

**DEVELOPMENT OF A MOBILE APPLICATION TO
TEACH ENGLISH: SUNRISE 12**

**A THESIS SUBMITTED TO THE GRADUATE
SCHOOL OF APPLIED SCIENCES**

OF

NEAR EAST UNIVERSITY

By

PESHRAW SALAM ABDALQADIR

In Partial Fulfillment of the Requirements for

the Degree of Master of Science

in

Computer Information Systems

NICOSIA, 2017

**PESHRAW SALAM
ABDALQADIR**

**DEVELOPMENT OF A MOBILE APPLICATION TO TEACH
ENGLISH: CASE STUDY IN KURDISTAN REGIONAL**

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I hereby declare that all information in this document has been obtained and presented in accordance with academic rules and ethical conduct. I also declare that, as required by these rules and conduct, I have fully cited and referenced all material and results that are not original to this work.

Name, Last name: Peshraw Salam Abdalqadir

Signature:

Date:

To my parents ...

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ABSTRACT

In recent time, the development of Mobile learning applications had received lots of attention whilst some researchers referring it as the future of learning. These learning applications are a replacement of the traditional way of learning with some added advantages such as learning anywhere, anytime. Therefore it is quite important to exploit this new trending technology to develop a learning application to teach the English language as a second dialect to the northern Iraqi communities. The study aims to develop a mobile learning application for teaching English language with a case study of northern Iraq. Utilizing mobile improved application is basic in enhancing the learning abilities of students. The application helps students learn at their leisure times without the presence of their instructor or teacher. The development of the application adopted the Google Android Studio in designing and developing this application. The application can be accessed through the Google play market store. The application contains lots of functionalities such as quiz, listening, reading, grammar, essay, verbs and lastly text to speech. The application will significantly help students wanting to learn the English language at a high pace. The development of the application will help to learn the English language anytime, anywhere and also optimizes learning English language result.

Keywords: Mobile application development; interactive mobile for teaching and learning; supplementary tool; language learners; Android operation

ÖZET

Son zamanlarda mobil öğrenme uygulamaları çok artmıştır ve bazı araştırmacılar bu durumu öğrenmenin geleceği olarak görmektedirler. Bu öğrenme uygulamaları klasik olan öğrenme metodlarının yerini almakta ve herhangi bir yerde ve herhangi bir zamanda öğrenme gibi avantajları bulunmaktadır. Bundan dolayı, Kuzey İrakta İngilizce dilini öğretmek için bir mobil uygulama geliştirmek önem kazanmıştır. Mobil cihaz kullanarak öğretmek öğrencinin öğrenme kabiliyetini artırmaktadır. Bu tür uygulamalar öğrencilere öğretmenleri olmadan ve istenilen zamanda öğrenim sağlamaktadır. Bu tezde Google Android Studio kullanılarak geliştirilmiş olan bir sistemin tasarımından bahsedilmektedir. Uygulamada, soru, dinleme, okuma, ve dil bilgisi gibi çeşitli bölümler bulunmaktadır. Uygulama öğrencilerin İngilizce dilini öğrenmelerine büyük ölçüde yardımcı olacaktır. Uygulama ile öğrenciler herhangi bir zamanda ve herhangi bir yerde İngilizce öğrenimlerini artıracaklardır.

Anahtar kelimeler: Mobil uygulama geliştirmek; öğretmek ve öğrenmek için interaktif mobil uygulama; lisan öğrenimi; Android işletim sistemi

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LIST OF ABBREVIATIONS

API:	Application Programming Interfaces
AVD:	Android Virtual Device
BC:	British Columbia's
BaaS:	Backend as a Service
BNC:	British National Corpus
CPS:	Classroom Performance System
DITA:	Darwin Information Typed Architecture
EFL:	English as Foreign Language
ESL	English as a Second Language
GAE:	Google App Engine
GDP:	Gross Domestic Product
GPRS:	General Packet Radio Service
GPS:	Global Positioning System
GSM C:	Global System for Mobile Communications
GUI	Graphical User Interface
HTMI:	The Hypertext Transfer Protocol
HTTP:	Hyper Text Markup Language
IaaS:	Infrastructure as a Service

