

LOOPS

A Knowledge Programming System

The LOOPS knowledge programming system, is an extension of the popular Interlisp-D programming environment for the Xerox 1100 Series of Scientific Information Processors – 1100, 1108, 1132.

Loops is a powerful combination of several programming styles:

- Procedure-oriented
- Object-oriented
- Data-oriented
- Rule-oriented

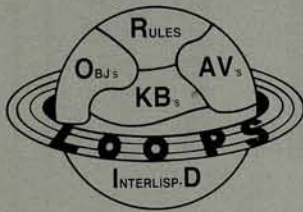
LOOPS extends the Interlisp-D programming environment to provide a powerful tool for artificial intelligence research and expert system development.

LOOPS is a research prototype. It was developed over the past two years by the Knowledge Systems Area of Xerox Palo Alto Research Center, where it continues under active development.

Xerox Research is pleased to make the results of this work available to other 1100 Series users who might wish to use LOOPS for research and advanced development.

Beginning in September 1983, LOOPS will be available from the 1100 user library to all 1100 series customers. There will be no charge for a license for internal use, apart from a nominal fee to cover the costs of distribution.

Distribution will be handled by Xerox Special Information Systems.



Pr Typescript window -- Connected Directory: (IVY)<STEFIK>LISP>

FindStoppingPlaceTravelerRules

```
IF gasStation+(FurthestRoadStop (RoadStops $GasStation .Range
1 direction 'Room))
(Distance gasStation)<(Distance destination)
THEN stoppingPlace+gasStation;

... Rule # from RuleSet FindStoppingPlaceTravelerRules
edited by STEFIK on 11-MAR-83 17:11:05
```

Game Status

```
at stereo haven
Cash lost: $83372.24
>> #SMARK intercepted!
Sanjay Moves -4 (max 16) To:
Weigh Here
Sanjay paid total Mt. Tax $10.0
Mark Moves -3 (max 18) To: Homelmp
Mark Sells 40 Saw units.
Moves Remaining: 140
Sanjay Moves -7 (max 46) To:
DirtyDns
Sanjay Buys 32 Gasoline units
Mark Moves 4 (max 4) To: Keith's Gas
```

Class Inheritance Lattice

```
Player
├── InteractivePlayer
│   ├── Bandit
│   └── Traveler
│       ├── HighRoller
│       └── Peddler
```

fuel of Sanjay

cashBox of Sanjay: 6127.6

Current Player: \$Mark

Moves Remaining: 139

cashBox of Danny: 4.79988

fuel of Danny

Weight of Danny: 188, Volume of Danny: 188

fuel of Mark

cashBox of Mark: 429649.8

Weight of Mark: 8, Volume of Mark: 8

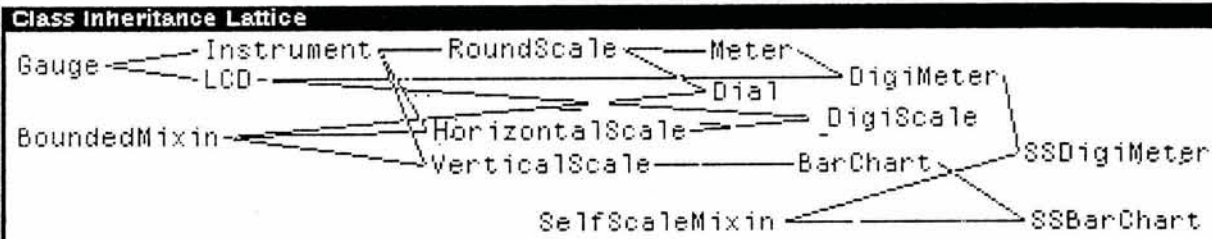
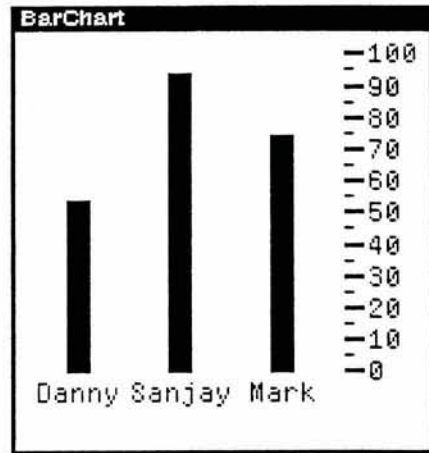
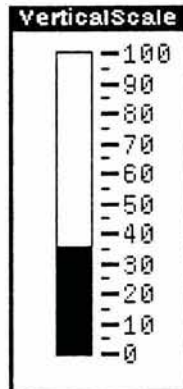
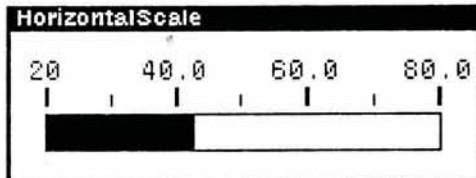
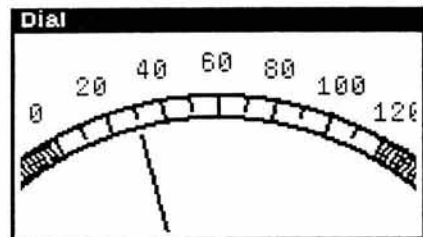
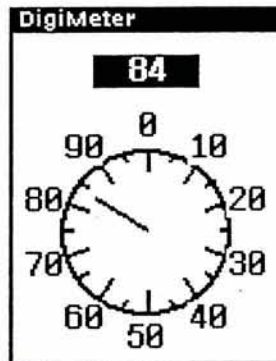
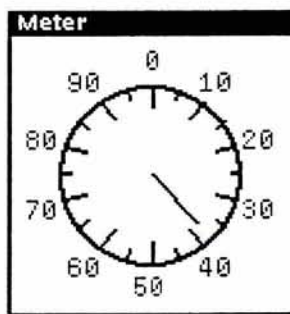
History

