

PAGODA SYSTEMS

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ULApag

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ASSEMBLY PROGRAM

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USER MANUAL

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# 1. INTRODUCTION

## 1.1. *ULApag*

ULApag is an education tool based on animations and visualizations constructed 3D computer graphics in the area of assembly. (For technical details please refer to the developer's guide of ULApag.) The main purpose of the system, is to be able to visually assemble any mechanical systems, make an animation of this assembly to educate people and finalize this animation for the end users as a whole product which gives information, and abilities to user to travel in the animation. This user guide briefly introduces the assembly ULAPag to the users.

## 1.2. System Requirements

For the installation of ULApag minimum hardware and software requirements are:

### Hardware Requirements:

- Pentium 1.4 GHz / AMD 1.5 GHz Processor
- 128 MB of Memory
- 32 MB of Video Card (Display Adaptor) with 3D Support.
- Free Disk Space for Installation
- Sound Card

### Software Requirements:

- Windows 98-2000-XP Operating System
- OpenGL Drivers(minimum OpenGL 1.2 version)
- DirectX 9.0

### **1.3. Installation**

Whenever you insert ULApag CD to your CD-Rom, the installer for windows will automatically start. You must follow the instructions of the installer.

On website downloads, after downloading and extracting the file run (double click) installer.exe .

### **1.4. Running the Assembler**

You can start dealing with the assembler by simply executing the ULApag.exe in the windows operating system.

## **2. USING Program**

### **2.1. Getting Started**

When starting with the editor, at first glance five main parts attracts the attention. These five main parts of program are Library, Time Line, Object Properties, Sound/Text Controls, Object Properties and Scene.

Library on the left hand side of the editor is used for viewing and adding the library objects to the scene.

Time Line controls on the top form of program are used for creating animations and adjusting the frame properties on each frame to run an accurate animation as wanted.

Object Properties controls on the right hand side of editor, are used to define and adjust the scene position of objects.

Sound/Text controls on the bottom side of program, are used to rich the frame formats such as attaching texts and sounds to each frame.

Scene is the most significant part of editor which all 3D objects can be placed and positioned according to user will with the help of keyboard controls which is described below in this document.

Menu controls include File button which has Save, Export properties to save the animation file created.

Using all these staff is so simple than it looks.

Starting with Run Time Environment controls are simpler. It has a scene, a text field, progress and sound control fields. User can intervene and control the volume adjustment and restart the animation whenever she wants.

## **2.2. Adding Object**

Adding object is hold by library, add button and name space parts of Library controls form of editor which can be seen on the left hand side. Library tree exhibits the object lists on the library folder, by appointing a name and adding the object, object is placed on the center of the scene automatically.

## **2.3. Object Properties**

When clicking an object, Object Properties intervene and shows the name, has tween and coordination properties of selected 3D object. Name is stored same as adding the object from library, coordination properties are X, Y, Z coordinates of scene identifying the position of object. Has tween checkbox is for assigning tween to the object for an animation flow for selected object until next frame. By changing the changeable fields and pressing the apply button changes are saved. Object properties are void on multiple selections of objects.

## **2.4. Sound/Text Controls**

Sound/Text controls which can be viewed on the bottom of the editor. Sound files (.wav files are supported) can be browsed from folders, can be played for listening and an appropriate selection. Volume control can be done easily. Texts can be also written to the text fields.

On the final decisions of text field and sound file by checking the attach written fields selections are attached to the frames.

## **2.5. Using Timeline**

Time Line control field is seen on the top of editor and is used for an accurate animation flow with its time controls. When adding a new frame the previous frame is copied to the scene and adjusting time control in seconds, shows frame exhibition time. For a smooth and flowing animation for objects tween property of objects on Object Properties should be checked on starting frame. Previous, Next, Last frame selections and current frame exhibition fields are also easy to understand.

## **2.6. Scene Controls**

There exists a wide variety of keyboard controls for the scene.

### **2.6.1 Multiple Selection**

is done by Ctrl + Right mouse click.

### **2.6.2 Object Movement**

Object translations are done by Shift + [Right (for Y coordinate) mouse click] [Center (for Z coordinate) mouse click]

### **2.6.3 Object Rotation**

, is done by Shift + Left mouse click key combination. Right mouse button is clicked and shift is used till the end of rotation

### **2.6.4 Camera Translation**

, with the help of Right mouse click, camera is translated on 'Y' direction with mouse movement

, with help of Left mouse click camera is rotated with mouse movement (Right mouse button is clicked till the end of rotation)

, with help of Center mouse click camera is translated on 'Z' direction with mouse movement (Right mouse button is clicked till the end of translation)

## ***2.6. Run Time Environment***

Run Time Environment consists of a scene on which recorded animation file flows, a flowing text field and sound on background for designer notes and entertainment, also volume control is available, progress filed running with the seconds of frames and a restart button available for user whenever she wants to restart.

## **3. CONTROLS**

### ***3.1. Mouse and Keyboard Controls***

Ctrl + Right mouse click: multiple selections of objects.