ID:	Identifier
IOS:	Iphone Operating Systems
J2EE:	Java ME, a Java Platform
J2ME:	Java 2 Micro Edition
JDK:	Java development kit
KNN:	K-Nearest Neighbors
LO:	Learning Object
MALL	Mobile Assisted Language Learning
MIS:	Mobile Information System
M-Learning	Mobile Learning
MMS:	Multimedia Messaging
MOLT:	Mobile Learning Too
MSL:	Mobile Second Language
OS:	Operating System
PC:	Personal Computer
PIMS	Personalized Intelligent Mobile learning System
PMIS:	Personale Mobile Information System
PDF:	Portable Document Format
PPP:	Paradigm of presentation practice and production
PDA:	Personal Digital Assistant
PISA:	Programmer for International Student Assessment

RFID:	Radio-Frequency Identification
SaaS:	Software as Service
SDK:	Software Development Kit
SMS:	Short Messaging` services
SQL:	Structured Query Language
URL:	Uniform Resource Identifier
WAP:	Wireless Application protocol
Wi-Fi:	Wireless Fidelity
XML:	Extensible markup language

CHAPTER 1

INTRODUCTION

1.1 Introduction

Mobile learning applications are rapidly picking up force. There is an expansive and differing assortment of them accessible in market store like Google play. In addition, this research proposes a mobile app for educational purpose and to categories different skills such as listening, reading, writing and speaking. This research discusses mobile learning application the advance higher-arrange intuition will be accounted for in the literature review. This study aims to explore the roles of Learning English for education during the processes of learning and teaching in an educational environment. Mobile computing and mobile based learning are two of the six major trends that will have a huge impact on learning projections found in the New Media Consortium's 2011 K-12 edition of Horizon report. Mobile devices are already being used in classroom around the world.

Mobile application for learning and teaching are one of my favorite exercises in the commercial test platform that find ways to apply them in the curriculum. With a little out-of-the box thinking that there are many mobile application that offer a wealth of learning opportunities. Such as education, simply we have to apply our craft to design the learning environment that fosters a connection between gaming experiences students and our standard curriculum. Here are some mobile applications within different platforms matched with a concept of education that we have used successfully with our students, along with some additional ideas for mobile application development can explore with their own students. Whether it is used in the outside classrooms after school club in your media center or as part of regular classroom instruction, these mobile applications have great potential for learning.

There are diverse sorts of mobile education models utilized for educating and learning English as a moment dialect. Utilizing a mobile phone or enhancing English understudy preparing is

more successful and more pleasant contrasted with the utilization of similar materials on paper (Basoglu and Akdemir, 2010, Ibrahim and Cavus, 2008). Mobile Assisted Language Learning people groups to take in a dialect by means of portable (Miangha and Nezarat, 2012). Mobile increment inspiration, make the procedure all the more fascinating and charming learning and help enhance the abilities of understudies decidedly (Chen and Huss, 2008). Understudies can learn through visual and verbal channels (Khazaie, 2011; Ozdamli and Cavus, 2011). There are distinctive sorts of programming for mobile phones used to learn English as a moment dialect and English abilities enhance understudy's learning result. Godwin-Jones (2011) uncovered that the custom itself, mobile learning is not another idea, but rather the gadget updated with better offices have prompted a considerable increment in interest, which has been grasped by individuals in the field of instruction dialect understudies and others. Forward advancement on mobile phones permit the utilization of interactive media applications with sound and video quality, and this has brought about the arrangement of numerous instruction materials, particularly in the field of dialect learning (Huang and Sun, 2010) . This and comparative reviews found in the writing have writers in picking the strategy they have taken.

1.2 The Problem

At present there are many individuals in Northern Iraq who want to learn or improve their English language as a second lingua franca but their shortage of means. It's difficult to get an application that teaches the English language effectively for the locals. This situation needs to be improved by designing and developing a mobile application that teaches English language through various means.

In addition, there is no enough mobile application to be used for educational purposes in educational environment. Besides, teachers and students are in a great need to have a mobile application for educational purposes. They might use the application for learning language of mobile learning in educational as tool that primary school communication between them whilst producing challenges.

