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Proposed system for improved learning designed for the hearing impaired

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Abstract — *One of the key issues of our society is that, individuals with disabilities like hearing disorder are finding it onerous to cope up with the quick growing technology. The access to communication technologies has opened the planet for such students and have proven to be difficult. To bridge the gap between the normal students and the dumb and deaf students, has invariably been difficult. We need to translate what's taught to traditional students in an exceedingly means by which the dumb and deaf will perceive. Particularly once the scholars are in their tender age, they are recently introduced to academic system. This results in grasping difficulties of these students. Thus translation of the writing can be given pictorial format, which can be simply known by the dumb and deaf students. Input data might be a straightforward document file from wherever the writing are fetched, each word are mapped to relevant image within the information. Once the acceptable images are found, those pictures are projected. So our project can improvise the current information for the hearing impaired student. The contributions of our style study embody a haul characterization and information abstraction of the utilization of pictures in poetry also as Poemage, a mental image tool for interactively exploring the sonic topology of a literary composition. We allows user to search syllabus, game, images and story which helpful to maintain interest in study.The design of Poemage is grounded within the analysis of a series of technology probes we tend to deploy to our poetry collaborators, and that we validate the ultimate style with many case studies that illustrate the riotous impact technology can wear poetry scholarship. Finally, the end result will be such that will eradicated all the core problems that the special ones are facing in terms with their studies and co-curriculum activities.*

Keywords- *Visualization in the humanities, design studies, text and document data, graph/network data.*

I. INTRODUCTION

The agenda is to make appropriate and effective use of strategies to construct meaning from poems/text, such as prior knowledge, context clues, and decoding. Support inferences about ideas with reference to features such as vocabulary. Read, view, and interpret texts from a wide variety of authors, and subjects. Recognize some features that distinguish the poetry genre and use those features to aid comprehension. Present personal responses to poetry that make reference to characters, ideas, vocabulary, and text structure. Explain the meaning of poems with some attention to meaning beyond the literal level. Create their own stories using elements of story they have read, and appropriate vocabulary. Observe the conventions of grammar and usage, spelling and Punctuation. User will able to search images relating to text, story, games and syllabus. Explicitly teach how to make meaning using modeling and demonstration and include time to practice what is taught. After modeling new strategies clearly, students practice skills while teachers observe and give feedback; build upon what students are able to do independently, and extend this learning through various materials and supports to scaffold the student's learning; maximize student's time reading, searching games and writing, especially the kind of authentic reading and writing that goes on in the world outside of school, and blend reading and writing into every subject area. Give students many opportunities to discuss what they read and write, both with teachers and with each other.

Scope:

In future papers, we'll articulate Poemage's theoretical, literary positioning additional totally. For now, we have a tendency to note Johanna Drucker's observation that poetic texts activate each sonic and visual components as "intersecting codes", which may produce experiences that area unit synesthetic within the history sense of perceiving along, or at an equivalent time, and thereby cause fuller aesthetic and interpretative engagement with poems. The machine image of poems guarantees to take advantage of this engagement in wealthy ways in which. Since in Poemage the text of the initial literary composition remains continually visible, rendering its sonic patterns as visual forms doesn't diminish sonic pleasure readers may expertise.

II. PROPOSED SYSTEM

We explored this question with many poetry students that specialize in associate in nursing investigation of pictures and linguistic devices in poetry. The contributions of our style study embrace a haul characterization and knowledge abstraction of the utilization of pictures in poetry in addition as Poemage, an image tool for interactively exploring the sonic topology of a verse form. The look of Poemage is grounded within the analysis of a series of technology probes we tend to deployed to our poetry collaborators, and that we validate the ultimate style with many case studies that illustrate the riotous impact technology will wear poetry scholarship. Finally, we tend to additionally contribute a mirrored image on the challenges we tend to faced conducting image analysis in literary studies.

