Design and Simulation of an Electronic Tutor for Nursery School Children

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Abstract: Learning especially the vocabularies involve the constant repetition of words. The absence of equipment or games, which will, improved the problem solving and skill mastering abilities of a child makes the child get less practice in using reason and less chance to improve his skill.Most parents have very busy schedules and so do not have the time to monitor the child's program and correct his mistakes. This makes the child deficient in the area of parent tutelage. Therefore this project is aimed at exploring and incorporating some of sophisticated technologies for the development of electronic tutorial materials. The tremendous impact of electronic technology (like computer and computer embedded devices, computer networking, artificial intelligence, multimedia among others) on the human psychological capabilities, productivity, intellectuality and other human related activities are very obvious. The quest and virtual implementation of computer in all the fields of human endeavor increases the ease and speed at which tasks are carried out. This project explored some of these sophisticated technologies for the development of electronic tutorial materials. The methodology used in this project work is the agile methodology. This choice of methodology was made because its approach has a consistent project managements techniques which involves frequent testing of the project under development. To this end, it is imperative that the nursery pupils be frequently tested using the electronic tutor to determine if learning is electronically more effective than the conventional method. This project was implemented using Java programming language. This language was chosen because of its easy syntax and structure for developing windows based graphic user interface application. The result of the proposed project is that, it has benefited the pupils in diverse ways which cannot be overemphasized. These benefits include high level of performance in class, curriculum flexibility and conducive learning strategy

Keywords: Computer, Hardware, Software, Program

1. **INTRODUCTION**

Kindergarten is a name used in many part of the world for the first stages of a child's classroom education. In some parts kindergarten is part of the formal school system in others it may refer to pre-school or daycare. It is an institution for pre-school children that serve as an orientation for school. It is also a school for children too young to be beginning formal education. In this institution, children from ages 2 to 7 are taught the basic education tools, which are language, basic arithmetic operations, writing and so on in preparation for formal education. The kindergarten provides firsthand experience for the child. This is because it provides avenue for the child to have a good deal of experience in looking, touching, hearing, smelling, and tasting so that they begin to build images of experience to furnish their thinking and this will enable them master basic reading skills as quickly as possible. It also helps in providing an attractive and stimulating learning environment for the children.

The Electronic Kindergarten is a computer based tutor for pre-school children between the ages of 2 to 7 years. It mimics the kindergarten teachers in that it performs some of the tasks which the teacher does. Some of these tasks are; It teaches the children how to recognize and pronounce the alphabet and It teaches them how to recognize and spell the names of objects.The Electronic Kindergarten provides a stimulated environment to learn because of the colors, graphics and sound involved in the learning process. Since learning process involves language and this computer-based tutor helps in vocabulary knowledge and academic achievement in the sense that vocabulary and reading are closely related. During simulation, this system will be menu driven that is runs under user's control. Any

literate users could operate it. The user is therefore required to press keys presented on the menu screen as is appropriate to his / her choice of operation. The pressing of a wrong key does not result in serious errors in system execution. When the error occurs it might be neglected by the screen.

Statement of the Problem
Learning especially the vocabularies involve the constant repetition of words. This is a problem because the teachers find it difficult to keep repeating the words as it is necessary for the kids.The absence of equipment or games, which will, improved the problem solving and skill mastering abilities of a child makes the child get less practice in using reason and less chance to improve his skill.Most parents have very busy schedules and so do not have the time to monitor the child's program and correct his mistakes. This makes the child deficient in the area of parent tutelage. Therefore this project is aimed at exploring and incorporating some of sophisticated technologies for the development of electronic tutorial materials.

Specific Objectives of the Study
The aim of this research work is to design and simulate an electronic tutor for nursery school children that will enhance immediate and customized instruction to learners without the intervention of a human teacher. Thefollowing objectives were outlined to guide the study;
- To design an electronic tutor platform for nursery school children.
- To simulate the designed tutor platform using kindergarten curriculum.
- To run electronic programs and observe their effectiveness for teaching children.
- To present electronic programs as auxiliary teachers for nursery school children.

Scope of Study
This system concentrates solely on the teaching of vocabulary with set of English alphabet(s). Others like basic simple arithmetic operations, writing etc are not yet part of the system.

2. RELATED LITERATURE
The kindergarten provided a child-centered pre-school curriculum for three to seven year old children that aimed at unfolding the child's physical, intellectual and moral nature with balanced emphasis on each of them".Kindergarten was originated in 1837 by Friedrich Froebel in Blankenburg, Germany. The underlying philosophy as expressed by Froebel was that young children required an environment where like "unfolding plants", blossom through the use of play, games, and song.

In Germany, Margarethe Mayer Schurz opened the first German speaking Kindergarten at watertown in 1855 [1] Like this the concept of the kindergarten spread to most European and African countries including Nigeria.These early kindergarten programs focused on the basic concept that child's play was significant and that when it was intelligently directed gave impetus to cognitive development. The schools therefore provided an atmosphere of unrestraint where young children were permitted to associate freely with others. The interaction in a peer group provided a fertile field for the unfolding of maturational development or social, ethical and cognitive behavior.In the kindergarten classroom young children were giving the opportunities for self-expression through the use of directed play, singing, and storytelling, native study and movement of activities. Learning by doing was the underlying principle, which guided the kindergarten programs of the day. Wooden blocks day, construction paper, sandboxes, cardboard and color projects were the materials made available to this age group for their experiential self-expression activities. Free use of these materials together with directed and supervised developmental activities fostered the growth of cognitive and motor skills appropriately to this age group.

Since kindergarten is a pre-school in which children are taught, electronic kindergarten is therefore the use of electronic device like computer to teach the children during its composition and performance. The teaching may be produced entirely through electrical means.The arguments against computers such as their cost and the fear that children will not learn basic literary skill are being inexorably overpowered by the obvious advantages to children of developing computer competence. According to [2], who directs the Pato Auto-based computer learning foundation, computer competency as a goal of education needs to be given top priority. She cites two government studies which focused on the importance of computer literacy as an outcome of education. The 1983 study called "A Nation at Risk" argued that computer literacy should be considered one of the fundamental skills children need to master, a

skill equivalent to the three (RS') of reading, writing and arithmetic. A later of Technology Assessment demonstrates how beneficial to learning it can be to bring computers into the classroom.

2.1. Kindergarten Education and Graphic Tutor

According to [3], Kindergarten is a form of pre-school education in which children are taught through creative play, social interaction, and natural expression. It also served as a transactional stage from home to a more formal schooling. Graphic tutor is a computer package developed to help pupils learn on their own convenient time. It helps to reduce stress that teachers undergo during teaching. It uses basic principle animation and provides the pupils with the basic vocabulary learning.

2.1.1 Advantages / Benefits of a Computer for Children

One of the advantages of a computer for children is that it will familiarize them with a tool that will be part of their lives just as a telephone or a television. A computer at home can actually help the child learn more in school. Since many computer packages are standard items in school, using the same software at home can give the child extra time on their school lessons and can become generally familiar with the commands and means of the software. This will make using software easier in school.

According to [4] the benefits of computer for children derive from the fact that they offer highly individual learning experiences, which are more comprehensive and motivating than what typically, happens in the classroom. Gains on the order of one to eight (1-8) months of instruction are common for students who use computers when they are compare to their peers who are limited to traditional classroom instruction. Computers can benefit students at any level and at any time and offer the major benefit of a sense of independence and accomplishment.

To understand how computer can benefit children, it is useful to review the different ways that computers can be used. The ways differ in the levels of mutual activity and control of the learning situation, including: Situation in Which the Computer Controls the Child's LearningWhen the average person considers the use of computers in the classroom the image of computers controls the presentation and evaluation of material in most commons, children are seen as essentially reactive, as they learn through responding to the stimuli presented in a systematic manner by the computer. The computer asks a question or presents some materials to be learned and the child responds by pressing the key or moving the pointing device, if the child response in connect the computer provides a reward in the form of some recognition of praise appearing on the screen.

[4]), described computer as a presenter of material has certain distinct advantages over the classroom teacher first the computer has infinite patience and can repeat its drill endlessly in the same patience and constructive manner, if the child is slow in learning. Secondly it can adjust its pace for low learner and move though a great deal of materials in a short time. Third, the feedback the computer gives is always calm, correct and appropriate even the child continues to make errors that would exasperate most patience of teachers.