1.3 Purpose of Study

The purpose of this study is to design a Mobile application development for educational purpose, the aim of importance study to discover the capability of utilizing the created intuitive mobile application the learning abilities such test, tuning in, perusing, syntax and article. It can be utilized as an option route for the learners of the second dialect without the assistance of a teacher.

1.4 Importance of the Study

The application is handy for students who study sunrise for education English program (grammar, quiz, reading, listening, essay, text to speech and Irregular verbs). They also can exercise activity on application mobile devices anytime and anywhere. The system includes second language and show feedback just in time to prompt students. Another important point of this structure is using cloud storage in quiz results.

1.5 Limitation of the Study

This developed application has some limitation attached to it in the following list.

- The applications runs only on android 4.4.2 devices or more
- The application is dependent on the sunrise 12 framework
- The application needs a memory space of 100mb to function well

CHAPTER 2

LITERATURE REVIEW

2.1 Mobile Learning

In order to make a road map and understand the missing gap in other studies amid building the research model, some theoretical perspectives related based on the results of analysis of literature are briefly described in this section to serve as a common basis. The quick improvement of mobile application for learning instruction has empowered individuals to helpfully the data assets at whatever time and anyplace without limitations of time or place. The progressed accessible technology, for example, mobile technology, and advanced handheld gadget have created a room for the development of M-learning, in which learning objects have begun to expand conventional learning way towards generally utilized everyday life.

The fast invasion of logically refined technology into each face of society getting on basic moves where, how and when we work, how people, associations, and even nations grasp and deal with themselves, and how enlightening systems should be sorted out to arrange understudies feasibly for life in the 21st century. School developed youths universal are growing up doused in a media-rich, unavoidable, "always related" world. Stresses over the need to change the enlightening system to satisfactorily prepare understudies for a significantly more development driven, interconnected and forceful "level world" are being voiced by government authorities, educators, gatekeepers, and others over the world (Burke, 2010; Reimers, 2008). Ongoing to give undefined sorts of preparing to understudies from the world continues changing won't function admirably for them.

Mobile taking in, the utilization of compact electronic gadgets to get to and share information, is an example in cutting edge training, and is reexamining the way in which learning happens and how it is instructed (Geist, 2011; Miller, 2012). Mobile offers understudies and experts the

exceptional chance to right away get to data paying little respect to area (Rossing, Miller, Cecil and Stamper, 2012.) This implies learning can happen anyplace and whenever using these gadgets. The gadgets ordinarily utilized are cell phones with Windows®, LG Android™ or Apple® working frameworks, or tablets.

In spite of the fact that usage of cell phone utilize is very much archived in essential and auxiliary instruction, with 1.5 million tablets as of now utilized as a part of government funded school areas, there is constrained research supporting the utilization of these apparatuses in advanced education (Kessler, 2012). Nonetheless, the writing identified with the utilization of gadgets at the school level is ended up being certain and persuasive in understudy learning. For instance, Seton Hill University and George Fox University are among the various advanced education establishments that have perceived the capability of utilizing cell phones to improve learning and have coordinated gadgets into their educational module (Kolowich, 2012). Momentum look into has approved the capability of these gadgets, since they have been found to encourage engagement and support in dialog when utilized as a part of the classroom (Rossing et al., 2012). Moreover, understudies report that utilizing cell phones enables them to tailor course substance to fit their learning style and pace (Rossing et al., 2012).

It has additionally been demonstrated that Mobile learning gadgets are compelling in the utilization of data, one of its most eminent limits being its convenience as an electronic peruse. Understudies are purchasing eBooks that they can without much of a stretch download onto their tablets, while instructors are stacking content parts as PDF records and offer them with understudies (Geist, 2011). Distributers are searching for approaches to remain suitable in this new market and look to abuse the capacities of tablets by making visual and sight and sound interfaces incorporated with their eBooks to make adapting more intelligent ("iPad in Education") Particularly imperative as A review by Rossing et. Al (2012) found that the visual and material learning openings introduced by these gadgets made the learning knowledge more "down to earth". Essentially, examines have found that tablets have applications that fill in as study helps and profitability apparatuses for understudies. Not exclusively could understudies utilize "applications" to cause make cheat sheets to ponder, however they could

likewise get to and alter records in Google archives for assignments (Miller, 2012). The tablet-pcs configuration joins electronic perusing abilities with web perusing, and also a variety of uses, or "applications" that encourage the incorporation of data by making moment availability (Rossing et al., 2012). Due to these abilities and their capability to alter instruction, these devices are exceedingly important to advanced education.

