PostScript's Internaldict, Superexec, & the pdfmark Instruction Set

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A brief note here on some of the lesser known **PostScript** and **Acrobat Distiller** techniques and procedures. **Adobe** has an internal dictionary in PostScript called, of all things, **internaldict**.

Originally, this dictionary was "protected" to prevent snooping into font formats or the lame **eexec** encryption that any patient seventh grader could **easily crack**. These days, internaldict is more or less accessible, but Adobe still does not care for you messing around with the fundamental PostScript smoke and mirrors.

The magic password is easily found, and internaldict can be opened by…

<div align="center">

1183615869 internaldict begin

</div>

Besides general snooping around, there's a most useful **superexec** operator in internaldict. Superexec can sometimes override some system access restrictions and lockouts. The usual route is…

<div align="center">

something_hidden {a_blocked_access_route} superexec

</div>

Let's look at a specific and useful example. In **GuruGram #9** we were (and still are) seeking a way for PostScript to have Distiller directly activate PDF graphic states. Especially those involving transparency.

PostScript normally accesses Distiller **COS Object** internals by way of the **pdfmark** operators. A reasonable question to ask is "How many actual pdfmark operators are there and how complete is their **documentation**?

Distiller has a hidden and blocked **pdfmarkInternalDict** inside its internaldict dictionary. We can first use…

<div align="center">

1183615869 internaldict begin
pdfmarkInternalDict { length == } superexec

</div>

… to find there are 46 entries in this dictionary. We can also surmise there are thus 46 pdfmark operators.

To find out for sure, we can do a…

1183615869 internaldict begin
pdfmarkInternalDict { {== ==} forall } superexec

… to actually list all the operators. We see that each operator links a number 0-45 in an array and is thus a simple name to proc converter.

The pdfmark names in alphabetical order are…

/ANN	**/PAGES**
/APPEND	**/__pdfmarkInternal_Max**
/ARTICLE	**/__pdfmarkInternal_Max_ArrayType**
/BDC	**/__pdfmarkInternal_Max_DictType**
/BMC	**/__pdfmarkInternal_Min**
/BP	**/PS**
/CLOSE	**/PUT**
/DEBUG	**/PUTINTERVAL**
/DEST	**/SP**
/DOCINFO	**/StAttr**
/DOCVIEW	**/StBDC**
/DP	**/StBMC**
/EMC	**/StBookmarkRoot**
/EP	**/StClassMap**
/LNK	**/StPNE**
/MP	**/StPop**
/NamespacePop	**/StOBJ**
/NamespacePush	**/StPopAll**
/NI	**/StPush**
/OBJ	**/StRetrieve**
/OUT	**/StRoleMap**
/PAGE	**/StStore**
/PAGELABEL	**/StUpdate**

The overwhelming majority of these appear to be **fully documented**. The **/GS** set-to-the-named-graphics-state I was desperately hoping for does not yet seem available. Wonder what **/DEBUG** does?

Consulting services available per **http://www.tinaja.com/info01.asp**.