The theory of learning underlying most such computer-assisted instruction is derived from stimulus response psychology or from derivative, behavior modification. This theory says or holds that learning occurs through the reinforcement of correct responses in a rather controller situation. The computer presents the stimulus situation and then rewards correct answer, this increases the probability that correct answers with be repeated. Situation in Which the Computer and The Child Cooperates to Solve Practical Learning Situations.

According to [4] a computer is an amplifying device which enhances the natural and learned ability of a child and permits the accomplishment of more advanced learning task in a more efficient and effective manner. Early research on the use of computers to assist students in their learning assignments gave stark evidence of the differences in accomplishment possible with and without computer assistance. [5], an early pioneer in the use of computer to help children learn, has shown persuasively that children can accomplish far more in a given period of time when work with a computer than they can when working with older methods. Kemeny was prophetic in describing the way computer could gain widespread use in education and in the home. Today, the home computer is the child's homework tool and companion, vastly amplifying the ability to write, to calculate, and to organize information in preparation for reasons in school. Some computers are even designed for children with easy learning stages and with

carefully developed tutorials. Simple and powerful spreadsheet programs with the ability to generate graphics makes the child arithmetic, more accurate, more advanced and more fun.

[6] pointed out That the computer as a learning companion and helper of children has only just begun to realize its potentials. Experience watching children learn highly complex software in a fraction of the time it takes an adult demonstrates not only the advanced learning skills of technologically aware children, but also the great benefits to them of increased use. There is today a need to define an additional set of basic skills, which children need to be taught at as early an age as is feasible. In addition to the traditional 3 R's of Reading, Writing and Arithmetic, educators today should be teaching applications, spreadsheet applications and database management applications. Situation in which the child controls the computer and makes it do the work at even more advanced level of learning, children gain fuller control of the computer's power by teaching it to solve problems. This form of learning by children offers some of the most powerful and long-range benefits because it is active learning and because it opens to the child a whole range of activities limited only by time and imagination.

According to [7], Early teaching of computers also called programming was an esoteric activity limited to a select few who command the often-incomprehensible language of computer communication. At first by patterns of binary digits, (is and 0s) and finally a few so called high level language like FORTRAN, BASIC and VISUAL BASIC. When FORTRAN, BASIC and VISUAL BASIC are languages of words and static symbols, LOGO is language of pictures and of movement. The child gives instructions to an imaginary device called a truth, which moves across the screen leaving a line drawn behind it. The child tells the truth to turn this way and that, drawing pictures, then gradually leans to make the truth change its movement depending on circumstances such as position and relations to other objects. In this way, the child comes to understand concepts, conditional concept and situational complexity. LOGO did not catch on as a language of widespread use. Though it has been very effective in helping children gain familiarity with computing and overcoming any hesitations they may have had logo has opened computing to even younger children and has shown that almost no age is too young to begin.

2.2   Language Learning and its Concept

According to [7], Language learning on the other hand should also be considered in child development. Language is a communication among human beings that is characterized by the use of arbitrarily spoken or written symbols with agreed-upon meaning. More broadly language may be defined as communication in general it is regarded by some linguistics as a form of knowledge, that is, of thought or cognition. Learning which a primary language is a developmental milestone for young children and is, therefore, a "developmentally appropriate" educational objective. Moreover, the informal, social method by which children learning their primary language is also "developmentally appropriate". However, the specific uses to which that language is put are determined by the culture.

Children acquire scripts (sequences of actions and words) for various interactions with people and things and the adults in their families and communities structure these scripts for children to help them learn. Gradually, children internalize the adult rules for "making meaning".Classroom discourse presents a challenge to children to learn new rules for communication. The use of formal language, teacher leadership and control of verbal exchanges, question-and- answer format, and references to increasingly abstract ideas characterize the classroom environment, with which many children are unfamiliar [7]. To the extent that these new rules overlap with those that children have already learned, classroom communication is made easier. But children whose past expedience with language is not congruent with the new rules will have to learn ways of "making meaning" all over again before they can use language to learn in the classroom.

They are taught to act, believe, and feel in way that are consistent with their communities the goals and objectives presented, the relationship available and the behavious and practices recommended by family and friends are gradually internalized and contribute to a child's definition of self. According to [6] language is an integral part of a group membership, it is the cement for group members relationships with one another. The shared past and the current allegiances of the group are the bedrock for the "common meanings" taught to children through language.

2.3 Development of Langauge

"Were the sky?" "When is tomorrow?" "Where do clouds go?" Young children are interested in the whole wide world, and they ask questions about everything-partly because they quickly learn that asking "why" will almost keep a conversation going. [8]. at the beginning of early children, children can give and follow commands that include more than one step, like "Pick up your toys and put them in the closet". And they can name familiar things like pet, body parts, and people. Their linguistic skill progresses through early childhood. Speech becomes more adult once children pass the age of (3) three.Children's general knowledge affects their ability to communicate and children's ability to communicate is related to their popularity with their pees one more example of the close tie between cognitive and emotional aspects of development. Well like preschoolers can start and keep up conversation better than less popular children, who are not as good at adapting the way they speak to the needs of a listener and the demands of a situation. Research suggests, however, that when children do not communicate with other, it is usually not because they are unable to but because they do not intend to. But sometimes they engage in private speech which guides their behavior and helps than think.

2.4 Observing Childen's Engagement with E-Book

[10] reported a descriptive research approach was used to observe children's engagement with eBooks in different formats for reading in the preschool classroom. The study was organized into twophases. In phase one they developed a typology for observing young children's engagement with eBooks, drawing on existing categories from research and emergent categories from videotapedobservations. In phase two they applied the typology as an analytic framework to videotaped observations of ebook reading in the preschool classroom--teacher-led ebook reading at the touchscreen and child-led ebook browsing/reading with handheld devices (iPad; iPod)--comparing and contrasting evidence of engagement. In this work they also explored the potential influences of behavioralregulation levels on children's engagement with ebooks.

Both phases of the study were conducted in Early Reading First classrooms where the emphasis is on evidence-based early literacy instruction geared to three and four-year oldchildren with school readiness needs. A total of 40 children and 8 teachers participated in thetwo phases of the study. Teachers from phase 1 also participated in phase 2. The child sample was diverse(18% Hispanic; 29% White; 49% African American); included a majority of boys (boys = 24;girls = 16) and involved children in the average range of the PPVT-IV, with the exception of 9children with special needs. The teacher sample was also diverse and included four teachers with AA degrees and four with BS or higher degrees; the group averaged 13 years of preschoolteaching. (Note: All had participated in substantial professional development in evidence-basedearly literacy instruction as a part of the Early Reading First program (96 hours est. per year) thatincluded an orientation to ebook devices (stationary touchscreens; iPads; iPods), ebookcollections, and classroom applications. While existing research provides some descriptive evidence of young children'sengagement behaviors with traditional storybooks that informs early literacy pedagogy (e.g., the design of quality early literacy materials), the body of research on children's engagement with ebooks is rather thin. Addressing this gap, our study provides descriptive observations of youngchildren's engagement with ebooks in familiar book reading formats in preschool: shared readingand independent book browsing/reading. Both formats include literacy goals for developing what [8]) famously described as a literacy set: high expectations of print, familiarity with book language, essential strategies for handling written language, and knowledge of print conventions. The study was guided by the following questions:

1. What does children's engagement with ebooks look like? What are primary
categories and features of children's engagement with ebooks?
2. How does the format (organization and arrangement) of ebook reading influence children's engagement? Are there differences between a teacher-led or child-led format of ebook reading?
3. Does children's level of behavioral regulation influence their engagement with ebooks?

2.5 Designing Electronic Tutor

In the thesis entitled in "designing electronic tutor" [11] stated that students use intelligent tutors and other types of interactive learning environments in aconsiderable variety of ways. In the thesis, Baker detailed his work to understand, automatically detect, and re-design an intelligent tutoring system to adapt to a behaviortermed "gaming the system".Students who game the system attempt to succeed in the learning environment by exploiting properties of the system rather than by learning the material and trying to use that knowledge to answer correctly.