In the classroom, the utilization of cell phones has been found to add to the learning knowledge and draw in understudies amid meetings. Understudies see that the PC tablet is compelling in enhancing their learning condition. Then again, understudies provide details regarding the PC tablet to encourage their capacity to comprehend key ideas and tweak their learning knowledge (Schuler et al., 2012). Concerning bunch work, a review by Schuler et al. (2012), found that the utilization of PC tablets made a helpful learning condition among understudies. Understudies could share data all the more productively, figure answers to inquiries, and increment their awareness of other's expectations. Inside the specific situation, obligation regarding learning is vital to cultivate in postgraduate understudies, as they are urged to act naturally coordinated understudies. In this way, it is important to examine techniques to incorporate the utilization of cell phones in advanced education, particularly in postgraduate reviews.

As college foundations perceive the outlook change in the utilization of cell phones, rethinking how data is expended, dispersed and utilized, more reviews around there are basic (Geist, 2011). Cell phones will without a doubt change the way guideline is conveyed in advanced education settings, and it is critical to examine and apply these ideas to instructing procedures

As stated by Bill Gates (2005) at the National Educational Summit on High Schools, "Preparing the work drive of tomorrow with the secondary schools of today resembles attempting to show kids about today's PCs on a 50-year-old centralized computer. It's the wrong device for the circumstances." For made nations who have evidently valued a pleasing association between high GDP per capita and positive educational execution, the 2012 Programmer for International Student Assessment (PISA) occurs, which showed the United States as ordinary in scrutinizing and science however underneath typical in number juggling differentiated and diverse countries, fill in as "a notice and an open door. High salary nations

can't underestimate that they will always keep their near leeway in "human capital" (Gurría, 2010).

The difficulties constrained by the snappy rate of mechanical change on society are imperative, as the capacities and learning offered by a set up preparing are at no time later on observed as palatable game plan for achievement in life. The rising of various "21st century capacities" logical arrangements and structures highlights the creating divergence between current educational outcomes and the skill sets anticipated that would win in the swiftly moving world. The cutting-edge period of vocations will be depicted by extended advancement use, expansive basic considering, and complex correspondence (Levy and Murnane, 2004). These are capacities that go past average examining, forming, and math of years past. It's not exactly what understudies need to find that is moving, moreover how and when they learn. Understudies of today are growing up with convenient workstations, tablets, cell phones, and video calls, and they would like to use this development in daily communications (NCREL and Metiri, 2003).

One and of critical guarantee in such manner is a development toward the utilization of instructive computer games as learning apparatuses in schools. In light of this advancement, a couple business and extraordinarily planned PC diversions have been used as a piece of K-12 classrooms over the world to enhance understudies' learning foundation (Wastiau, Kearney, and Van den Berghe, 2009). Patrons of Mobile learning in cutting edge training allude to the limit of electronic preoccupations to teach and reinforce capacities basic for future occupations, for instance, composed exertion, basic considering, and correspondence. While in the past instructors have been reluctant to use PC diversions or PC entertainments in the classroom, there is an extending excitement transversely over wide and changed parts of the educational establishment to look at the use of cutting edge amusements as certified learning and assessment mechanical assemblies. In 2005, the Federation of American Scientists, the Entertainment Software Association, and the National Science Foundation brought to get the right around 100 pros to consider ways to deal with make front line learning Mobile applications.

