I usually work with graphics is to write R code in a text file and copy-and-paste or `source()` it into R. In this case, the presistent representation of the graphics is the raw R code.

The representation is fully editable.

The representation is persistent across R sessions, but may not be persistent across R versions because the names, argument lists, and/or behaviour of the **grid** functions may change. The representation can be reloaded into R. Incompatibilities between versions should be handled gracefully by R's argument-matching, type-checking, and/or version-checking.

Device output

Another way of creating a persistent version of **grid** graphics is to "save" it to a persistent device format (e.g., PostScript, PDF, ...).

It is possible to edit this representation, but hardly convenient.

The representation is persistent regardless of R sessions or versions, but it cannot be reloaded into R.
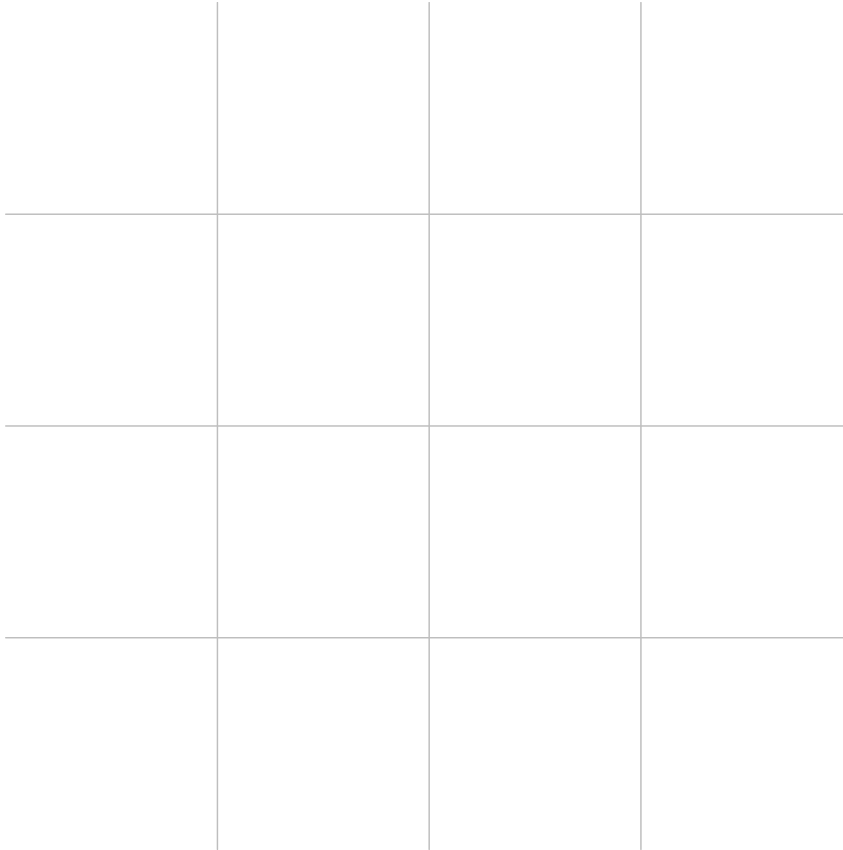
Display lists

A third way of creating a persistent version of **grid** graphics is to "save" an R display list using, for example, ...

```
> grid.grill()
> temp <- recordPlot()
> save(temp, file = "mygridplot")
```

This representation is not editable[1], but it can be reloaded ...

```
> load("mygridplot")
> temp
```

... and rerun to reproduce the output.

The representation is persistent across R sessions (although you have to make sure that grid has been reloaded). Differences between grid versions may lead to segmentation faults if the API of the grid code being called by the display list has changed sufficiently.

grid grobs

Yet another way of creating a persistent version of grid graphics is to save() a grid grob ...

```
> gt <- textGrob("hi")
> save(gt, file = "mygridplot")
```

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[1] Well, there's nothing stopping you editing it, but you should take out life insurance first. Display lists may become sensibly editable in the future.

The representation is reloadable so you can reproduce an image ...

```
> load("mygridplot")
> grid.draw(gt)
```

And the representation is editable; there is an API for interacting with **grid grobs**, including adding new elements, removing elements, editing features of a **grob** and so on. See `getGrob()`, `addGrob()`, `removeGrob()`, and `editGrob()`.

The representation is persistent across R sessions, but is vulnerable to changes in the internal representation of **grid grobs**. The advantage of this representation is that it is possible to share and edit graphics produced by someone else, without seeing the code they used to produce it.