CHILD SAFETY MONITORING SYSTEM

[1]Dr.A.V.Senthil Kumar, [2]Mr.M.Arvindh

[1]Director,MCA,M.Phil,PGDCA,Ph.D, [2]Final MCA Student

[1]PG & Research Department Of Computer Applications(MCA),

[1]Hindusthan College of Arts and Science(Autonomous), Coimbatore, India

1.1 OVERVIEW OF THE PROJECT

Multiple sexual harassments have been widely developed in now a days where girl child, women and parents suffer a lot. Everywhere they go they feel insecure because of harassments, sexual threatening and multiple problems. The identification of the parent side problems are carried with an efficient work processing side. The girl brought up in this environment makes a tedious job especially in India. Many acts against girl rapping, harassment have been passed but still now many girls suffer a lot with these issues. Nowadays girls are also getting targeted with the problems where the men around them make a problematic environment around them.

Natural Language Processing (NLP) is the main strategic planning. This identifies the classification of the language based string level patterning. The pattern will be completely trained with the ML based level keep system. The learning agent will completely control the data sources which are encoded data sources. The supervised Learning provided with a targeted data source which are encoded on each trained dataset pattern. The dataset patterns which are in level will manage on each lexical word matching string. Inductive Learning assignments on the pattern of learning help in the set of choosing the ML algorithm with the machine learning pattern. The set of inductive instructions based on the count of the word and the pattern processing.

Android Environment is the main process of execution. Here our system focuses on the generation of the two android applications. One will be with the parent on monitoring the girl child, the other will be with the girl child on their smartphones. The Eclipse based development with main activity generation and server connectivity will be activated on both the phone analysis. The pattern level of the classified phone app will be hidden on the girl child phone where she will not know with the app in her phone.

1.2 MODULE DESCRIPTION

- Sexual word collection
- Dataset Training
- Pre-Processing
- Fuzzy String Matching
- Random Field Classification
- Intimation and Monitoring

MODULES DESCRIPTION

SEXUAL WORD COLLECTION

Extraction of the sexual harassment words is the problematic one. The identification of the intrinsic private chat collection of data from the internet is the issue one where the harassment keywords on all languages with normal English typing have been collected in the dataset. The new dataset creation should be based on the linguistic markers with the corpus of word using the known sexual forum of words which will be the anonymized data. The sexual harassment data are downloaded from the UCI machine learning repositories and the Kaggle dataset world which contains self closure of the data source with annotation. **Table 1 shows the sexual abusive words and phrases**

These are some example dataset words which will be trained in the server side where the server will holds more than 1000 word in English

DATASET TRAINING

The dataset training will be the one where the admin need to train the dataset. The dataset training will be the creation of a remote server with dataset access. Self disclosure annotation model will be generated with the server side database storage system.
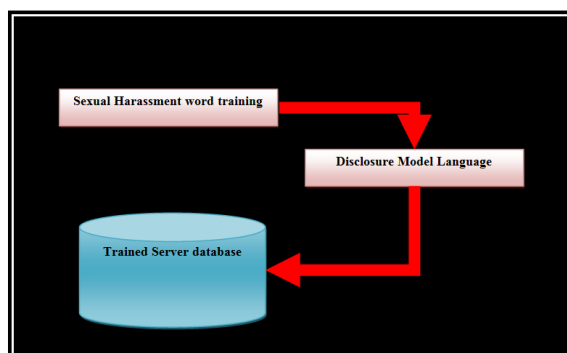

Fig 2 the dataset training feature at disclosure model

Three part classification system using the NLP on universal model final tuning has been proposed. The hyper parameters are dropped with multiple tuning levels. The weight matrix will be managed on the recurrent connective patterns.

PRE- PROCESSING

The pre-processing will be focused on the noise reduction, white space elimination, special character elimination etc. Here the system mainly gives on some NLP processing system which will be given on the chat messages system.

FUZZY STRING MATCHING

With the above pre-processing system the words will be divided and the remaining part will be taken for the searching. The matching of the token word will be done with the matching the server database. An edit distance of the string transformation will be done here with the matching strategy. Here the string will be given with the n-grams of token words where the multiple levels of the word count which are taken in the sentence.

RANDOM FIELD CLASSIFICATION

The search produced the matching classification of the harassed word and the non harassed word. Here the random field process on each database will be mentioned and the harassed chats will be only taken out. The harassed word matching with the chat classification is done with a random field system. The conditional probability verification is given with U and V where,

U= Normal chats

V= Harassment Chats

Thus the return S value will be completely matched with the V which is classified as the harassment chats.

$$S = \sum \left(\frac{U}{V}\right) \qquad\qquad (1)$$

The matched words are known with the added profile U and V. The V profiles get matched and known for the classified chat with harassed profiles.