Within this thesis, he present a set of studies aimed towards understanding what effects gaminghas on learning, and why students game, using a combination of quantitative classroom observations and machine learning. In the course of these studies, I determine that gaming the system is replicable associated with low learning. Ryan use data from these studies to develop a profile of students who game, showing that gaming students have a consistent pattern of negative affect towards many aspects of their classroom experience and studies. Another part of this thesis is the development and training of a detector that reliably detects gaming, in order to drive adaptive support. In this thesis, he validate that this detector transfers effectively between 4 different lessons within the middle school mathematics tutor curriculum without re-training, suggesting that it may be immediately deployable to that entire curriculum. Developing this detector required developing new machine learning methods that effectively combine unlabeled data and labeled data at different-grain sizes in order to train a model to accurately indicate both which students were gaming, and when they were gaming. To this end, headapted a modeling framework from the Psychometrics literature – Latent Response Models [11] and used a variant of Fast Correlation-Based Filtering to efficiently search the space of potential models.The final part of this thesis is the re-design of an existing intelligent tutoring lesson to adapt to gaming. The re-designed lesson incorporates an animated agent ("Scooter the Tutor") who indicates to the student and their teacher whether the student has been gaming recently. Scooter also gives students supplemental exercises, in order to offer the student a second chance to learn the material he/she had gamed though. Scooter reduces the frequency of gaming by over half, and Scooter's supplementary exercises are associated with substantially better learning; Scooter appears to have had virtually no effect on the other students.

2.6 Open, Distance and E-Learning
 [10], research into tutoring at a distance as a fairly long history and the functions of tutors in distance education institutions are well understood. Over the past 20 years research into online tutoring has advanced significantly as such institutions have 'gone electronic': in this paper we cite published researchfrom the UK Open University. Recently, blogs, wikis and podcasts have arrived to supplement established systems like email, virtual learning environments (VLEs, such as Blackboard) and computer conferencing.

Little research has been published so far, however, on tutoring distant students in three-dimensionalmulti-user virtual environments (3-D MUVEs). Distance educators may well ask whether the best practices from tutoring at a distance and online tutoring can be transferred to these environments, which do *not*resemble VLEs. To clarify what may or may not be feasible in a prime example of a 3-D MUVE, this paperelucidates tutoring by and through avatars on a Second Life Island created by the Beyond Distance Research Alliance at the University of Leicester (which has 7,000 students learning at a distance). Itanalyses what can be done in Second Life by way of meeting students' needs for tutoring, and discussessome of the opportunities and challenges inherent in asking students and tutors to meet in such an environment.

They summarized their three studies thus:"Study 1 was a quantitative survey using an adapted version of the Course Experience Questionnaire and the Revised Approaches to Studying Inventory. Study 2 was another quantitative survey using the Academic Engagement Form. Study 3 was an interview-based examination of the students' conceptions of tutoring and tuition. In all three studies, the students receiving online tutoring reported poorer experiences than those receiving face-to-face tutoring.

2.7 Annotated Bibliography of Peer Tutoring Resources
[9] reported that this text is used in tutor training courses on reading and writing. The editor juxtaposes essays written by students and teachers to provide alternate perspectives on the processes of reading and teaching reading. The editor intends to broaden students' approaches to reading through the use of interactive strategies and the development of theoretical approaches. Sixteen interactive classroom activities are included in the text.

This text is divided into two sections. The first addresses pedagogical issues the tutor will encounter during sessions. The first chapter in this section defines the role of the "peer consultant" and the following chapters discuss elements of the editing process (i.e., working with teachers' comments, organization, and surface errors). The second section presents research on theories of writing center pedagogy: the co-learner model of tutor training, peer tutoring as discursive interaction, tutoring as meta-analysis of rhetorical problems, expectation and negotiation in tutoring,

student rights to their own texts, arguments for the thesis statement, conferencing strategies for the ESL writer, and possibilities for online tutoring.

The article's discussion follows evidence that peer tutoring is effective for tutors' as well as tutees' academic and social development. The first section of the article discusses a peer tutoring model developed by the Peer Research Laboratory at the City University of New York. The model makes the tutoring process a central instructional strategy and participants have the experience of playing dual roles of tutor and tutee. Participants become cognizant of their learning processes as a result of participating in programs designed according the Laboratory's model. The second half of the article discusses specific programs developed by the Peer Research Laboratory. The first program involved cross-age peer tutoring at an elementary school. In the second, high school tutees participated in the planning and assessment of the program. The third program was integrated into a high school World Citizen curriculum, where students received credit for coursework.as well as for peer mentoring international students.

The authors of this text have experience working in writing centers. The structure of the text mirrors the structure of the tutor training process. The authors begin with overviews of the writing and tutoring process. Next, they examine tutor expectations, the roles of tutor and writer, and first tutoring experiences. The authors then move on to more specialized topics: reading in the writing center, working with speakers of other languages, conducting writing center research through discourse analysis, online tutoring, and writing center ethics. In the final chapter they anticipate challenges in common scenarios and offer general advice.

3. MATERIAL and METHODOLOGY

The methodology explored in this work is the agile methodology. This methodologu allows for adaptive transfer of concept from established source to a new learning source. The proposed system is a software tool that simulates teaching process of an electronic tutor for nursery school children. The envisioned software need to be developed so that all those substandard lessons taught by unqualified teachers will be drastically reduced to barest minimum. The new system will also be developed to be user-friendly by adding simple animations and sounds where necessary to arouse the interest of the nursery kid. The new software shall be a standalone application aimed at tutoring nursery school children in areas such as naming of different animals, places, cartoons, arts, science and reading and writing.

System Architecture

The architecture of the system design is in three stages. The first stage is the presentation stage. Here, all the user interfaces design was demonstrated. The tool used is the swing framework. The second stage is refered to as the middle stage. As the name implies, this stage is in between the first stage and the last stage of the system software. It act as a connector class that links the first and last stage. The connector used here is the glassfish Server and the last stage is the database management system. The database that was used in the implementation of the system software is the SQLite Database

Input and Output Designs

INPUT DESIGN: The input design consists of forms where users of the system enter data into required fields. The data is processed and the results are displayed to the user telling him/her of the next action to take.

Figure 1: LOGIN FORM

Figure 2: CHANGE PASSWORD FORM

✚ Design of the Proposed System

The use case diagram consists of the roles of the users in the proposed system. Hence, in this proposed system there are two use-case diagrams that will clearly describe the process procedures of the proposed system.
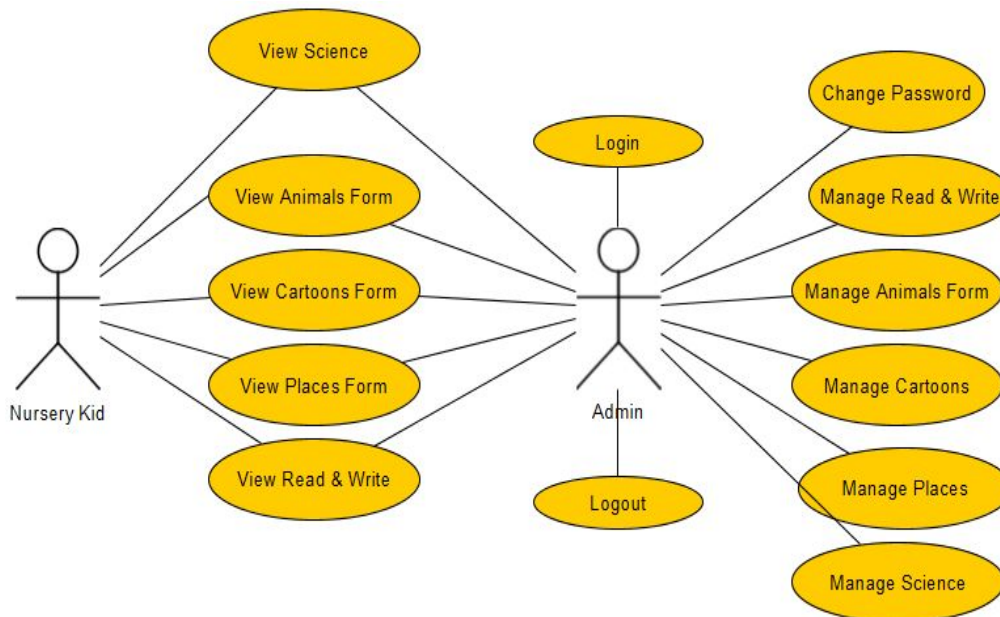
Figure 3: ADMIN Use-Case

Figure 4: Physical Layout Design

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4. CONCLUSION AND DISCUSSION OF RESULTS