Shift + Right mouse click: object is translated on 'Y' direction with mouse movement (Right mouse button is clicked and shift is used till the end of translation)

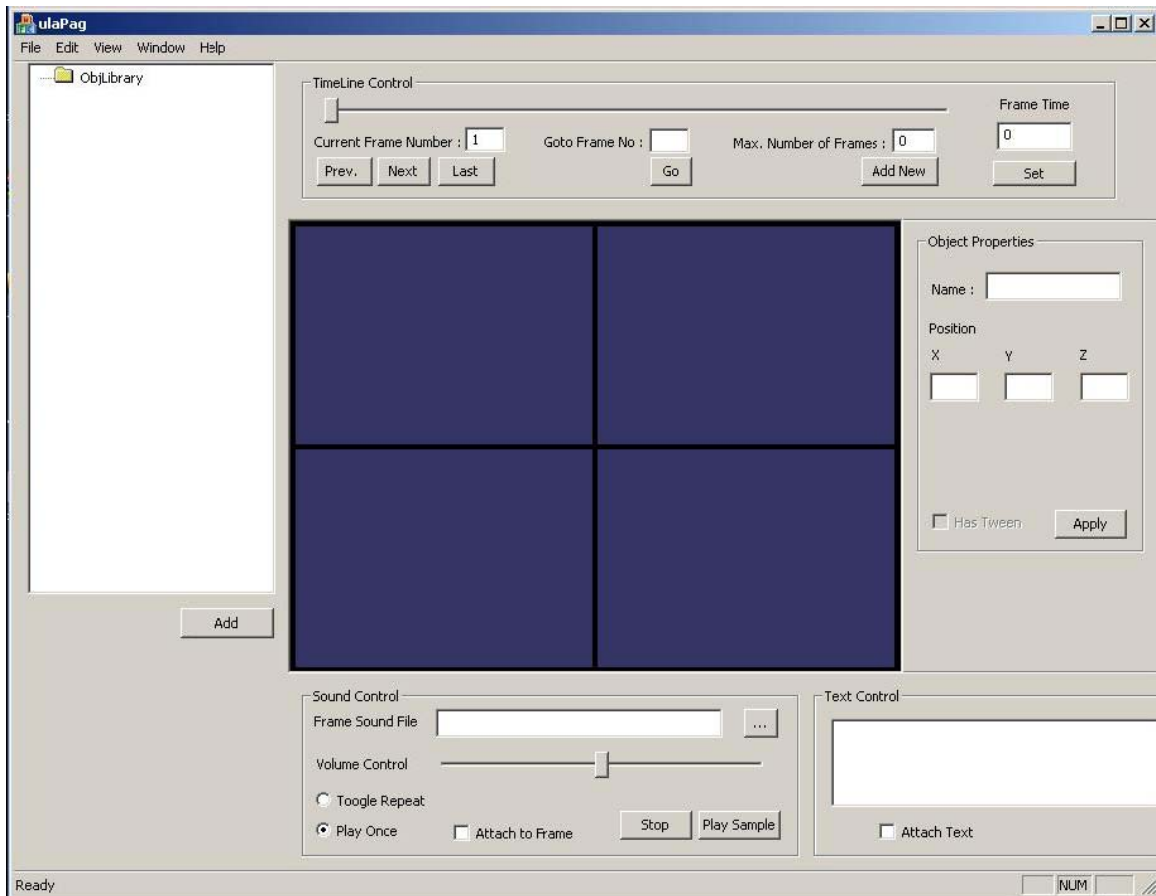
Shift + Left mouse click: object is rotated with mouse movement (Right mouse button is clicked and shift is used till the end of rotation)

Shift + Center mouse click: object is translated on 'Z' direction with mouse movement (Right mouse is clicked and shift is used till the end of translation)

**Right mouse click:** camera is translated on 'Y' direction with mouse movement.(right mouse is clicked till the end of translation)

**Left mouse click:** camera is rotated with mouse movement (Right mouse button is clicked till the end of rotation)

**Center mouse click:** camera is translated on 'Z' direction with mouse movement (Right mouse button is clicked till the end of translation)



### **3.2. User Interface Controls**

**Add** button, which locates under the library dialog, adds objects from the library into the document view. On the top of the editor Timeline Control dialog is located. There are six buttons:

**Prev:** Previous frame is accessed with the click on the prev button.

**Next:** Next frame is accessed with the click on the next button.

**Last:** Last frame is accessed with the click on the last button.

**Go:** the text in 'go to frame no' box is taken and this frame is accessed with the click on go button.

**AddNew:** the frame number is increased with AddNew button. Number in 'max is number of frames' box is taken and the frame number increased to that number with a click on the AddNew button.

**Set:** the frame time is discussed with this button. Number in 'frame time' box is taken. Frame time is set to this number with click on this button.

On the bottom, sound control and text control dialog is located.

**Browse** button: Browse the directories. After the selection of a file, name of the file is located in the 'frame sound file' box.

**Volume control slider:** With changing of the slider volume is controlled.

**Toggle repeat-Play once:** With this selection it is discussed that how many times selected wav file will play.

**Attach to Frame:** With this check-box sound file is selected which will play during the animation.

**Stop:** stops the playing .wav file.

**Play Sample:** plays the selected wav file.

On the right sight of the screen object properties dialog is located. At the bottom there is a check box and apply button. if 'Has Tween' check box is clicked and 'Apply' button is clicked then the current frame has a tween. It means the position difference of an object between the current frame and last frame will make an animation. On the upper part of this dialog 'Position' boxes(x, y, z) are located. And it gives the positions of the object that is selected. 'Name' box gives the name of the selected object.

## **4. TROUBLESHOOTING**

**Question:** I have installed the ULApag, however I cannot run it. What should I do?

**Answer:** It is highly recommended to make sure that DirectX 9.0 and OpenGL driver of your graphic card are installed on your computer. For the OpenGL driver check your graphic card settings. Moreover for DirectX 9.0 reinstall it. If these controls do not solve your problem, please re-install ULApag and try again.