Proposal for Loops manual contents.

This ordering is based on the Interlisp Reference manual. Numbers in [D]'s indicate the coresponding parts in the (new) IRM. Other comments are enclosed in D's I envision a manual in a single binder, with large tabs marking the IRM volume separation, and smaller tabs for each chapter.

[[Volume 1 -- Language]] TOC //*TOC*// Introduction *[[1]]* **Classes and Instances** MessageSending The Golden Braid Classes [[2]] {Defines the msg protocol for Classes} Creating instances New msg NewWithValues msg \_New msg sending form **Destroying instances** DestroyInstance msg **Destroying a class** Destroy msg Destroy! msg Changing a class Add msg Delete msg Put msg Rename msg ReplaceSupers msg SetName msg Accessing parts of a class ListAttribute msg ListAttribute! msg Enumerating parts of classes AllInstances  $\mathbf{msg}$ AllInstances! msg SubClasses  ${
m msg}$ **Dealing with Methods** SpecializeMethod  ${
m msg}$ CopyMethod  ${
m msg}$ DefMethod  ${
m msg}$ 

MoveMethod  $\mathbf{msg}$ MethodDoc msg Misc NewClass  ${
m msg}$ Subclass msgPrototype msg See also Proto Instances [[3]] {Defines the protocol for objects} Getting the class of an instance Function Class Class msg ClassName msg Classes for lisp entities -- LispClassTable Accessing variables GetValue, PutValue, GetIVHere GetClassValue, PutClassValue, GetClassIVHere 0,0\*,\_0 problems with embedded "."'s in IV names GetIVValue msg if not an instance NoValueFound **CHANGETRAN** IVMissing  ${
m msg}$ CVMissing  ${
m msg}$ Creating instances NewInstance method Naming instances SetName  $\mathbf{msg}$ UnSetName msg Rename msg ErroOnNameConflict Changing an instance AddIV msg DeleteIV msg **Destroying instances** Destroy message **Copying Instances** CopyShallow message CopyDeep message MetaClasses [[4]] {Defines the msg protocol for MetaClasses}

DestroyClass msg **MetaClass** AbstractClass AnnotatedValues [[5]] NotSetValue Methods //6// Method objects Categories Method functions LAMBDA word Method & OPTIONAL arguments Advising inherited methods Super \_Super? \_SuperFringe DoMethod ApplyMethod  $Functions \ \texttt{ClassNameOfMethodOwner, SelectorOfMethodBeingCompiled,}$ ArgsOfMethodBeingCompiled Defining new methods DefaultComment SubclassResponsibility Conditionals and Iterative Statements [[9]] Date type predicates Object? Class? Instance? AnnotatedValue? Other predicates HasIV, HasIV!, HasCV Understands InstOf, InstOf! Interative statements in-supers-of Message sending forms [[10]] List all message sending forms (even if described elsewhere) \_! \_IV \_Try \_Proto

\_Proto \_Super \_Super? \_SuperFringe \_New \_AV

Looking up methods FetchMethod FetchMethodOrHelp Miscellaneous *[[12]]* System version information Pattern match function MatchDescr \*FEATURES\* DELASSOC [[Volume 2 -- Environment]] Browsing and Exec Level Commands [[13]] UNDOable versions of Loops fns (like PutValue) if typed at top level? LASTWORD **set** by DefineMethods LASTCLASS **set by** DefineClass Loops Icon Left button menu Middle button menu Right button menu Background menu command? Browsers, in general Interaction with GRAPHZOOM MaxLatticeHeight MaxLatticeWidth Shift selectingfrom the background of a LatticeBrowser will COPYINSERT the graph. **Class Browsers** PPDefault UpdateClassBrowsers? File Browsers **Other Browsers** Top level commands DefineClass LASTWORD USERWORDS DefineMethod Errors and Breaks *[[14]]* Function HELPCHECK LoopsDebugFlg LoopsDebuqFlq ErrorOnNameConflict IVMissing IVValueMissing MessageNotUnderstood Breaking and Tracing [[15]] Breaking and Tracing IV access

**Breaking and Tracing methods** Gauges Editing [[16]] EDITDEF When do changes take effect? Copying an AV inside of DEdit really adds a pointer to the same AV! Edit msg MakeEditSource  $\mathbf{msg}$ InstallEditSource msg File Package [[17]] Loading Loops files Effect of LDFLG = PROP, ALLPROP, ect UNDOing Selective loading of classes, etc from a file. Filepackage coms CLASSES METHODS INSTANCES THESE-INSTANCES Noticing changes ObjectModified message Moving and adding MoveToFile msg MoveToFile! msg Saving instances MakeFileSource message DontSave IV property SaveInstance message SaveInstance? message Compiling [[18]] Macros for GetValue, PutValue Refering to Loops objects in compiled code Masterscope [[19]] DWIM [[20]] No method, tries to correct the spelling No method, but a fn=> use the fn. How about other way? Performance Issues [[22]] Garbage Collection Space Speed Caching ClearAllCaches

Evals all forms on the global var ClearAllCaches

Method lookup caches local cache global cache hit rate of 97.5% in our tests IV Lookup caches local cache global cache hit rate of 98% in our tests

#### Processes [[23]]

\_Process, \_Process!

