Reengineering Learning Using Comic Story

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KEYWORDS: *High level design; scene, act, story, character, background.*

ABSTRACT: *The present work deals with the most required aspect of human lives, fun and laugh. It is an educational tool which generates comics and comic story. Using this tool one can generate his/her own comic characters and story lines.The method of high level design is applied on the program to make a tree structure where the top of the tree is the story itself and bottom is consists of several acts/ frames. To generate a story one needs a plot and once plot is decided then scenes need to develop, scenes are like pages of a book. Scenes can be made meaningful with characters, dialogues between the characters, moods of the characters, backgrounds etc. Once the scenes are thought then act is needed and few successful acts make a successful scenes and few successful scenes make a meaningful story. Our approach in this work is to apply new technology where by applying thoughts and using computers to devise a methodology that simultaneously could be used as a learning tool and as wells as helps to use our imagination in a more open and humorous ways to create and learn at the same time.*

1 INTRODUCTION:

It took computer science a long time to transcend its fixation on hardware and software and begin to study usability issues systematically. It wasn't until the late Eighties that the ACM and the IEEE – the two largest and most influenced computer science organizations – recommended including user interface design in their official computer science curriculum. Meanwhile, scientist from other disciplines had been examining the effects using computers had on people. Cognitive psychologists studied the impacts on perception, memory, learning , problem solving , and human factors specialists examined them on human physiology.[1].

It has been proved since then that computer is a very useful tool which may be used to teach and also to learn in an improved way than the conventional method. In our paper, we focus on this aspect and show it here how telling story digitally , we can improve upon learning process which becomes really productive and at the same time funny and interesting.

Our society is undergoing profound changes with a resulting increase in the demands being placed upon the education system. At the same time technology is opening up new possibilities in when and how learning can take place.

Diverse forces are driving these changes with technology, particularly Information Technology, as a key force. However, despite the fact that technology is only one component of the larger picture, too often discussions and planning are driven by a technological imperative and nowhere is that more obvious than in the area of learning. It is also true that too little thought and planning being given to the wider educational context within which the technology is to be used.

If it is accepted that this is a time of enormous change, then from a learning point of view an important question to be addressed is 'what are the skills that people should be equipped with in order to live fruitfully in such a dynamic environment?' Obviously an appreciation of the significance of ICTs and skills in their use is a key requirement but again this question should not be addressed solely in a narrow technological context.

ICT has to play in supporting learning in the Information Age context. It argues that ubiquitous learning technologies, such as the Internet, multimedia and virtual environments, have a key role to play in a flexible, broadly constructivist, learning paradigm where the focus is on learning with technology, not learning about technology.

Now the application of ICT is being worked out in many areas but some areas are yet to get the full benefit of it and education is one of the those. Our approach in this work is to apply the new technology where by applying thoughts and using computers to devise a methodology which simultaneously could

be used as a learning tool and as well as helps us to use our imagination in a more open and humorous ways to create and learn at the same time. The comic story is a very familiar to us since our childhood days. Whether it is “Dilbert” or “Phantom” or “Mandrake”, it attracts everybody with equal enthusiasm and also helps young minds to inspire to think and create new ideas. Also it injects funs in everybody’s mind irrespective of age.

The idea behind this work is to generate a tool for anyone who would like to generate his own comic story in computer and can create his or her own story lines. Also it could be used as a learning tool where abstract ideas, subjects could be taught with fun and humor.

2 METHODOLOGY

2.1 Design and Planning

Digital Story telling aims at developing techniques for the automatic generation of narratives by computers. The principal AI technique for digital storytelling is planning [Badler et al. 1996],[2] as it describes the high –level behavior of characters through action selection, and as a story can be described as a sequence of casually related actions. In general , comic situation arise from plan failure , we need a plan technology that can support character behavior in a dynamic environment, and whose representation not only makes explicit the conditions for action success, but allows actions which might fail to be attempted. The former condition can be met by using a Stripes like formalism, while the latter is satisfied by distinguishing between executability conditions and standard pre-conditions, as introduced by Geib[1992],[3]. Executability conditions can be seen as conditions for action success but not for action selection: their ‘cognitive’ interpretation is that the character might take these for granted. For example, as attempting to snatch the ice-cream and while doing that , an ox came the way and foiled the attempt (Scene 7) results in a comic situation.

