Hollywood Programming

Class 1: Primer level
Introduction to Hollywood
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Background

- Hollywood is a scripting engine for multimedia

- It has a plug-in system for additional functions

- It is the basis for Hollywood Designer

    - Will not be covered much in this presentation

    - Basically PowerPoint for Amiga

    - GUI front-end for some Hollywood functions

Preprocessor Commands

- Allow media files to be embedded

- Set metadata for interpreter

- Allow Locale support

- Select plugins and import other source files

- Always prefixed with an @ symbol

Hello World Example

```
@VERSION 2,0
Print("Hello World!")
WaitLeftMouse
End
```

Data Types

- Integers are whole numbers

- Floating point allow decimals

- Strings are text

- Tables store multiple items

- Functions are code

- Nil indicates an empty value with no type

Variables

```
myvar = 1.5

myvar = "Hallo"

myvar = {1, 2, 3}

myvar = Function(s)
      DebugPrint(s)
   EndFunction
var1, var2, var3 = 1, 2, 3
```

Local and Global Scope

- Local variables are garbage collected at the end of the function

- Global is the default value and is visible anywhere in the program

- Locals preferred over globals
  - Memory footprint is smaller
  - Reference counting is automatic

Constants

- Start with the hash symbol #

- Assigned once using the Const command or via command line option

- Evaluated at compile time rather than run time making them faster than variables

- Always global, never local

Table Data Type

- Only composite type in Hollywood

- Key/value pairs associated using hashing

  – Equivalent to Unordered Map in C++

  – Equivalent to Dictionary in Python

- Can use integers or strings as keys

Metamethods for Tables

- Similar to operator overloading in other languages like Python or C++

- Shorthand for functions defined by methods

- Make code look confusing if misused

- Not recommended for common use

- RawSet, RawGet and RawEqual can bypass metamethods and be used in definitions

Table Uses

- Classes – Contain functions and data
- Arrays – Integer keys only
  – Have special functions in Hollywood
  – Since they are wrappers for Table structure, they have few speed advantages
  – Can be optimized since version 9.0 as Lists
- Namespace – Keep classes organized

Control Flow – Conditional

- If/Else/EndIf statement
  - Boolean version of Switch statement (True or false)
- Switch/Case/EndSwitch
  - Numeric or String
  - Compares against constant values

Control Flow – Loops

- While/Wend
  - Tests condition at the beginning
  - Repeats as long as condition is met
- Repeat/Until
  - Tests condition at the end
  - Repeats as long as condition is not met

Control Flow – Loops part 2

- For/To/Step/Next
  - Counts between 2 predefined values by step value
- For/In/Next
  - Uses an iterator to separate table contents
    - IPairs function goes in integer key order
    - Pairs is unordered and useful for strings

Control Flow – Functions

- Group commands together

- Can be stored in variables or tables

- Methods
  - Shorthand for passing "self" variable to the class the method is a member of
  - Used for object-oriented programming
  - Indicated using a colon rather than a dot

Control Flow – Return

- Return statement
  - Exits function immediately
  - Optionally passes values back to caller
  - Parameters passed back must be contained in parentheses
  - Local values passed back are reference counted correctly

Control Flow – Other

- Continue statement
  - Restart loop iteration at the beginning
- Break statement
  - Exits conditional or loop immediately
- Fallthrough
  - Allows switch to execute the following case

Hello World Requester

```
@VERSION 4,0

SystemRequest("Greeting", "Hello World!", "OK",
#REQICON_INFORMATION)

End
```

Built-in Libraries

- Video – Codec support

- Vectorgraphics – Structured drawing

- Anim – Silent animations

- Brush – Bit maps and clip art

- Event – Asynchronous timing

- Graphics – Bitmap manipulations

Built-in Libraries part 2

- Requester – Easy dialog boxes
- DOS – File handling
- Locale – Unicode based text
- Sound – Music and sound effects
- Clipboard – Cut and paste
- Interprocess Communication (IPC)

System Support Libraries

- Amiga Support
  - AREXX, AmiDock, Public Screens

- Mobile Support (Android and iOS)
  - On-screen keyboard

- Windows
  - Registry keys, Shortcuts

Available Plugins

- Music playback – AHX/HVL, DigiBooster, Ogg Vorbis, XMP supports OctaMED

- GUI – RapaGUI, MUI Royale

- Graphics loaders – JPEG2000, SVG, PCX, TIFF, Icon formats

- Planar support for classic Amigas

- Archivers – Zip, XAD

Available Plugins – part 2

- Video Playback – Ogg Theora, Movie Setter, YAFA, FFMPEG
- Networking – HTTP Streaming
- Animation – APNG, FLIC
- File importers – XML, Scala MM
- Graphics acceleration APIs
  - OpenGL, SDL 2

Sources

- Main site:

  http://hollywood-mal.com

- Documentation:

  /docs/html/hollywood/

- Plug-in Downloads:

  /download.html