TRUCKIN Domain for Expert Systems. Created by: DANNY BOBROW, SANJAY MITTAL, and MARK STEFIK. Copyright (c) 1983 Xerox Corp 15-MAR-83 16:54:1

| | | | | | | | | | | |
|------------|-------------|--------------|---|----------------------------|--------------|-------------|------------|-------------|---------------|------------|
| Union Hall | Art's Art | Broken Pipe | Smita Farms | DirtyDns | Reid's Bits | DonnaFshns | Jordy's TV | Alice's | Fred's Fruits | Smash Em |
| | 514 @ .98 | | 821 @ 1.05 | 567 @ .8 | 63 @ 11.6 | 471 @ 3.88 | 94 @ 1.04 | | 442 @ 7.74 | 370 @ 1.18 |
| Dot Hole | BunnyCarrot | VeryBerry | Alice's | Expert Sys | Kim's Stuff | Lane Closed | Flea Mkt | 49'er Mines | Men At Work | Weigh Here |
| | 780 @ .88 | 500 @ .78 | | Xerox1100 | Commodity | | Commodity | 794 @ 1.23 | 41 @ .88 | |
| Printinc | Old Stereos | Homelmp | Shirtless | Paper Place | Stereo Haven | Keith's Gas | Ice Boxes | See (Past) | SauceFactory | PlugIn |
| 358 @ 1.13 | 88 @ .69 | Hardware | 331 @ 1.01 | 581 @ 3.02 | 72 @ 6.47 | 224 @ 1.0 | 134 @ 1.12 | 1 @ .92 | Tomato | Appliances |
| | | | | OfficeSuppliesStereoSystem | | | | | 172 @ 9.97 | 162 @ 4.75 |
| Yankees | Fish Scales | Sheik Gas | Rule Exec (stopgap Version) | | | | | | | |
| 310 @ 1.4 | | 40 | re: stoppingPlace #&(KeithGas (6 . 26892)) re: why stoppingPlace | | | | | | | |
| H&J Saws | PreetPlace | MorganBikes | (* Dont run out of gas.) IF goal~='SitTight truck:fuel < .25 * truck::MaxFuel truck:cashBox>0 gasStation+(NearestRoadStop (RoadStops \$GasStation .Range1 NIL 'Room)) THEN stoppingPlace+gasStation; | | | | | | | |
| 83 @ 1.18 | LuxuryGoods | 420 @ 1.55 | ... Rule # from RuleSet FindStoppingPlacePeddlerRules edited by STEFIK on 11-MAR-83 17:11:25 | | | | | | | |
| CheapGas | MittalMetal | 2Ears Stereo | re: | | | | | | | |
| 592 @ .94 | Gold | 330 @ 2.27 | | | | | | | | |

LOOPSGAUGES

Gauges -- Defined by Classes, Driven by Active Values



XEROX