LoginForm.java: This form contains java code that displays a form build in java swing framework with username and password for authentication. If a user inserts correct username and password pair, it opens the main window of the system otherwise displays an error message
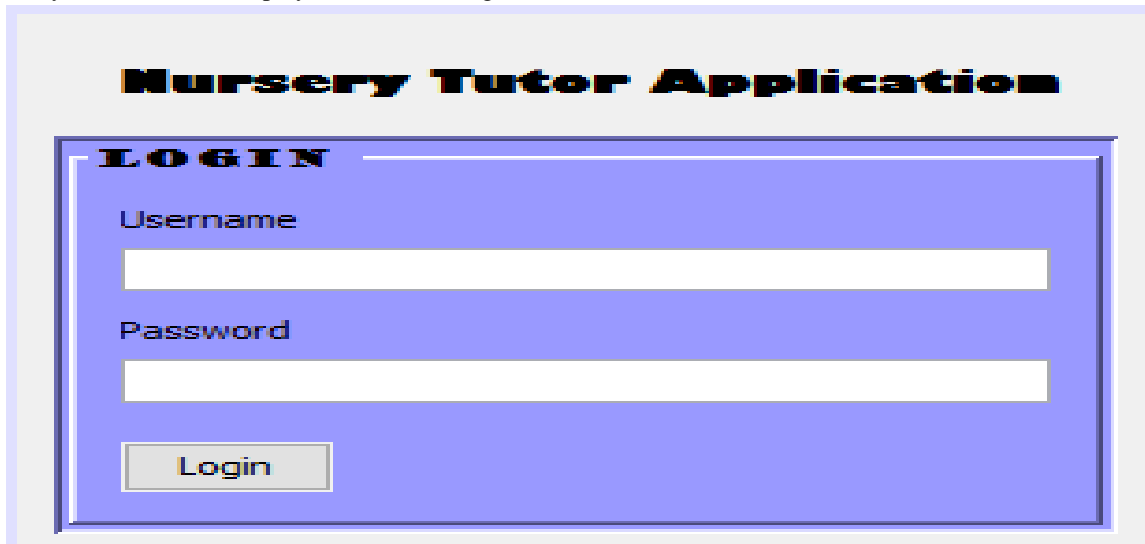
Figure 5: Login Screen

MainForm.java: The user interface contains the code to display the Main Window with Menus and standard toolbars. This window consists of two menu bars and four standard toolbar icons for accessing various modules. The menu bar contains File and Edit. And the corresponding standard toolbar includes four different icons such that

when you hover the cursor on any of the icons, it will automatically display a ToolTipText telling you about the function it performs when that icon is clicked.

Figure 6: Main Form

The **AddStaffForm.java** contains the code to accept the guidance login details and store in a relational database management system. When Admin clicks on the **AddStaffForm**, Add User Information entry form displays which consists of various fields such as Name, Username, Password, Confirm Password, Role, Date and Photo. This form also consists of Save constraint, to save the entries in the file. Cancel, to reset the content of each of the swing controls used during the form design to be containing empty string. Close Button, to close the Add User Information form and which will perform a method called response redirect to the Main Form.

The following figure shows the Add User Information Form.
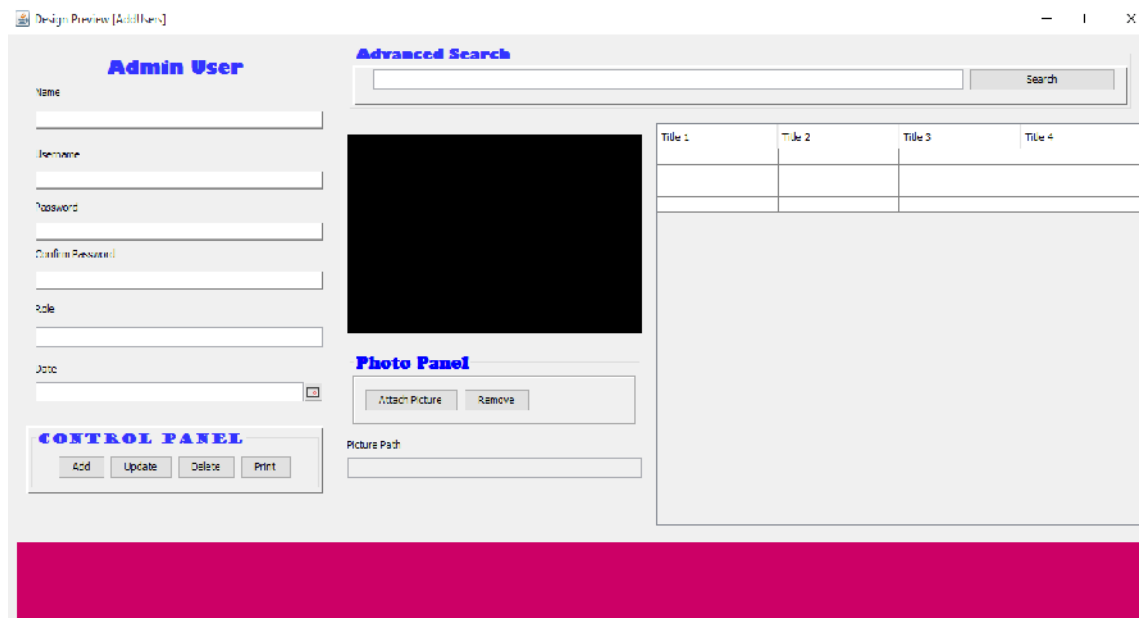
Figure 7: Add User Info

Animals Form: This window contains the code to view the details of animals in the world. The children will be able to identify different types of animals when they come across them.
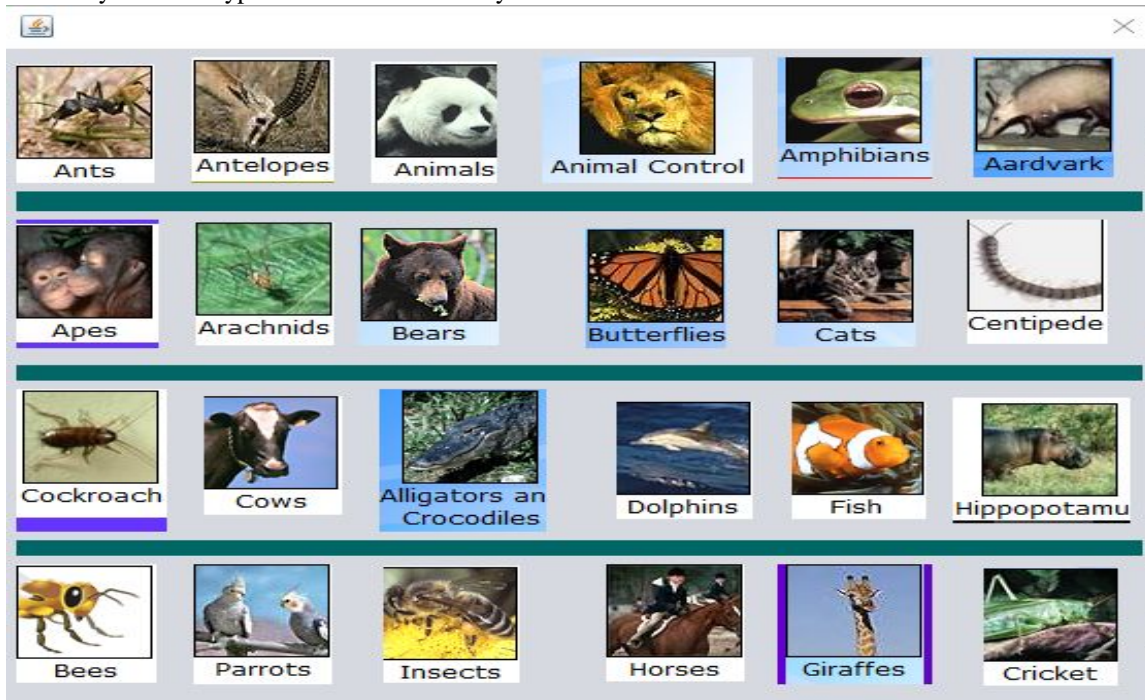
Figure 8: Animal Form

People Form: This view contains the code to view prominent people in the world. The following figure contains the people view form.