III. SYSTEM ARCHITECTURE

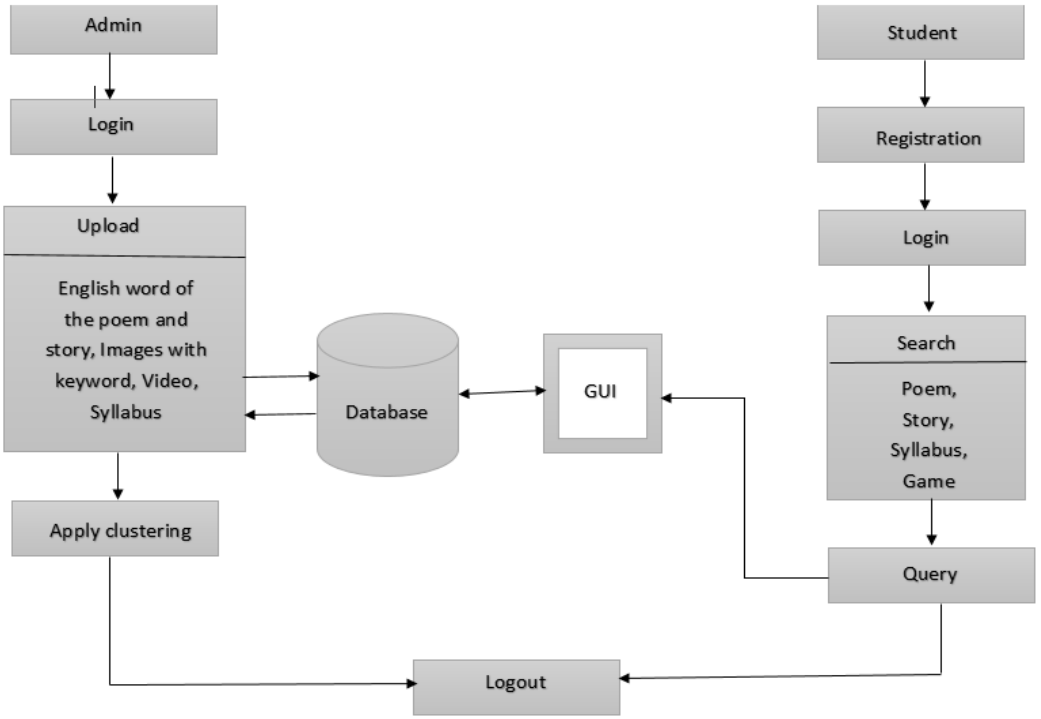

Fig. System Architecture

IV. LITERATURE SURVEY

1. American Sign Language Interpreter System for Deaf and Dumb Individuals
   Author:- Pendran, Sruthi, Thamizharasi.

Desccription

American Sign Language is a widely used and accepted standard for communication by people with hearing and speaking impairments. The proposed system recognizes and translates static hand gesture of alphabets in ASL into textual output. This text can further be converted into speech. The user of the system is free from data acquisition devices. The concepts of Principal Component Analysis (PCA) are used on the static gesture images of the ASL alphabet. The PCA features extracted from the image are used to classify the image into one of the ASL alphabet. The recognition of ASL gestures results in a textual output and is then can be converted into speech. Thus, the scheme helps the hearing and speech impaired to talk using computers.

2. Image Retrieval: Current Techniques, Promising Direction and Open Issues
   Author:- Yong Rui and Thomas S. Huang

Desccription

Content Based Image Retrieval (CBIR) an area so active and prosperous in the past few years. This paper also contains aspect of image feature representation and extraction, multi-dimension, indexing and system design, three of fundamentals based CBIR.

3. Two Way Communicator between Deaf and Dumb People and Normal People.
Author:- Pramod B. Warale, Tejaswini A. Jawake, Kshitija B. Tilekar.

Desccription

Every normal human being sees, listens and then reacts to the situations by speaking himself out. But there are some who are deprived of this valuable gift. This creates a gap between the normal human beings and the deprived ones. The system is mainly consists of Indian Sign Language (ISL) gestures from real-time video and mapping it with human-understandable speech. Natural language is mapped with equivalent Indian Sign Language gestures by conversion of speech to text using Google Speech-to-Text (STT) API, further mapping the text to relevant animated gestures from the database.

4. Gesture Recognition for American Sign Language with Polygon Approximation
Authors: Dr. Li Bai.

Description

In this paper,a novel method to recognize symbols of the American Sign Language alphabet (A-Z) that have static gestures. Many of the existing systems require the use of special data acquisition devices like data gloves which are expensive and difficult to handle. Some of the methods like fingertip detection do not recognize the alphabets which have closed fingers. We propose a method where the boundary of the gesture image is approximated into a polygon with Douglas - Peucker algorithm. Each edge of the polygon is assigned the difference Freeman Chain Code Direction. We use finger tips count along with difference chain code sequence as a feature vector. The matching is done by looking for either perfect match and in case there is no perfect match, substring matching is done.The method efficiently recognizes the open and closed finger gestures.

