Morphing - Triangulation Algorithm

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Abstract: *This paper explains the morphing triangulation algorithm with implementation. Here we consider a triangle whose 3 edges are in RGB formats first splits each triangle sharing E into two sub triangles then we have to check the edge is equal to E then we have to insert the subtriangle in to destination triangle. The adjacent triangle might need edge swap. The results and discussions are also included.*
Keywords: *Delaunay, optimal image , modular approach, CRT , versatile image, illustrations depict.*

I. Introduction

Morphing is the process of transforming one image to another. This required software is easy to use for the beginners, but full of many advanced options for complicated morphs. This program can morph one image to another or add effects to one picture.The resulting animation can be computed and displayed real-time or it can be saved into the disk. Image morphing techniques can generate compelling 2D or 3D transitions between images. We implement our domain using Delaunay triangulation algorithm Delaunary Triangulation algorithm implemented so as to eliminate duplicate input points. The triangle-based Triangulation algorithm is more fastest because it provides divide-and-conquer method; it is worth exploring in some depth. At first glance, the algorithm and data structure seem incompatible.

II. Literature Review

Morphing is technology for transforming one image to another image   to know what exactly in morphing uses in media works using some algorithm [1].

This Morphing process may be classified into two ways to specify their features. It has mesh based methods and features based methods. In mesh based methods, features of the image defined by a non uniform mesh. Feature based methods, features of the image specifies as line segment or a set of nots . It has Feature based methods are famous .[2]In this process, a storyboard has contained out and then the artists draw the main frames of the morphing [3] Main frames images are the ones in which changes transfre place. It has the key points of image animation.[4] Keys requires that the animator specifies some or key positions for the some objects.[5] The system then automatically cover in the missing frame by normally interpolating for those points[6]24 bit bitmaps, on the other hand, it has no colour table and each pixel is made up of some bytes, each describing the intensity of a some colour like (red, green, or blue).[7]16 combinations color be stored in the 4bit level. ,its having a colour p table at the start of the bitmap denotes lower bit formats to display a variety of colour level also not simply a fixed set size of 256 or 16.[8] This imahe works just as the same for the scan lines at any point bit depth, it has to end on 32bit of boundaries.[9] If a 1bit bitmap was 30 pixels of wide, also 2 bits of paddings (3 pixels * 1 bit per of pixel = 3bits, 2 bits of short).[10].

III. Methods

Method analysis is a process of gathering and interpreting facts, diagnosing problems and the information to recommend improvements on the system. It is a problem solving activity that requires intensive communication between the system users and system developers. System analysis or study is an important phase of any system development process. The system is studied to the minutest detail and analyzed. The system analyst plays the role of the interrogator and dwells deep into the working of the present system.
The system is viewed as a whole and the input to the system are identified.

The outputs from the organizations are traced to the various processes. System analysis is concerned with becoming aware of the problem, identifying the relevant and decisional variables, analyzing and synthesizing the various factors and determining an optimal image or at least a satisfactory solution or program of action. A detailed study of the process must be made by various techniques like interviews, questionnaires etc. The data collected by these sources must be scrutinized to arrive to a conclusion. The conclusion is an understanding of how the system functions. This system is called the existing system. Now the existing system is subjected to close study and problem areas are identified. The designer now functions as a problem solver and

tries to sort out the difficulties that the enterprise faces. The solutions are given as proposals of illustrations depict.

The proposal is then weighed with the existing system analytically and the best one is selected. The proposal is presented to the user for an endorsement by the user. The proposal is reviewed on user request and suitable changes are made. This is loop that ends as soon as the user is satisfied with proposal. Preliminary study is the process of gathering and interpreting facts, using the information for further studies on the system. Preliminary study is problem solving activity that requires intensive communication between the system users and system developers.It does various feasibility studies. In these studies a rough figure of the system activities can be obtained, from which the decision about the strategies to be followed for effective system study and analysis can be taken.

Here in the Morphs' Soft, a detailed study of existing system is carried along with all the steps in system analysis. An idea for creating a better project was carried and the next steps were followed. System Design is the most creative and challenging phase in the system life cycle. Design is the first step into the development phase for any engineered product or system. Design is a creative process. A good design is the key to effective system. System design is a solution how to approach the creation of a new system. System design transforms a logic representation of what is required to do into the physical specification. The specification is converted into physical reality during development.Input Design deals with what data should be given as input, how the data should be arranged or code, the dialog to guide the operating personnel in providing input, methods for preparing input validations and steps to follow when error occur.Input Design is the process of converting a user-oriented description of the input into a computer-based system. This design is important to avoid errors in the data input process and show the correct direction to the management for getting correct information from the computerized system.

It is achieved by creating user-friendly screens for the data entry to handle large volume of data. The goal of designing input is to make data entry easier and to be free from errors. The data entry screen is designed in such a way that all the data manipulates can be performed. It also provides record viewing facilities.When the data is entered it will check for its validity. Data can be entered with the help of screens. Appropriate messages are provided as when needed so that the user will not be in maize of instant. Thus the objective of input design is to create an input layout that is easy to follow.