#### [[Volume 3 -- Input/Output]] Reading and Printing [[25]]

The # read macro character

How Classes print

#.(¤ className) and the function ¤

Class.FileOut

#.(¤C className) and the function ¤C

How Instances print

```
Object.PrintOn
Object.PP
PPObj
ObjectAlwaysPPFlag
ObjectDontPPFlag
```

 $Interaction \ with \ {\tt sysprettyflg}$ 

### How AnnotatedValues print

DefaultActiveValueClassName

## UIDs

When assigned

Functions HasuID?, UIDP, UID, GetObjFromUID, MapObjectUID

### User Input/Output Packages [[26]]

Inspector

Extensions to ?=

method doc in promptwindow

select selector from menu

doesn't work in the DEdit menu

### Loops windows [[28]]

The default menu available on Loops windows is compatible with Lisp. It even encludes a "Hardcopy" item that works correctly with LatticeBrowsers.

 $Methods \; \texttt{Window.SetRegion} \; and \; \texttt{Window.SetOuterRegin}$ 

Interaction with ATTACHEDWINDOWS

Index [[Index]]

[[Loops Library Packages Manual]]

# Virtual Copies Gauges

[[Release Notes]] Installation Variables LOOPSDIRECTORY, OptionalLispuserFiles, and LoadLoopsForms. Maybe even LOOPSUSERSDIRECTORIES? The function LOADLOOPS The file LOOPSSITE Just load the file LOOPS Initial screen setup **Customer Support Differences from old Loops** KnowledgeBases no longer a part of Loops Functions ReadLeafObj, AllGlobalNames, RememberName, and GlobalName no longer exist Variables WritingSummaryFlg, WritingLayerFlg, LeafInstanceFlg, FirstEnvFlg, OpenKBFiles, DefaultKBName, CurrentEnvironment, CurrentNameTable, and CurrentUIDTable no longer exist Macro Modified no longer exists Rules no longer a part of Loops Rules are not distributed. If they are needed, they can be loaded by first recompiling them and then loading the file LOOPSRULES-ROOT. This replaces a few functions and methods in the standard system and then load the rules files.

### Code cleaned up

Variables VarNameIndexes, PrintStatusWindow, and TTY no longer exit Functions DC, DE, UE, EM, EI, EC, and FILE no longer exit

- Macro @@ no longer exists. Change (@@ foo) to (@ ::foo), or even (@ foo)
- Usermacros PU, UE, and EU no longer exist
- The argument that controls updating in the window methods SetOuterRegion, SetRegion, Shape, and Shapel have all been changed to noUpdateFlg. They used to be a mixture of updateFlg and dontUpdateFlg.
- The nterpretation of the left, bottom, width, and height IVs in the class Window is now the same as Lisp windows: left and bottom refer to the lower left corner of the outside of the window, width and height refer to the outside dimensions of the window (including title).
- The fie LoopsMixin has been deleted. The classes DatedObject, IndirectObj, Node, Perspective, NamedObject, GlobalNamedObject, TextItem, VarLength, StrucMeta, ListMetaClass, TempClass, and Template no longer exist.

- Old messages List and List! are now called ListAttribute and ListAttribute!. This change was required for future migration to CommonLoops. Theold methods for List and List! are still available in the LOOPSBACKWARDS file.
- The functions DebugLoops, LOOPSDIR, i/d, and TESTLOOPS have been removed from the system.
- The functions CheckDestroyedObjects and RemoveClassDef have been removed from the system.

I/O

- Support for reading in old style read macro (like #(localState getFn putFn) or #¤Mumble) is available in the file LOOPSBACKWARDS.
- UIDs are no longer strings. They are CONSes of session-id's and uid numbers.
- **Active Values** 
  - Most of the old functions for active values have been moved to LOOPSBACKWARDS. The functins GetLocalState, PutLocalState, GetLocalStateOnly, PutLocalStateOnly, ReplaceActiveValue, MakeActiveValue, and DefAVP are still around, and seem to work. The exception is MakeActiveValue — it now always EMBEDS.
  - Functions GetActiveValueGetFn, GetActiveValuePutFn, GetActiveValueLocalState, PPutActiveValueGetFn, etc no longer exist. Replacements are available in the file LOOPSBACKWARDS
  - NotSetValue is no longer ?—it is now an active value. This may require changes to any code that directly refered to ?.

# Virtual Copies

The messages MakeCopy99, MakeCopyActiveValue99, MakeCopyList99, and MakeCopyObject99 in VirtualCopies have been renamed \Internal/MakeCopy, \Internal/MakeCopyActiveValue, etc

## Method properties no longer exist

Function PushNewValue no longer defined. Instead, use CHANGETRAN.

Can't load new Loops files into old Loops.

### Conversion of old Loops code to new Loops

Old code will need to be recompiled.

File LOOPSBACKWARDS

Function ConvertLoopsFiles

**Future Directions**