Figure 9: People Form

Science Module: This module contains the view of scientifically oriented concepts targeted for nursery school children. This will help them get acquainted with different areas of science within their age range.
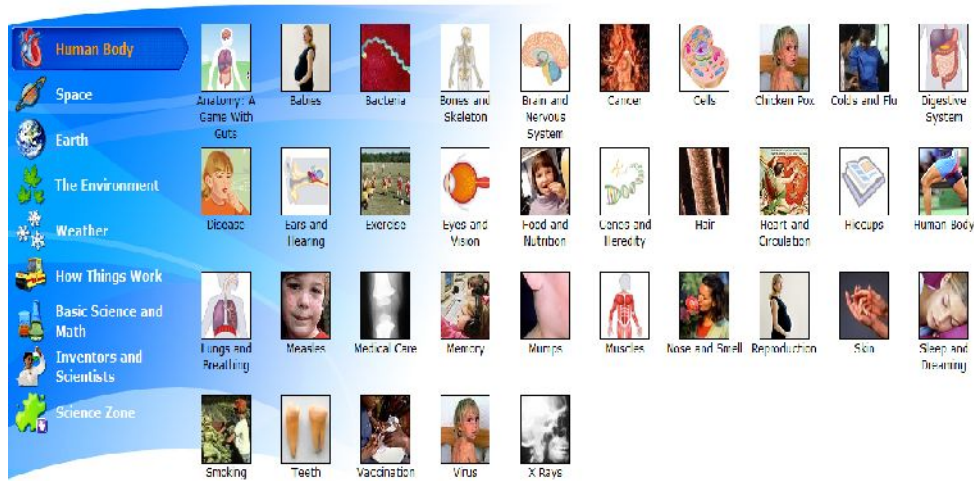
Figure 10: Science Module

Reading Form: This form contains the code that generates the read and write interface for the nursery school children. This form basically displays two letter words and three letter words.

Figure 11: Reading Form

The design and simulation of an electronic tutor for nursery school children is a system that was developed in order to improve on the educational level of nursery school children.The manual method of teaching the children is less effective when compared to the use of electronic tutor, The introduction of computerized learning exposes the children to lots of advantages such as; Boosting problem-solving skills, Stimulating language comprehension ,and Improving long-term memory retention. This project was targeted to satisfying the stipulated requirements specification of the system. The teaching framework for the study is that children learn most things better through construction of computer games, multimedia composition rather than through tradiational methods of direct teaching contents. The system presents an entirely new learning model.

5.1 Conclusion
The electronic tutor Software will encounter greater success when used properly by the instructor who will coordinate the lesson for the children. The focus of the system is to create a suitable platform that will enable the children learn in a more appropriate manner giving time for every child to grasp quickly and to also ensure that every child grow academically. This method promotes reliability of test scores of the children and it would be able to determine with correct measure whether a child have learnt or not. The proposed system will enhance

the conventional method in the area of providing E-learning for education because it has improved the quality of the learning experience.

It has also helped in removing barriers to achievement by providing new and creative ways of multivating and engaging pupils of all abilities, enabling and inspiring the children to attain their educational potential. An electronic tutor offers a wide range of tools to enable teachers and learners to be innovative, creative and resourceful in all learning activities. The teachers and learners can easily customize digital learning to suit pace and level, appropriate to any learning style and ability. In line with this, the school should ensdeavour to employ a well-trained instructor who has good computer skills to guide the children properly