5. Computer Aided Interpreter for Hearing and Speech Impaired
Authors: Prashanth Suresh, Niraj Vasudevan

Description

The difficulties faced by hearing and speech impaired people in communicating with others and among themselves can be easily overcome by building an assistive communication system. This real time communication system enables differently impaired people to communicate among themselves without an intermediate human translator. The proposed system is a potential human-computer and computer human interaction for hearing and speech impaired people with normal people. This is achieved using Natural Voice processing and Digital Image Processing algorithms.

V MATHEMATICAL MODEL

Let S is the Whole System Consist of

S= {I, P, O}

I = Input.

I = {U, Q, D,F}

U = User

U = {u1, u2….un}

Q = Query Entered by user

Q = {q1, q2, q3…qn}

F= {f1, f2, f3, f4}

f1= Poem Search

f2= Story Search

f3= Game

f4= Syllabus

D = Dataset

P = Process:

Step1: User will enter the query.

Step2: After entering query the following operations will be performed.

Step3: Data mining can be applied and system ill display images applying following algorithm.

1. Clustering by K-means algorithm
2. Page rank algorithm
3. LDA algorithm

Step4: User will complete following operation.

- **Poem Search-**

1. Dataset Poem Searching images

-Select Dataset Poem & apply Stemming- Stopping on that after extract keyword & search images of that keyword Display that all images by clustering & ranking (i.e. Clustering by K-means algorithm & ranking by page rank algorithm & topic Modeling by LDA algorithm)

- If any keyword regarding image is not available in dataset then it recommend user to add that image with keyword in dataset.

2. New Insert Poem to Search images

- Insert Poem & apply Stemming- Stopping on that after extract keyword & search images of that keyword Display that all images by clustering & ranking (i.e. clustering by K-means algorithm & ranking by page rank algorithm & topic Modeling by LDA algorithm)

- If any keyword regarding image is not available in dataset then it recommend user to add that image with keyword in dataset.

- **Story Search-**

1. Dataset Story Searching images

-Select Dataset Story & apply Stemming- Stopping on that after extract keyword & search images of that keyword Display that all images by clustering & ranking (i.e. Clustering by K-means algorithm & ranking by page rank algorithm & topic Modeling by LDA algorithm)

- If any keyword regarding image is not available in dataset then it recommend user to add that image with keyword in dataset.

2. New Insert Story to Search images

- Insert Story & apply Stemming- Stopping on that after extract keyword & search images of that keyword Display that all images by clustering & ranking (i.e. clustering by K-means algorithm & ranking by page rank algorithm & topic Modeling by LDA algorithm)

- If any keyword regarding image is not available in dataset then it recommend user to add that image with keyword in dataset.

- **Game- 1,2,3**

Game1:

- Insert Keyword to search

- after that get 8 random images in game image dataset with random position in that & 1 image is compulsory regarding to that keyword is also at random position each time.

- **Syllabus**

-Select Standard i.e. 2nd or 3rd standard
-Select Chapter in which video play

Step: Repeat step 4

Output: It will display appropriate images relating to poem word, story, and syllabus.

VI. ADVANTAGES

1. State AN opinion orally or in writing, supporting opinions with some proof.
2. Monitor and change written displays to satisfy the factors for competent performance.
3. Use effective vocabulary and follow the foundations of synchronic linguistics, usage, writing system and punctuation in persuasive writing.
4. It offers pictures relating to literary composition word.

VII.CONCLUSION AND FUTURE SCOPE

In our endeavor to ascertain poetic sound, this project participates in many persistent lines of important inquiry. The visualizations may contribute to discussions concerning concrete or synesthetic' poetry, that deliberately interact sense perception ; concerning reading and writing concerning text and image and concerning alphabetic signs as a basic digital technology that operates, already, on visual and aural/oral registers or concerning however electronic digital (re)mediation additional complicates philosophical theory and phenomenological queries through secret writing languages, hardware, and interface etc. In future papers, we'll articulate Poemage's theoretical, literary positioning a lot of totally. For now, we have a tendency to note Johanna Drucker's observation that poetic texts activate each sonic and visual components as "intersecting codes", which may produce experiences that area unit sense datum within the history sense of perceiving along, or at an equivalent time, and thereby result in fuller aesthetic and interpretative engagement with poems. The process mental image of poems guarantees to use this engagement in made ways in which. Since in Poemage the text of the first literary work remains perpetually seeable, rendering its sonic patterns as visual forms doesn't diminish sonic pleasure readers would possibly expertise.

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