IV. Existing System

Existing system refers to the system that is being followed till now. The main disadvantage of the existing system is wastage of time, poor visual quality of morphs obtained and lack of user friendliness.In early days morphing was done by cross dissolving (e.g. linear interpolation to fade from one image to another) of the source and destination image are visually poor. The results are poor, because in general the features of the source and destination will not be aligned. In simple cross dissolve, the double-exposure effect will be apparent in misaligned regions. The other algorithms used are mesh warping, thin plate splint warping, feature based warping etc.The existing system requires more computational time, more manual calculations, and the complexity involved in Selection of features is high. The other disadvantages are lack of security of data, more man power, Consumes large volume of pare work etc.

To avoid all these limitations and make the working more accurately the system needs to be computerized.The aim of proposed system is to develop a system of improved facilities. The proposed system can overcome all the limitations of the existing system.

The system provides proper security and reduces the manual work. The existing system has several disadvantages and many more difficulties to work well. The proposed system tries to eliminate or reduce these difficulties up to some extent. The proposed system is image morphing based on the Delaunay triangulation. The proposed system will help the user to reduce the workload and mental conflict.

V. Proposed System

The proposed system helps the user to work user friendly and he can easily do his jobs without time lagging. High speed and security are the main advantages of the new system. The system is very simple in design and to implement. The system requires very low system resources and the system will work in almost all configurations. It has got following features Ensure data accuracy, minimize manual data entry, minimum time needed for the various processing, greater efficiency, better service.

Advantages of Proposed System
The system is very simple in design and to implement. The system requires very low system resources and the system will work in almost all configurations. It has got following features

- Ensure data accuracy.
- Minimize manual data entry.
- Minimum time needed for the various processing
- Greater efficiency
- Better Service
- Minimum time required

A quality output is one, which meets the requirements of the end user and presents the information clearly.
The objective of output design is to convey information about past activities, current status or projections of the future, signal important events, opportunities, problems, or warnings, trigger an action, confirm an action etc.Efficient, intelligible output design should improve the system's relationship with the user and helps in decisions making. In output design the emphasis is on displaying the output on a CRT screen in a predefined format. The primary consideration in design of output is the information requirement and objectives of the end users. The major formation of the output is to convey the information and so its layout and design need a careful consideration.In this project, the input and the output screen is on the same window. In the output screen the process of morphing can be viewed. There are options for play, stop, edit the frame settings etc.

VI. System Design

System Design is the most creative and challenging phase in the system life cycle.   Design is the first step into the development phase for any engineered product or system. Design is a creative process. A good design is the key to effective system. System design is a solution how to approach the creation of a new system. System design transforms a logic representation of what is required to do into the physical specification. The specification is converted into physical reality during development.

The only other thing need to know about bitmaps is the pixel data is stored from the bottom it has left hand corner and progressing upward with scan points of lines from left side to right. So the whole bottom row is stored first images , then the second from the bottom images,
The final pixel from the top right-corner side of the bitmap file is stored at last point. Bear this in mind when you store your data or read data from a bitmap file, else picture will come out upside-down side.

VII.   Output Design

Out put design is processed in morphing system with initial diagram into final diagram with number of frames. Each frames has contained with minor changes according to the input level such as how many frames are needed in output files the following sample morphing image has gotten 5 frames of input levels.
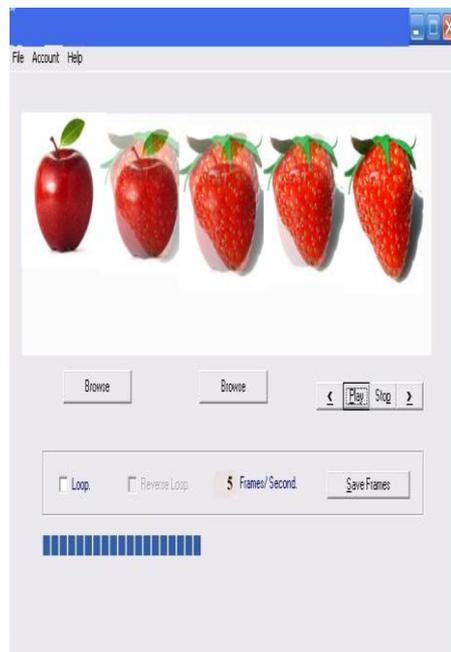
VIII. Output Design

The project Morpheus Soft is completed, satisfying the required design specifications. The system provides a user-friendly interface. The software is developed with modular approach. All modules in the system have been tested with valid data and invalid data and everything work successfully. Thus the system has fulfilled all the objectives identified and is able to replace the existing system. The constraints are met and overcome successfully. The system is designed as like it was decided in the design phase.The system is very user friendly and will reduce time consumption. The project gives good idea on developing a full-fledged application satisfying the user requirements. The system is very flexible and versatile image.This software has a user-friendly screen that enables the user to use without any inconvenience. Validation checks induced have greatly reduced errors. The application has been tested with live data and has provided a successful result. Hence the software has proved to work efficient

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