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APPENDIX A

SORUCE CODE

```
package nurserychildrenapp;

import com.sun.speech.freetts.VoiceManager;
```

```
import com.sun.speech.freetts.*;
import javax.swing.JOptionPane;

/**
 *
 * @author Worisoft
 */
public class Reading extends javax.swing.JDialog {

    private static final String VOICENAME="kevin16";
    public Reading(java.awt.Frame parent, boolean modal) {
        super(parent, modal);
        initComponents();
    }

    @SuppressWarnings("unchecked")
    // <editor-fold defaultstate="collapsed" desc="Generated Code">
    private void initComponents() {

        jTabbedPane1 = new javax.swing.JTabbedPane();
        jPanel3 = new javax.swing.JPanel();
        jButton27 = new javax.swing.JButton();
        jButton28 = new javax.swing.JButton();
        jButton29 = new javax.swing.JButton();
        jButton30 = new javax.swing.JButton();
        jButton31 = new javax.swing.JButton();
        jButton32 = new javax.swing.JButton();
        jButton33 = new javax.swing.JButton();
        jButton34 = new javax.swing.JButton();
        jButton35 = new javax.swing.JButton();
        jButton36 = new javax.swing.JButton();
        jButton37 = new javax.swing.JButton();
        jButton39 = new javax.swing.JButton();
        jButton41 = new javax.swing.JButton();
        jButton43 = new javax.swing.JButton();
        jButton44 = new javax.swing.JButton();
        jButton45 = new javax.swing.JButton();
        jButton46 = new javax.swing.JButton();
        jButton47 = new javax.swing.JButton();
        jButton48 = new javax.swing.JButton();
        jButton49 = new javax.swing.JButton();
        jButton50 = new javax.swing.JButton();
        jButton51 = new javax.swing.JButton();
        jButton52 = new javax.swing.JButton();
        jButton53 = new javax.swing.JButton();
        jButton54 = new javax.swing.JButton();
        jButton55 = new javax.swing.JButton();
        jButton56 = new javax.swing.JButton();
        jButton58 = new javax.swing.JButton();
        jButton62 = new javax.swing.JButton();
        jButton65 = new javax.swing.JButton();
        jButton70 = new javax.swing.JButton();
        jButton71 = new javax.swing.JButton();
        jButton72 = new javax.swing.JButton();
```

```
jButton73 = new javax.swing.JButton();
jButton74 = new javax.swing.JButton();
jButton75 = new javax.swing.JButton();
jButton76 = new javax.swing.JButton();
jButton77 = new javax.swing.JButton();
jButton78 = new javax.swing.JButton();
jButton79 = new javax.swing.JButton();
jButton80 = new javax.swing.JButton();
jButton81 = new javax.swing.JButton();
jButton82 = new javax.swing.JButton();
jButton83 = new javax.swing.JButton();
jButton85 = new javax.swing.JButton();
jPanel4 = new javax.swing.JPanel();
jButton38 = new javax.swing.JButton();
jButton40 = new javax.swing.JButton();
jButton42 = new javax.swing.JButton();
jButton59 = new javax.swing.JButton();
jButton60 = new javax.swing.JButton();
jButton61 = new javax.swing.JButton();
jButton63 = new javax.swing.JButton();
jButton64 = new javax.swing.JButton();
jButton67 = new javax.swing.JButton();
jButton57 = new javax.swing.JButton();
jButton68 = new javax.swing.JButton();
jButton69 = new javax.swing.JButton();
jButton84 = new javax.swing.JButton();
jButton86 = new javax.swing.JButton();
jButton87 = new javax.swing.JButton();
jButton88 = new javax.swing.JButton();
jPanel2 = new javax.swing.JPanel();
jButton1 = new javax.swing.JButton();
jButton2 = new javax.swing.JButton();
jButton3 = new javax.swing.JButton();
jButton4 = new javax.swing.JButton();
jButton5 = new javax.swing.JButton();
jButton6 = new javax.swing.JButton();
jButton7 = new javax.swing.JButton();
jButton8 = new javax.swing.JButton();
jButton9 = new javax.swing.JButton();
jButton10 = new javax.swing.JButton();
jButton11 = new javax.swing.JButton();
jButton12 = new javax.swing.JButton();
jButton13 = new javax.swing.JButton();
jButton14 = new javax.swing.JButton();
jButton15 = new javax.swing.JButton();
jButton16 = new javax.swing.JButton();
jButton17 = new javax.swing.JButton();
jButton18 = new javax.swing.JButton();
jButton19 = new javax.swing.JButton();
jButton20 = new javax.swing.JButton();
jButton21 = new javax.swing.JButton();
jButton22 = new javax.swing.JButton();
jButton23 = new javax.swing.JButton();
jButton24 = new javax.swing.JButton();
```

```
jButton25 = new javax.swing.JButton();
jButton26 = new javax.swing.JButton();
jPanel1 = new javax.swing.JPanel();
jLabel1 = new javax.swing.JLabel();

setDefaultCloseOperation(javax.swing.WindowConstants.DISPOSE_ON_CLOSE);

jPanel3.setBackground(new java.awt.Color(153, 153, 255));

jButton27.setText("On");
jButton27.addActionListener(new java.awt.event.ActionListener() {
   public void actionPerformed(java.awt.event.ActionEvent evt) {
      jButton27ActionPerformed(evt);
   }
});

jButton28.setText("me");

jButton29.setText("he");

jButton30.setText("So");
jButton30.addActionListener(new java.awt.event.ActionListener() {
   public void actionPerformed(java.awt.event.ActionEvent evt) {
      jButton30ActionPerformed(evt);
   }
});

jButton31.setText("lo");

jButton32.setText("To");
jButton32.addActionListener(new java.awt.event.ActionListener() {
   public void actionPerformed(java.awt.event.ActionEvent evt) {
      jButton32ActionPerformed(evt);
   }
});

jButton33.setText("By");
jButton33.addActionListener(new java.awt.event.ActionListener() {
   public void actionPerformed(java.awt.event.ActionEvent evt) {
      jButton33ActionPerformed(evt);
   }
});

jButton34.setText("no");

jButton35.setText("Be");

jButton36.setText("go");

jButton37.setText("in");

jButton39.setText("is");

jButton41.setText("it");
```

```
jButton43.setText("Has");

jButton44.setText("she");

jButton45.setText("sow");

jButton46.setText("saw");

jButton47.setText("ben");

jButton48.setText("ten");

jButton49.setText("sun");

jButton50.setText("ingratiate");
jButton50.addActionListener(new java.awt.event.ActionListener() {
   public void actionPerformed(java.awt.event.ActionEvent evt) {
      jButton50ActionPerformed(evt);
   }
});

jButton51.setText("wry");

jButton52.setText("pet");

jButton53.setText("son");

jButton54.setText("put");

jButton55.setText("bed");

jButton56.setText("pot");

jButton58.setText("gas");

jButton62.setText("dog");

jButton65.setText("die");
jButton65.addActionListener(new java.awt.event.ActionListener() {
   public void actionPerformed(java.awt.event.ActionEvent evt) {
      jButton65ActionPerformed(evt);
   }
});

jButton70.setText("net");

jButton71.setText("mow");

jButton72.setText("row");

jButton73.setText("mew");
jButton73.addActionListener(new java.awt.event.ActionListener() {
   public void actionPerformed(java.awt.event.ActionEvent evt) {
```

```
        jButton73ActionPerformed(evt);
    }
});

jButton74.setText("ago");

jButton75.setText("egg");

jButton76.setText("toe");

jButton77.setText("led");

jButton78.setText("pig");

jButton79.setText("buy");

jButton80.setText("age");

jButton81.setText("lip");

jButton82.setText("mum");

jButton83.setText("pop");

jButton85.setText("vex");

jButton38.setText("kit");

jButton40.setText("man");

jButton42.setText("can");

jButton59.setText("gap");

jButton60.setText("lap");

jButton61.setText("run");

jButton63.setText("cat");

jButton64.setText("lay");

jButton67.setText("off");

jButton57.setText("low");

jButton68.setText("got");
jButton68.addActionListener(new java.awt.event.ActionListener() {
    public void actionPerformed(java.awt.event.ActionEvent evt) {
        jButton68ActionPerformed(evt);
    }
});

jButton69.setText("bad");
```

```
    javax.swing.GroupLayout jPanel4Layout = new javax.swing.GroupLayout(jPanel4);
    jPanel4.setLayout(jPanel4Layout);
    jPanel4Layout.setHorizontalGroup(
        jPanel4Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
        .addGroup(jPanel4Layout.createSequentialGroup()
            .addGap(25, 25, 25)
            .addComponent(jButton38, javax.swing.GroupLayout.PREFERRED_SIZE, 51,
javax.swing.GroupLayout.PREFERRED_SIZE)
            .addGap(32, 32, 32)
            .addComponent(jButton40)
            .addGap(18, 18, 18)
            .addComponent(jButton42)
            .addGap(28, 28, 28)
            .addComponent(jButton59)
            .addGap(27, 27, 27)
            .addComponent(jButton60)
            .addGap(26, 26, 26)
            .addComponent(jButton61, javax.swing.GroupLayout.PREFERRED_SIZE, 49,
javax.swing.GroupLayout.PREFERRED_SIZE)
            .addGap(18, 18, 18)
            .addComponent(jButton63)
            .addGap(30, 30, 30)
            .addComponent(jButton64)
            .addGap(31, 31, 31)
            .addComponent(jButton67)
            .addGap(18, 18, 18)
            .addComponent(jButton57)
            .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED, 37, Short.MAX_VALUE)
            .addComponent(jButton68)
            .addGap(18, 18, 18)
            .addComponent(jButton69)
            .addContainerGap())
    );
    jPanel4Layout.setVerticalGroup(
        jPanel4Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
        .addGroup(jPanel4Layout.createSequentialGroup()
            .addGroup(jPanel4Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.BASELINE)
                .addComponent(jButton42)
                .addComponent(jButton40)
                .addComponent(jButton59)
                .addComponent(jButton60)
                .addComponent(jButton61)
                .addComponent(jButton63)
                .addComponent(jButton64)
                .addComponent(jButton67)
                .addComponent(jButton57)
                .addComponent(jButton68)
                .addComponent(jButton69)
                .addComponent(jButton38))
            .addContainerGap(javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE))
    );

    jButton84.setText("sky");
```

```
        jButton86.setText("tip");

        jButton87.setText("raw");

        jButton88.setText("mum");

        javax.swing.GroupLayout jPanel3Layout = new javax.swing.GroupLayout(jPanel3);
        jPanel3.setLayout(jPanel3Layout);
        jPanel3Layout.setHorizontalGroup(
           jPanel3Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
           .addGroup(jPanel3Layout.createSequentialGroup()
              .addGap(117, 117, 117)
              .addGroup(jPanel3Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.TRAILING)
                 .addComponent(jButton50)
                 .addComponent(jButton87)
                 .addComponent(jButton44, javax.swing.GroupLayout.Alignment.LEADING))
