Video-Based Face Detection Process

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ABSTRACT

The project entitled "Movie Character Discovery" is used to identify movie characters in videos. Automatic face identification of characters in movies has drawn significant research interests and led to many interesting applications. It is a challenging problem due to the huge variation in the appearance of each character. Although existing methods demonstrate promising results in a clean environment, the performances are limited in complex movie scenes due to the noises generated during the face tracking and face clustering process. In this paper, we present two schemes of a global face-name matching based framework for robust character identification. The contributions of this work include: Complex character changes are handled by simultaneously graph partition and graph matching. Beyond existing character identification approaches, we further perform an in-depth sensitivity analysis by introducing two types of simulated noises. The proposed schemes demonstrate state-of-the-art performance on movie character identification in various genres of movies.

Keywords: *Graph Matching, Robust Name, Database, Complexity.*

1. INTRODUCTION

In this project, our focus is on annotating characters in the movie, videos, and TVs, which is called movie character identification. The objective is to identify the faces of the characters in the video and label them with the corresponding names in the cast. In a movie, characters are the focus center of interests for the audience. Their occurrences provide lots of clues about the movie structure and content. Automatic character identification is essential for semantic movie index and retrieval, scene segmentation, summarization and other applications. Character identification, though very intuitive to humans, is a tremendously challenging task in computer vision.

2. RELATED WORK

As one of the most important applications of the wireless sensor network, positioning technology has become a extremely hot research filed. Taking into account of the position of beacon nodes, they make an effect on the positioning accuracy of unknown nodes. It proposes a new weighted centric localization algorithm based on the traditional algorithm. For the selection of weight, the distance between beacon nodes and unknown nodes, and the slide length of the triangle are used to form the weighted factor. In that, this algorithm increased localization accuracy than that of traditional algorithm.

The localization space can be divided into distinct regions that can each be uniquely identified by sequences that represent the ranking of distances from the reference nodes to that region. For n reference nodes in the localization space, combinatorially, $O(n)^n$ sequences are possible, due to geometric constraints, the actual number of feasible location sequences is much lower: only $O(n^4)$ Using this location sequence, a localization technique that is robust to random errors due to the multipath and shadowing effects of wireless channels. Through extensive systematic simulations and a representative set of real mote experiments, lightweight localization technique provides comparable or better accuracy than other state-of-the-art radio signal strength-based localization techniques over a range of wireless channel and node deployment conditions.

A. Feasibility Study

In the technical feasibility study, one has to test whether the proposed system can be developed using existing technology or not. It is planned to implement the proposed system using visual basic with db2 backend and crystal reports. It is evident that the necessary hardware and software are available for development and implementation of the proposed system. Hence, the solution is technically feasible. As part of this, the costs and benefits associated with the proposed system are compared and the project is economically feasible only if tangible or intangible benefits outweigh costs. The proposed

system will minimize the time and effort involved in maintaining registers, books and files and the generation of various reports. This results in cost savings. Since the necessary hardware and software are already available. The system development costs will be significant. So the proposed system is economically feasible.

3. THE PROPOSED METHOD

In this Robust Face-Name Graph Matching for Movie Character Identification is used to detect the face of movie characters and the Proposed system is taking the minimum time to detect the face. Beyond existing character identification approaches, we further perform an in-depth sensitivity analysis by introducing two types of simulated noises. A Wide Area Network (WAN) is a network that covers a broad area (i.e., any telecommunications network that links across metropolitan, regional, or national boundaries) using private or public network transports. Business and government entities utilize WANs to relay data to employees, clients, buyers, and suppliers from various geographical locations. In essence, this mode of telecommunication allows a business to effectively carry out its daily function regardless of location. The Internet can be considered a WAN as well and is used by businesses, governments, organizations, and individuals for almost any purpose imaginable.

A. File Design

A flat file database is a database designed around a single table. The flat file design puts all database information in one table, or list, with fields to represent all parameters. A flat file may contain many fields, often, with duplicate data that are prone to data corruption. If data between two flat files have to be merged, it is needed to copy and paste relevant information from one file to the other. There is no automation between flat files. Designing flat file databases is simple and requires little design knowledge. Flat files can be developed using just about any database engine. Flat files can be created in relational database engines by not taking advantage of relational design concepts. Designing a relational database takes more planning than flat file databases. With flat files, it is possible to add information, as you deem necessary.

Relational databases offer the capability of building own reporting modules. Most relational databases also offer the capability to import and export data from other software. There are three primary relational database systems, proprietary, open source and embedded. Proprietary relational databases require the use of proprietary development languages, often times, to complement SQL. Microsoft Access, for example, combines Visual Basic with SQL. Open source databases, such as MySQL, are distributed freely to encourage user development. Embedded, relational databases are packaged as part of other software packages, such as with tax-preparation software packages. The vendor supplies the database, and all manipulation tools, to control the database structure. These databases are, often times, accompanied with tools to provide audit trails of transactions. Proposed project uses relational database files implementing using MS Access. So 1 to many relationships can be established between tables and the table data can be accessed soon even in the non-indexed locations.