INTIMATION AND MONITORING

After the identification of the harassment chat the user profile will be intimated to the parent. The parent will completely monitor the girl child harassment profile with the GPS coordinates of the latitude and longitude too. With the system they will completely know their child activitieslocation, SMS, Chats and phone calls management. Thus the parents can safeguard on taking the correct action with the harassment traitor and the girl child.

SYSTEM STUDY

2.1 EXISTING SYSTEM

Earlier the past month, 43 girl children have been engaged in "bad conversation" with their school men staff has been found out by the parent and they are alleged from the school by the paper. Recently a 2 girl committed suicide because of the smart phone call and message threatening from their staff. These problems prevailing in the existing system where there is no solution to safe guard this girl child from these unknown sexual traitors. Normal existing system gives an identification of these sexual harassments in social media where they will be based on the comments and tweets placed. The normal image based analysis is placed with speak back language which is done on disclosure language classification. The learning layers are analyzed and known well at the level of the pattern found.

2.2 DISADVANTAGES

- Many girls commit suicide because of these sexual harassments.

- Text classification is not exactly done with the existing system.

- Parents will always be fearful when they send their girl child out.

2.3 PROPOSED SYSTEM

In our proposed system, it easily monitors the activities of the girl child moving. The monitoring mainly focuses on the sexual harassment and threatening over the girl child. These monitoring mainly gives the classification of the sexual harassments based chats which will be monitored and made intimation to the parent. Then the parent will monitor the chats, SMS, Phone calls and the location of the girl using the Global Positioning System (GPS). The chats will be continuously intimated to the parent side where they will

completely know the chats and calls taken by them. This classification will be done with a fuzzy based String searching and random field classification system.

2.4 ADVANTAGES

● The developed android application makes the parent feel safe and happy.

● The girl child each and every moment will be monitored by the parent.

● The system provides a exact classification of the sexual harasser profile only.

SYSTEM ANALYSIS

3.1 HARDWARE REQUIREMENT

➢ Processor   : Dual core processor 2.6.0 GHz

➢ RAM   : 1GB

➢ Hard disk   : 160 GB

➢ Compact Disk   : 650 MB

➢ Keyboard   : Standard keyboard

➢ Monitor   : 15 inch color monitor

3.2 SOFTWARE REQUIREMENT

➢ Front End   : ANDROID

➢ Back End   : MySQL

➢ Platform   : Windows 10

SYSTEM DESIGN

4.1 DATA FLOW DIAGRAM

A two-dimensional diagram explains how data is processed and transferred in a system. The graphical depiction identifies each source of data and how it interacts with other data sources to reach a common output.

Data flow Symbols:

Symbol	Description
	An **entity**. A source of data or a destination for data.
	A **process** or task that is performed by the system.
	A **data store**, a place where data is held between processes.
	A **data flow**.

LEVEL 0

DFD Level 0 is also called a Context Diagram. It's a basic overview of the whole system or process being analyzed or modeled. It's designed to be an at-a-glance view, showing the system as a single high-level process, with its relationship to external entities. It should be easily understood by a wide audience, including stakeholders, business analysts, and data analysts, including stakeholders, business analysts, data analysts and developers.
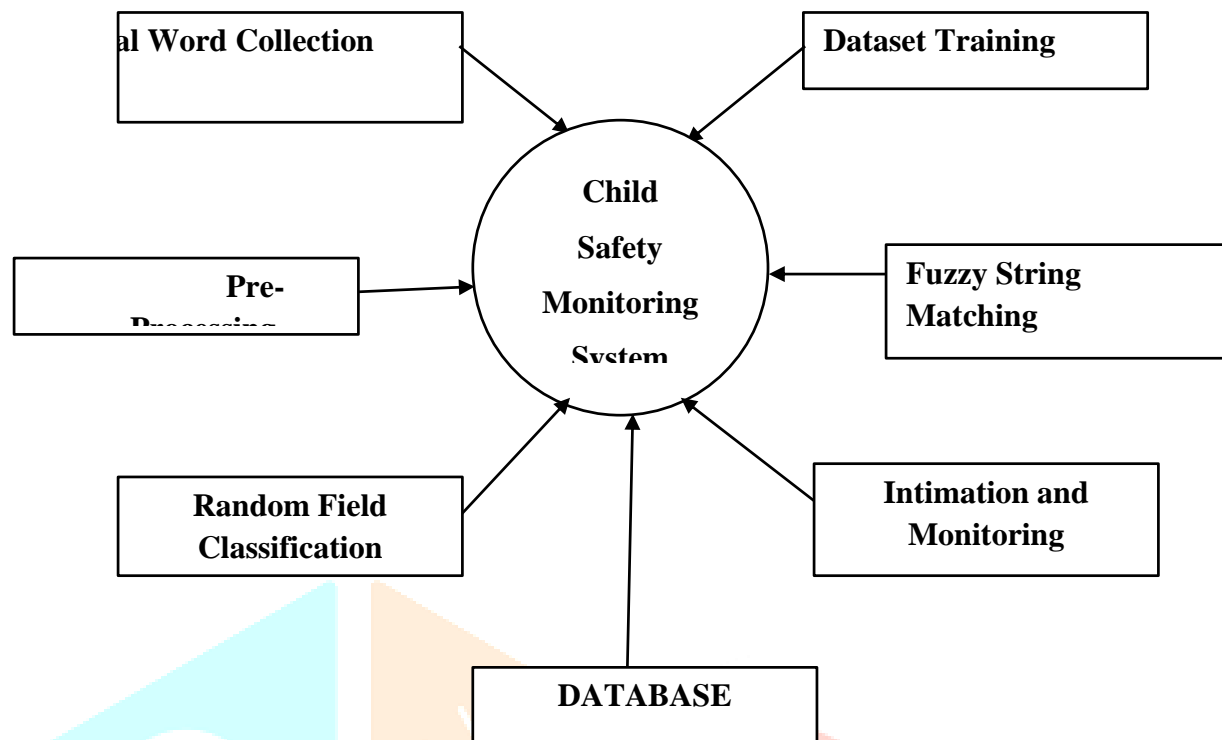
al Word Collection