2.2 Tree and Structure

To generate a story, first of all one needs to get a plot and plots are just like foundations on which the buildings are constructed. For any comic story also plots are needed, moreover the comic story also needs a plot which is not only funny but user can make it educative also. Once plot is decided, one needs to develop scene, scene is just like a page in a book where one page tells almost nothing meaningful but number of pages in proper sequence make a good meaningful story. So scenes should be arranged in sequence and every scene consists of some acts ,characters, backgrounds, dialogues, expressions etc. etc. Now all these parameters of a comic story are very important when one can think of a producing a meaningful, funny and educative story line. Now the act plays a very important role of the whole comics because act is a single most important parameter which decides the degree of comedy in a comic. So the act is a combinations of characters, backgrounds, dialogues, mood or expressions etc. In the diagram below, the hierarchy of a story generation is depicted graphically.

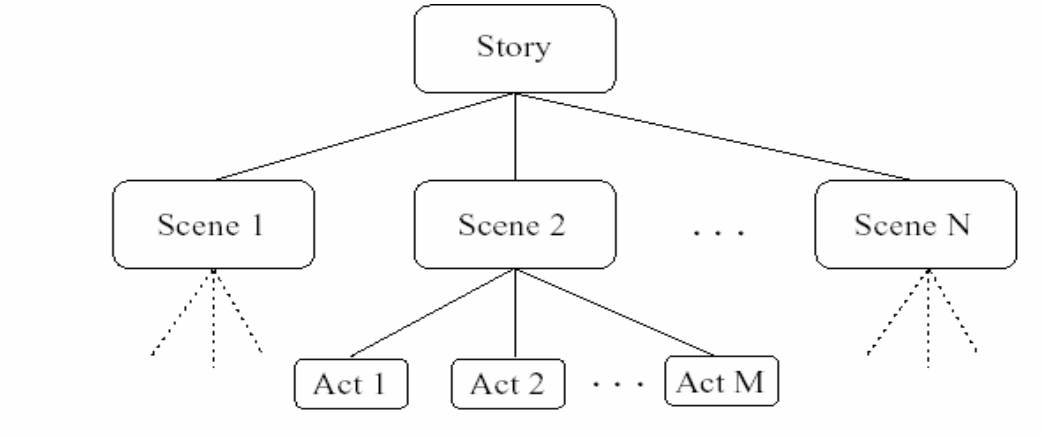


Figure 1

For our program, users will have the facility of an cell editor, database and a database editor where data can be edited, added or deleted. Users should also have the facility of a caricature generator where he or she can pickup an image and can create a caricature of that image and will be able to put in the database for future use. There also will be a cell editing interface where one can edit a cell or a complete scene as he or she will be able to change the backgrounds, acts the characters are engaged in and so on and so forth. There also will be a provision for a story tree editor and the function of a story tree editor will be to edit the tree structure of a story.

When user opens the program, he or she will find an interface with an array of blocks each indicates some editing features. Also there will be a database of characters, dialogues, pop ups depicting the state of mind of the characters(like talking in a whisper or thinking or laughing inside etc.).Also users will be able to create his or her own story lines o the basis of these parameters.

The story line thus created can be printed in a book form or users can take print out of a scene where he or she can think of modifications of the scenes and hence can improve upon the entire story line