              .addGap(18, 18, 18)
              .addGroup(jPanel3Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.TRAILING)
                 .addComponent(jButton52)
                 .addComponent(jButton86))
              .addGroup(jPanel3Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
                 .addGroup(jPanel3Layout.createSequentialGroup()
                    .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)
                       .addComponent(jButton76)
                       .addGap(16, 16, 16))
                 .addGroup(jPanel3Layout.createSequentialGroup()
                    .addGap(37, 37, 37)
                    .addGroup(jPanel3Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
                       .addGroup(jPanel3Layout.createSequentialGroup()
                          .addComponent(jButton47)
                          .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE))
                       .addGroup(jPanel3Layout.createSequentialGroup()
                          .addComponent(jButton82)
                          .addGap(0, 0, Short.MAX_VALUE)))))
              .addGroup(jPanel3Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.TRAILING)
                 .addComponent(jButton46)
                 .addGroup(jPanel3Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
                    .addComponent(jButton81, javax.swing.GroupLayout.PREFERRED_SIZE, 49,
javax.swing.GroupLayout.PREFERRED_SIZE)
                       .addComponent(jButton53)))
              .addGap(18, 18, 18)
              .addComponent(jButton48)
              .addGap(162, 162, 162)
              .addComponent(jButton78)
              .addGap(313, 313, 313))
           .addGroup(javax.swing.GroupLayout.Alignment.TRAILING, jPanel3Layout.createSequentialGroup()
              .addGroup(jPanel3Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
                 .addGroup(jPanel3Layout.createSequentialGroup()
                    .addGap(35, 35, 35)
                    .addComponent(jButton27, javax.swing.GroupLayout.PREFERRED_SIZE, 51,
javax.swing.GroupLayout.PREFERRED_SIZE)
```

```
                .addGap(30, 30, 30)
                .addComponent(jButton33, javax.swing.GroupLayout.PREFERRED_SIZE, 53,
javax.swing.GroupLayout.PREFERRED_SIZE)
                .addGap(18, 18, 18)
                .addComponent(jButton30, javax.swing.GroupLayout.PREFERRED_SIZE, 53,
javax.swing.GroupLayout.PREFERRED_SIZE)
                .addGap(26, 26, 26)
                .addComponent(jButton32, javax.swing.GroupLayout.PREFERRED_SIZE, 53,
javax.swing.GroupLayout.PREFERRED_SIZE)
                .addGap(18, 18, 18)
                .addComponent(jButton35, javax.swing.GroupLayout.PREFERRED_SIZE, 48,
javax.swing.GroupLayout.PREFERRED_SIZE)
                .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)
                .addComponent(jButton37, javax.swing.GroupLayout.PREFERRED_SIZE, 49,
javax.swing.GroupLayout.PREFERRED_SIZE)
                .addGap(18, 18, 18)
                .addComponent(jButton39)
                .addGap(30, 30, 30)
                .addComponent(jButton41)
                .addGap(24, 24, 24)
                .addComponent(jButton28)
                .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.UNRELATED)
                .addComponent(jButton29)
                .addGap(30, 30, 30)
                .addComponent(jButton31)
                .addGap(27, 27, 27)
                .addComponent(jButton34)
                .addGap(18, 18, 18)
                .addComponent(jButton36)
                .addGap(11, 11, 11))
            .addGroup(javax.swing.GroupLayout.Alignment.TRAILING, jPanel3Layout.createSequentialGroup()
                .addContainerGap(javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)
                .addGroup(jPanel3Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
                    .addComponent(jPanel4, javax.swing.GroupLayout.PREFERRED_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.PREFERRED_SIZE)
                    .addGroup(jPanel3Layout.createSequentialGroup()
                        .addGap(24, 24, 24)

.addGroup(jPanel3Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.TRAILING, false)
                        .addGroup(jPanel3Layout.createSequentialGroup()

.addGroup(jPanel3Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.TRAILING)
                            .addComponent(jButton51)
                            .addComponent(jButton77))
                        .addGap(336, 336, 336)

.addGroup(jPanel3Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.TRAILING)
                            .addComponent(jButton49)
                            .addComponent(jButton54))
                        .addGap(18, 18, 18)

.addGroup(jPanel3Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
                        .addGroup(jPanel3Layout.createSequentialGroup()
```

```
                                .addComponent(jButton83)
                                .addGap(18, 18, 18)
                                .addComponent(jButton55))
                            .addGroup(jPanel3Layout.createSequentialGroup()
                                .addComponent(jButton80)
                                .addGap(18, 18, 18)
                                .addComponent(jButton79))))
                    .addGroup(jPanel3Layout.createSequentialGroup()
                        .addComponent(jButton43)
                        .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)
                        .addComponent(jButton45)
                        .addGap(251, 251, 251)
                        .addComponent(jButton62)
                        .addGap(18, 18, 18)
                        .addComponent(jButton56)))
                    .addGap(18, 18, 18)

.addGroup(jPanel3Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.TRAILING, false)
                        .addGroup(jPanel3Layout.createSequentialGroup()
                            .addComponent(jButton65)
                            .addGap(28, 28, 28)
                            .addComponent(jButton73))
                        .addGroup(jPanel3Layout.createSequentialGroup()
                            .addComponent(jButton58)
                            .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)

.addGroup(jPanel3Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
                            .addComponent(jButton85)
                            .addComponent(jButton71))))

.addGroup(jPanel3Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING, false)
                        .addGroup(jPanel3Layout.createSequentialGroup()
                            .addGap(18, 18, 18)

.addGroup(jPanel3Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
                            .addGroup(jPanel3Layout.createSequentialGroup()
                                .addComponent(jButton74)
                                .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)
                                .addComponent(jButton75))
                            .addGroup(jPanel3Layout.createSequentialGroup()
                                .addComponent(jButton70)
                                .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)
                                .addComponent(jButton72))))
                        .addGroup(jPanel3Layout.createSequentialGroup()
                            .addGap(35, 35, 35)
                            .addComponent(jButton84)
                            .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.UNRELATED)
                            .addComponent(jButton88)))))
                .addGap(0, 0, Short.MAX_VALUE))
            .addGap(60, 60, 60))
```

```
    );
    jPanel3Layout.setVerticalGroup(
        jPanel3Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
        .addGroup(jPanel3Layout.createSequentialGroup()
            .addGap(12, 12, 12)
            .addGroup(jPanel3Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.BASELINE)
                .addComponent(jButton27)
                .addComponent(jButton33)
                .addComponent(jButton30)
                .addComponent(jButton32)
                .addComponent(jButton35)
                .addComponent(jButton37)
                .addComponent(jButton39)
                .addComponent(jButton41)
                .addComponent(jButton28)
                .addComponent(jButton29)
                .addComponent(jButton31)
                .addComponent(jButton34)
                .addComponent(jButton36))
            .addGap(36, 36, 36)
            .addComponent(jPanel4, javax.swing.GroupLayout.PREFERRED_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.PREFERRED_SIZE)
            .addGap(34, 34, 34)
            .addGroup(jPanel3Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.BASELINE)
                .addComponent(jButton45)
                .addComponent(jButton47)
                .addComponent(jButton44)
                .addComponent(jButton43)
                .addComponent(jButton46)
                .addComponent(jButton48)
                .addComponent(jButton62)
                .addComponent(jButton56)
                .addComponent(jButton65)
                .addComponent(jButton73)
                .addComponent(jButton70)
                .addComponent(jButton72))
            .addGap(43, 43, 43)
            .addGroup(jPanel3Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.BASELINE)
                .addComponent(jButton75)
                .addComponent(jButton74)
                .addComponent(jButton71)
                .addComponent(jButton58)
                .addComponent(jButton55)
                .addComponent(jButton83)
                .addComponent(jButton54)
                .addComponent(jButton53)
                .addComponent(jButton82)
                .addComponent(jButton50)
                .addComponent(jButton52)
                .addComponent(jButton51))
            .addGap(51, 51, 51)
            .addGroup(jPanel3Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.BASELINE)
                .addComponent(jButton81)
                .addComponent(jButton49)
```

```
        .addComponent(jButton80)
        .addComponent(jButton79)
        .addComponent(jButton78)
        .addComponent(jButton85)
        .addComponent(jButton76)
        .addComponent(jButton86)
        .addComponent(jButton87)
        .addComponent(jButton84)
        .addComponent(jButton88)
        .addComponent(jButton77))
    .addContainerGap(146, Short.MAX_VALUE))
);
```