Dataset Training

Child

Safety

Monitoring

System

Pre-
Processing

Fuzzy String
Matching

Random Field
Classification

Intimation and
Monitoring

DATABASE

Fig 4.1 level 0-DFD

SYSTEM TESTING

Testing is a series of different tests whose primary purpose is to fully exercise the computer based system. Although each test has a different purpose, all work should verify that all system elements have been properly integrated and performed allocated function. Testing is the process of checking whether the developed system works according to the actual requirement and objectives of the system. The philosophy behind testing is to find the errors. A good test is one that has a high probability of finding an undiscovered error. A successful test is one that uncovers the undiscovered error. Test cases are devised with this purpose in mind. A test case is a set of data that the system will process as an input.

Testing measures consist of developing a set of test criteria either for the entire system or for specific hardware, software and communications components. For an important and sensitive system such as an electronic voting system, a structured system testing program may be established to ensure that all aspects of the system are thoroughly tested.

Testing measures that could be followed include:

- Applying functional tests to determine whether the test criteria have been met
- Applying qualitative assessments to determine whether the test criteria have been met.

- Conducting tests in "laboratory" conditions and conducting tests in a variety of "real life" conditions.
- Conducting tests over an extended period of time to ensure systems can perform consistently.
- Conducting "load tests", simulating as close as possible likely conditions while using or exceeding the amounts of data that can be expected to be handled in an actual situation.

Test measures for hardware may include:

- Applying "non-operating" tests to ensure that equipment can stand up to expected levels of physical handling.
- Testing "hard wired" code in hardware (firmware) to ensure its logical correctness and that appropriate standards are followed.

TYPES OF TESTING DONE

UNIT TESTING

The first test in the development process is the unit test. The source code is normally divided into modules, which in turn are divided into smaller units called units. These units have specific behavior. The test done on these units of code is called unit test. Unit test depends upon the language on which the project is developed.

Unit tests ensure that each unique path of the project performs accurately to the documented specifications and contains clearly defined inputs and expected results. Functional and reliability test in an Engineering environment producing tests for the behavior of components (nodes and vertices) of a product to ensure their correct behavior prior to system integration.