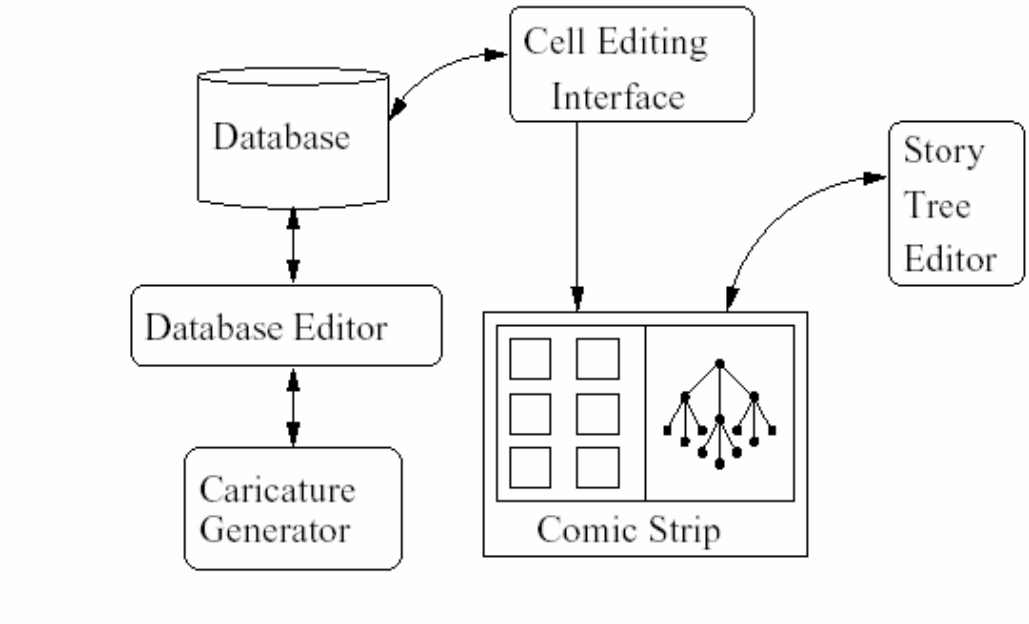
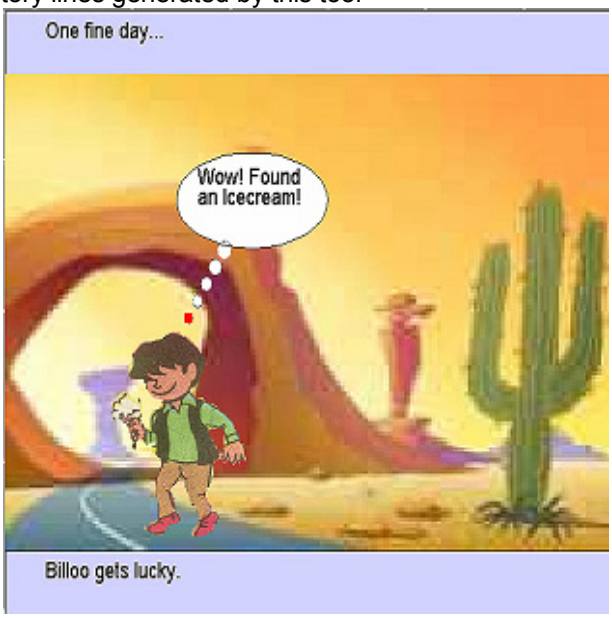


Figure 2. depicts the whole scenario of comic generation diagrammatically..

3 RESULTS

In the following section, we will try to give some examples of story lines generated by this tool