jTabbedPane1.addTab("Two lettered Words", jPanel3);

jButton1.setText("A");

jButton2.setText("B");

jButton3.setText("C");

jButton4.setText("D");

jButton5.setText("E");

jButton6.setText("F");

jButton7.setText("G");

jButton8.setText("H");

jButton9.setText("I");

jButton10.setText("J");

jButton11.setText("K");

jButton12.setText("L");

jButton13.setText("M");

jButton14.setText("N");

jButton15.setText("O");

jButton16.setText("P");

jButton17.setText("Q");

jButton18.setText("R");

jButton19.setText("S");

jButton20.setText("T");

```
        jButton21.setText("U");

        jButton22.setText("V");

        jButton23.setText("W");

        jButton24.setText("X");

        jButton25.setText("Y");

        jButton26.setText("Z");

        javax.swing.GroupLayout jPanel2Layout = new javax.swing.GroupLayout(jPanel2);
        jPanel2.setLayout(jPanel2Layout);
        jPanel2Layout.setHorizontalGroup(
            jPanel2Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
            .addGroup(jPanel2Layout.createSequentialGroup()
                .addContainerGap()
                .addGroup(jPanel2Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
                    .addComponent(jButton10)
                    .addComponent(jButton19)
                    .addComponent(jButton1))
                .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED, 78, Short.MAX_VALUE)
                .addGroup(jPanel2Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
                    .addComponent(jButton11)
                    .addComponent(jButton2)
                    .addComponent(jButton20))
                .addGap(50, 50, 50)
                .addGroup(jPanel2Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
                    .addComponent(jButton12, javax.swing.GroupLayout.PREFERRED_SIZE, 39,
javax.swing.GroupLayout.PREFERRED_SIZE)
                    .addComponent(jButton3, javax.swing.GroupLayout.PREFERRED_SIZE, 39,
javax.swing.GroupLayout.PREFERRED_SIZE)
                    .addComponent(jButton21))
                .addGap(45, 45, 45)
                .addGroup(jPanel2Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
                    .addComponent(jButton22)
                    .addComponent(jButton13, javax.swing.GroupLayout.PREFERRED_SIZE, 41,
javax.swing.GroupLayout.PREFERRED_SIZE)
                    .addComponent(jButton4, javax.swing.GroupLayout.PREFERRED_SIZE, 41,
javax.swing.GroupLayout.PREFERRED_SIZE))
                .addGap(76, 76, 76)
                .addGroup(jPanel2Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING, false)
                    .addComponent(jButton5)
                    .addComponent(jButton14, javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)
                    .addComponent(jButton23, javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE))
                .addGap(81, 81, 81)
                .addGroup(jPanel2Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING, false)
                    .addComponent(jButton6, javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)
```

```
                .addComponent(jButton15, javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)
                .addComponent(jButton24, javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE))
            .addGap(72, 72, 72)
            .addGroup(jPanel2Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
              .addComponent(jButton7)
              .addComponent(jButton16)
              .addComponent(jButton25))
            .addGap(82, 82, 82)
            .addGroup(jPanel2Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
              .addGroup(jPanel2Layout.createSequentialGroup()
                .addGroup(jPanel2Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
                  .addComponent(jButton8)
                  .addComponent(jButton17))
                .addGap(81, 81, 81)
                .addGroup(jPanel2Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
                  .addComponent(jButton18)
                  .addComponent(jButton9)))
              .addComponent(jButton26))
            .addContainerGap())
    );
    jPanel2Layout.setVerticalGroup(
      jPanel2Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
      .addGroup(jPanel2Layout.createSequentialGroup()
        .addGap(46, 46, 46)
        .addGroup(jPanel2Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.BASELINE)
          .addComponent(jButton1)
          .addComponent(jButton2)
          .addComponent(jButton3)
          .addComponent(jButton4)
          .addComponent(jButton5)
          .addComponent(jButton6)
          .addComponent(jButton7)
          .addComponent(jButton8)
          .addComponent(jButton9))
        .addGap(86, 86, 86)
        .addGroup(jPanel2Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.BASELINE)
          .addComponent(jButton10)
          .addComponent(jButton11)
          .addComponent(jButton12)
          .addComponent(jButton13)
          .addComponent(jButton14)
          .addComponent(jButton15)
          .addComponent(jButton16)
          .addComponent(jButton17)
          .addComponent(jButton18))
        .addGap(86, 86, 86)
        .addGroup(jPanel2Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.BASELINE)
          .addComponent(jButton19)
          .addComponent(jButton20)
          .addComponent(jButton21)
          .addComponent(jButton22)
          .addComponent(jButton23)
```

```
            .addComponent(jButton24)
            .addComponent(jButton25)
            .addComponent(jButton26))
        .addContainerGap(161, Short.MAX_VALUE))
    );


    jTabbedPane1.addTab("Alphabets", jPanel2);

    jPanel1.setBackground(new java.awt.Color(153, 153, 255));

    jLabel1.setFont(new java.awt.Font("Gill Sans Ultra Bold", 1, 24)); // NOI18N
    jLabel1.setHorizontalAlignment(javax.swing.SwingConstants.CENTER);
    jLabel1.setText("READ AND WRITE USER INTERFACE");

    javax.swing.GroupLayout jPanel1Layout = new javax.swing.GroupLayout(jPanel1);
    jPanel1.setLayout(jPanel1Layout);
    jPanel1Layout.setHorizontalGroup(
        jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
        .addGroup(jPanel1Layout.createSequentialGroup()
            .addContainerGap()
            .addComponent(jLabel1, javax.swing.GroupLayout.PREFERRED_SIZE, 966,
javax.swing.GroupLayout.PREFERRED_SIZE)
            .addContainerGap(javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE))
    );
    jPanel1Layout.setVerticalGroup(
        jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
        .addGroup(jPanel1Layout.createSequentialGroup()
            .addContainerGap()
            .addComponent(jLabel1)
            .addContainerGap(javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE))
    );

    javax.swing.GroupLayout layout = new javax.swing.GroupLayout(getContentPane());
    getContentPane().setLayout(layout);
    layout.setHorizontalGroup(
        layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
        .addComponent(jPanel1, javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)
        .addGroup(layout.createSequentialGroup()
            .addComponent(jTabbedPane1, javax.swing.GroupLayout.PREFERRED_SIZE, 951,
javax.swing.GroupLayout.PREFERRED_SIZE)
            .addGap(0, 0, Short.MAX_VALUE))
    );
    layout.setVerticalGroup(
        layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
        .addGroup(layout.createSequentialGroup()
            .addComponent(jPanel1, javax.swing.GroupLayout.PREFERRED_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.PREFERRED_SIZE)
            .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED)
            .addComponent(jTabbedPane1, javax.swing.GroupLayout.PREFERRED_SIZE, 476,
javax.swing.GroupLayout.PREFERRED_SIZE)
            .addContainerGap(javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE))
    );
```

```
    pack();
}// </editor-fold>

private void jButton27ActionPerformed(java.awt.event.ActionEvent evt) {
    VoiceManager vm;
    Voice voice;
    vm = VoiceManager.getInstance();
    voice= vm.getVoice(VOICENAME);
    voice.allocate();
    try{

        voice.speak("O");
        voice.speak("N");
        voice.speak("ON");

    }catch(Exception ex){

    }

}

private void jButton65ActionPerformed(java.awt.event.ActionEvent evt) {
    // TODO add your handling code here:
}

private void jButton73ActionPerformed(java.awt.event.ActionEvent evt) {
    // TODO add your handling code here:
}

private void jButton68ActionPerformed(java.awt.event.ActionEvent evt) {
    // TODO add your handling code here:
}

private void jButton33ActionPerformed(java.awt.event.ActionEvent evt) {
    VoiceManager vm;
    Voice voice;
    vm = VoiceManager.getInstance();
    voice= vm.getVoice(VOICENAME);
    voice.allocate();
    try{

        voice.speak("B");
        voice.speak("Y");
        voice.speak("BY");

    }catch(Exception ex){

    }
}

private void jButton30ActionPerformed(java.awt.event.ActionEvent evt) {
    VoiceManager vm;
    Voice voice;
    vm = VoiceManager.getInstance();
```

```
      voice= vm.getVoice(VOICENAME);
      voice.allocate();
      try{

        voice.speak("S");
        voice.speak("O");
        voice.speak("SO");

      }catch(Exception ex){

      }
}

private void jButton32ActionPerformed(java.awt.event.ActionEvent evt) {
    VoiceManager vm;
   Voice voice;
   vm = VoiceManager.getInstance();
   voice= vm.getVoice(VOICENAME);
   voice.allocate();
   try{

      voice.speak("T");
      voice.speak("O");
      voice.speak("TO");

   }catch(Exception ex){

   }
}

private void jButton50ActionPerformed(java.awt.event.ActionEvent evt) {
    VoiceManager vm;
   Voice voice;
   vm = VoiceManager.getInstance();
   voice= vm.getVoice(VOICENAME);
   voice.allocate();
   try{

      voice.speak("Ingratiate");


   }catch(Exception ex){

   }
}

/**
 * @param args the command line arguments
 */
public static void main(String args[]) {
   /* Set the Nimbus look and feel */
   //<editor-fold defaultstate="collapsed" desc=" Look and feel setting code (optional) ">
   /* If Nimbus (introduced in Java SE 6) is not available, stay with the default look and feel.
    * For details see http://download.oracle.com/javase/tutorial/uiswing/lookandfeel/plaf.html
```

```java
    */
    try {
      for (javax.swing.UIManager.LookAndFeelInfo info : javax.swing.UIManager.getInstalledLookAndFeels()) {
        if ("Nimbus".equals(info.getName())) {
          javax.swing.UIManager.setLookAndFeel(info.getClassName());
          break;
        }
      }
    } catch (ClassNotFoundException ex) {
      java.util.logging.Logger.getLogger(Reading.class.getName()).log(java.util.logging.Level.SEVERE, null,
ex);
    } catch (InstantiationException ex) {
      java.util.logging.Logger.getLogger(Reading.class.getName()).log(java.util.logging.Level.SEVERE, null,
ex);
    } catch (IllegalAccessException ex) {
      java.util.logging.Logger.getLogger(Reading.class.getName()).log(java.util.logging.Level.SEVERE, null,
ex);
    } catch (javax.swing.UnsupportedLookAndFeelException ex) {
      java.util.logging.Logger.getLogger(Reading.class.getName()).log(java.util.logging.Level.SEVERE, null,
ex);
    }
    //</editor-fold>

    /* Create and display the dialog */
    java.awt.EventQueue.invokeLater(new Runnable() {
      public void run() {
        Reading dialog = new Reading(new javax.swing.JFrame(), true);
        dialog.addWindowListener(new java.awt.event.WindowAdapter() {
          @Override
          public void windowClosing(java.awt.event.WindowEvent e) {
            System.exit(0);
          }
        });
```