B. Input Design

In the input design, user-oriented inputs are converted into a computer-based system format. It also includes determining the record media, a method of input, the speed of capture and entry on to the screen. Online data entry accepts commands and data through a keyboard. The major approach to input design is the menu and the prompt design. In each alternative, the user's options are predefined. Input data are collected and organized into a group of similar data. Once identified input media are selected for processing. In the software, importance is given to developing Graphical User Interface (GUI), which is an important factor in developing efficient and user-friendly software. For inputting user data, attractive forms are designed. The user can also select desired options from the menu, which provides all possible facilities. Keeping in view the above description of the input types and input media, it can be said that most of the inputs are of the form of internal and interactive. As Input data is to be directly keyed in by the user, the keyboard can be considered to be the most suitable input device.

C. Output Design

Two of the most output media today are printers and the screen. Most users now access their reports from a hard copy or screen display. Computer's output is the most important and direct source of information to the user, efficient, logical, output design should improve the systems relations with the user and help in decision-making. Outputs from computer systems are required primarily to communicate the results of processing to users. They are also used to provide a permanent copy of the results for later consultation. The outputs were needed to be generated as a hard copy and as well as queries to be viewed on the screen. Keeping in view these outputs, the format for the output is taken from the outputs, which are currently being obtained after manual processing. As the outputs are the most important source of information to the user, the better design should improve the system's relation and also should help in decision-making.

D. Database Design

The database is designed to manage large bodies of information. The management of data involves both the definitions of structures for the storage of information. In addition, the data base system must provide for the safety of the information solved, despite system crashes or due to attempts at unauthorized access. For developing an efficient database proposed project have to fulfill certain conditions such as controlled redundancy. For achieving the abovementioned criteria's we have to make use of various features that are available with the RDBMS by enforcing integrity constrains, we can ensure data integrity and reduce data inconsistency to a great extent.

A database is a collection of interrelated data stored with minimum redundancy to serve many users quickly and effectively. After designing the input and output, the analyst must concentrate on database design or how data should be organized around user requirements. The general objective is to make information access, easy, quick, inexpensive and flexible for other users.

4. SYSTEM MAINTENANCE

All system is dynamic and subjects to constantly changing requirements. Effort must be devoted to adapting them and design must be flexibly specified so that such changes can be easily implemented. Its activity is called system maintains. It includes improvement of system functions and correction of errors. Back up of the entire database files are taken and stored in secondary storage devices like magnetic tapes and disks so that it is possible to restore the system at the earliest. If there is a breakdown or collapse, then the system giver provision to restore database files, storing data in a separate

secondary device leads to an effective and efficient maintains of the system.

The master file has flags for maintains after for maintains. After the mentioned period, the rejection suppliers, unused data in the files will be deleted in the master file. Its method is the increasing the memory to store the data. Software maintenance is a set of software engineering activities that occur after the software has been delivered to the customer and put into operation. The success of the software and the project relies on the maintenance procedure adopted. As with the venture of human, not a single one is perfect. The further modifications are left to the followers. It is because the opinion or vision or a thing differs from individual to individual. The maintenance is performed at regular intervals to keep the project safe and reliable.

Development is single activity maintenance is a continuous activity. Maintenance involves activities like inspections, corrections, and enhancements. Once the system is delivered and deployed, it enters the maintenance phase. The system needs to be maintained not because of some of its components wear out and need to be replaced, but because there are some residual errors remaining in the system that must be removed as they are discovered. It includes activities related to debugging the software after it goes live, changes are required to address evolving software and enhancement to meet changing customer requirements.

5. CONCLUSION

The system is developed using.Net as front-end tool. The system will be developed after studying the requirements and necessities of the system. The system will be created in a user-friendly manner with appropriate message guiding the user; even a person with minicomputer knowledge will be able to use the system. Database of the project is reduced and normalized in order to improve the efficiency and to avoid redundancy. We have shown that the proposed two schemes are useful to improve results for clustering and identification of the face tracks extracted from uncontrolled movie videos. From the sensitivity analysis, we have also shown that to some degree, such schemes have the better robustness to the noises in constructing affinity graphs than the traditional methods. A third conclusion is a principle for developing robust character identification method: intensity alike noises must be emphasized more than the coverage alike noises.

In order to get ideas for implementation, flow diagrams have been designed. Time consumptions reduced to a great extent and user as less complexity in handling its database. The project is fully fledged and user-friendly. End users will be lightened in using the software. The system has been tested in various test cases. Further expansion of the system also can be done in future if needed. Thus the system can be altered in accordance with the future requirements and advancements. System performance evaluation must be monitored not only to determine whether or not they perform as plan but also to determine if they should have to meet changes in the information needed for the company. The performance of the system will be evaluated to determine whether system achieves the results that are expected and whether the predicted benefits of the system are realized. There are also possibilities for enhancing and further developing the project with customized reports according to the latest information and needs of the user. In the future, we will extend our work to investigate the optimal functions for different movie genres. Another goal of future work is to exploit more

character relationships, e.g., the sequential statistics for the speakers, to build affinity graphs and improve the robustness.

6. REFERENCES

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