Scene 1

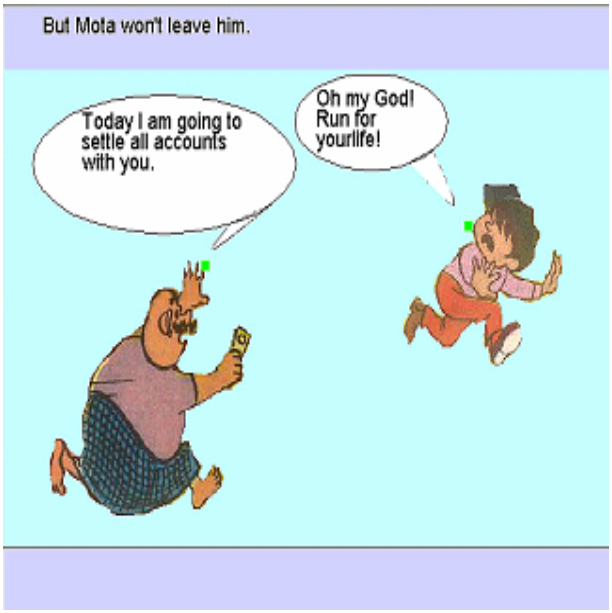


Scene 2

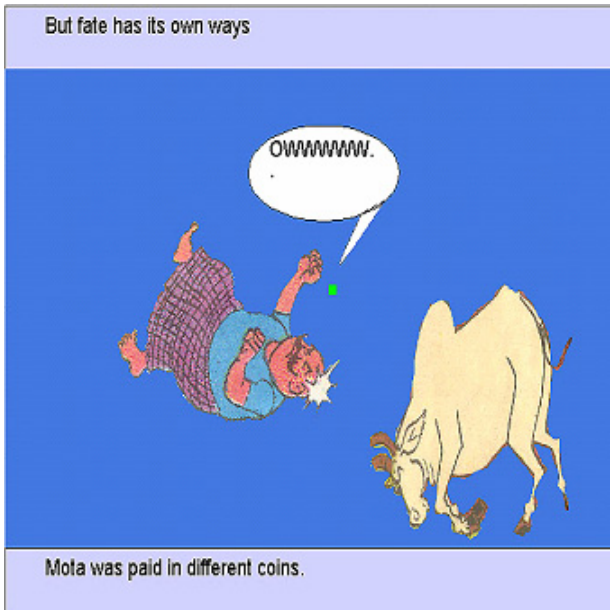
Scene 3

Scene 4

Scene 5



Scene 6



Scene 7

Scene 8

Snapshot of Interface, Editor and Comic Strips :

4 CONCLUSION:

Comics add several dimensions to story frame. The visual language of comics is intended for a static medium not an animated one and has therefore the program here has developed a rich set of visual elements that expresses dynamics and time. One of the most basic devices is a sequence of frames or scenes. When we learn to read comics we learn to perceive time and space spatially, time and space become one and the same . Thus comics can be thought of as spatial time.

The program has basic advantage of that it is visually oriented and tells more than an ordinary text book. Also the students can have fun while learning. But these advantages can only be optimized if it is possible to develop the program in local languages. The problem comes here as well as in the requirement of the research. The other part of the research in regard to this project is to develop a full scale caricature program in 2D and 3D and to amalgamate it with the main program. Using the caricature facility the user can not only create his or her own characters but also he or she can make it meaningful and funny. The feature extraction, feature transformation, the methodology of which can probably developed using the techniques of affective computing. This is the other research area associated with this approach.

This program can be used by teachers as an useful educational tool where abstract ideas can be explained in a funny and easier ways to make it understand better among students. The students can use this program as a tool to generate different types of comic stories thus augmenting their creativities. Any one who is interested to create a cartoon or comic character can use this program as an useful tool. In industries this tool may be proved very useful for the purpose of safety training. Some sample success stories include the following.

- Evaluations on the use by US 5th grade students of the "Animal watch Mathematics Tutor", which is designed to cater for the different learning styles, found that use of the Tutor increased student's performance, as measured by test scores. Of particular interest is that, while the Tutor is beneficial for all, it is particularly helpful for weaker student [Wolf 2000]. [4]

- According to McCormick [1999] with appropriate multimedia training material, course completion times can be reduced by 33% with competency levels rising by up to 50%.
- Quest (Questioning, Understanding and Exploring Simulated Things) is a site developed by the Natural History Museum in the UK. Its emphasis is on first-hand enquiry, exploring and investigating, asking questions and providing virtual tools to explore virtual objects, and notebook to record and share observations. It allows people to interact with exhibits in a new and challenging way [http://www.nhm.ac.uk/education/quest2/english/index.html], [5],[6].

While the principal driving force of change derives from developments in Information and communications Technologies, lifelong learning has to do with much more than acquiring skills in this area. It is our ability to think, and to select and use information that ultimately determines the success of a learning policy and this remains the case in the Information Society. But it is also true to say that ICTs can greatly assist us in providing learning opportunities and in removing obstacles to access hi-tech areas.

ACKNOWLEDGEMENT

We acknowledge the support provided by Media Lab Asia Program of MCIT, Govt. of India to do the research in the area and for funding this project

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