Unit Testing

SYSTEM TESTING

Several modules constitute a project. If the project is a long-term project, several developers write the modules. Once all the modules are integrated, several errors may arise. The testing done at this stage is called a system test. System testing ensures that the entire integrated software system meets requirements. It tests a configuration to ensure known and predictable results. System testing is based on process descriptions and flows, emphasizing pre-driven process links and integration points. Testing a specific hardware/software installation. This is typically performed on a COTS (commercial off the shelf) system or any other system composed of disparate parts where custom configurations and/or unique installations are the norm.
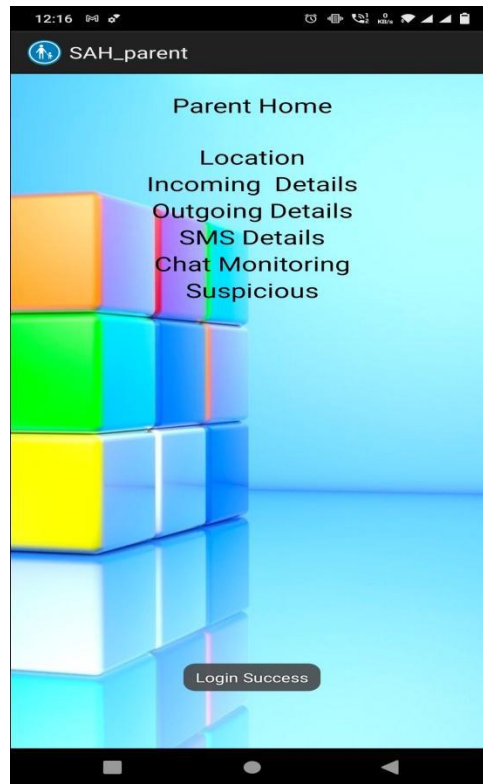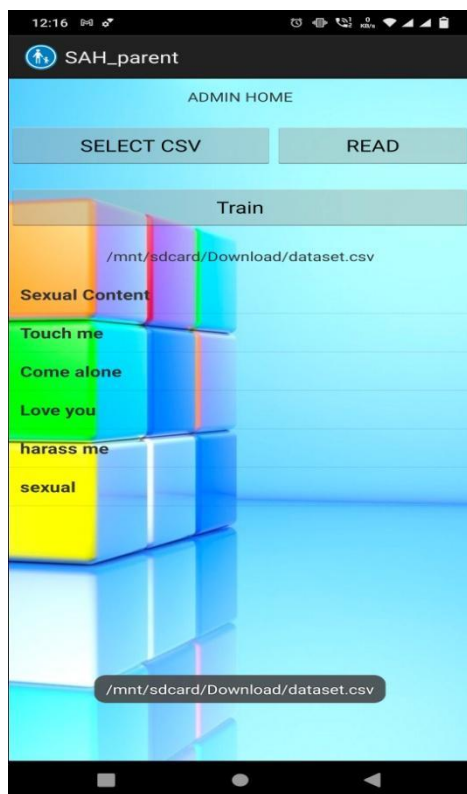
System Testing

[Parent Home]

INTEGRATION TESTING

Testing is which modules are combined and tested as a group. Modules are typically code modules, individual applications, source and destination applications on a network, etc. Integration Testing follows unit testing and precedes system testing. Testing after the product is code complete. Betas are often widely distributed or even distributed to the public at large in hopes that they will buy the final product when it is released.

VALIDATION TESTING

Validation testing is testing where testers performed functional and non-functional testing. Here functional testing includes Unit Testing (UT), Integration Testing (IT) and System Testing (ST), and non-functional testing includes User acceptance testing (UAT).Validation testing is also known as dynamic testing, where we are ensuring that "we have developed the product right." And it also checks that the software meets the business needs of the client. It is a process of checking the software during or at the end of the development cycle to decide whether the software follows the specified business requirements. We can validate that the user accepts the product or not
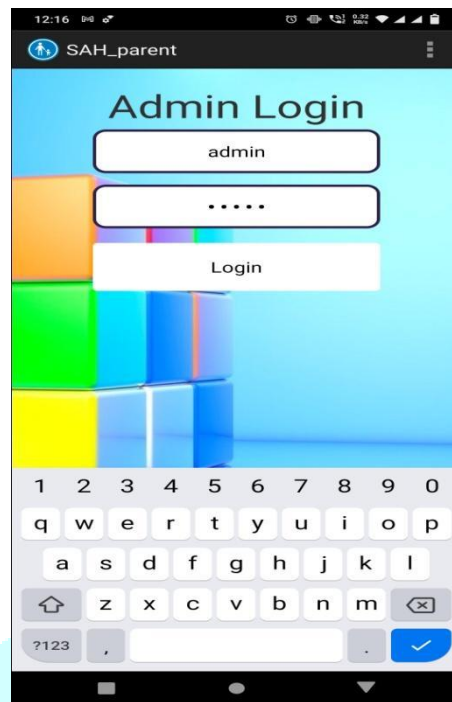
CONCLUSION

The developed machine learning based child abuse safety environment software helps parent to monitor their child. The system will helps with elimination of the child harassment and reduce suicide cases in India. Natural Language Processing plays a vital role in the assignment of the linguistic language system. The training and the matching of the string will be done easily with the given fuzzy based string matching and random field algorithm. Supervised language based text classification has been done. This knows the harassment text classification over multiple profiles and makes intimation to the parent at 97% accuracy system.

SCOPE FOR FUTURE ENHANCEMENT

In future enhancement system the identification of the sexual harassers can be directly identified by the police will be made. The intimation of the IP with MAC address, latitude and longitude of the person can be retrieved for unknown id threatening.

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APPENDIX

A. SCREENSHOTS