They found that a number of the abilities required for achievement in amusements, for example, considering, arranging, learning, and specialized aptitudes are additionally looked for by bosses (Federation of American Scientists, 2006). In Secretary of Education Arne Duncan's 2010 National Education Technology Plan, he calls for research in how "evaluation advancements, for example, reenactments, community conditions, virtual universes, recreations, and subjective mentors, can be utilized to draw in and persuade learners while surveying complex aptitudes" (United States Department of Education, 2010: p. 15). The presumption many are making is that advanced recreations are appropriate to enhance direction and separate learning while likewise giving more compelling and less meddlesome estimation than customary evaluations offer.

Mobile learning is implemented in handheld computers or mobile phones. Most handheld computers now include mobile phone features. Similarly, mobile phones now have features such as palm trees, such as calendar, database, organizer, alarm, etc. These are often referred to as "smart phone". Smith (2003) suggests that in the next three years the mobile phone used by the youngest student migrate to smartphones. While a PDA or PDA phone allow not be popular, except where of course support specialists. Also a number of hybrid device are now available that combine phone functionality and palm.

Miangah and Nezarat (2012) Mentioned that innovation bolstered gadgets are Rapidly Developing, and That Widespread access to sophisticate such gadgets economical and learning has changed from multiple points of view. As Mobile phone with high abilities stretch out into human life, remote specialized gadgets Have Become open for almost everybody all over the place. The elements incorporate easygoing taking in the learning of the OCCURS That Whenever and wherever the learner has the need, inspiration, and open door for learning.

Additionally the principle qualities of Mobile learning is portrayed by their learning potential to be customized, omnipresent, unconstrained and intermittent (Marsick and Watkins, 2001; Miangah and Nezarat, 2012). Godwin-Jones (2011) additionally said that Mobile phones are ideal for easygoing individualized learning. The client can figure out which applications for Mobile phones and how to utilize them.

Language instructors ought to empower and help understudies wind up noticeably self-governing and give the way to understudies to join both formal and casual learning. Also, Mobile learning has a tendency to be most helpful for exercises outside the classroom that associate understudy adapting all the more specifically with genuine encounters. Additionally, Mobile learning enables understudies to learn without being constrained by space and time. Understudies can associate their encounters with certifiable situations identified with learning content and enhance their learning capacity (Hwang and Chang, 2011; Kukulska-Hulme, 2009; Miangah and Nezarat, 2012).

2.2 Impact of Mobile Assisted Language Learning (MALL) on ESL

Mobile phones have seen tremendous growth since Chickering and Ehrmann (1996) coined the term MALL (Mobile Assisted Language Learning). More recently, the term has been associated with mobile phones. These phones with user-friendly interfaces, ubiquitous access, and improved data storage and retrieval offer a good platform For learning (Gabarre, Gabarre, Din, Shah, and Karim, 2014; Godwin-Jones, 2011; Miangah and Nezarat, 2012). Insights CALL (Computer Assisted Language Learning) can be used to inform the learning activities presented through Mobile phones (Kukulska-Hulme, 2005). Because these phones the miniature form of PCs with the added benefit of Portability that outperforms laptops. This technology breakthrough of the return to the palm has literally given a potential Language learning tool in the hands of teachers and their students (Kukulska-Hulme, 2009). Our lives are deeply immersed in technology. The same view was held by a majority of participants (Huw Jarvis and Achilleos, 2013). Mobile phones can offer exciting, engaging and motivating learning activities. Students like these mobile affordances technology in which they can connect with their peers to complete learning activities (Palalas, 2011). Complete learning collaborative tasks through mobile phones were found effective (Lan, Sung, and Chang, 2007, Lim Abdullah, Hussin, Asra, and Zakaria, 2013). From the point of view of transactional distance, also mobile phones have an advantage. The instructors can initiate students in a learning environment where they provide an initial scaffold and then gradually withdraw support to enable students to take charge of their learning (Park, 2011). MALL fits perfectly in PPP (Paradigm of presentation, practice and production). Mobile phones can present rich

learning material in multimodal ways (HA Jarvis, 2015, Mayer, 2003). Evaluation of six pilot projects in developing countries (Valk, Rashid, and Elder, 2010) he concluded that mobile phones have the potential to provide instruction. They have the potential to help create an environment conducive to a variety of learning scenarios such as formal and informal learning (Wong, 2012).

SMS is considered the application of ace in the mobile industry. More than 150 billion text messages were sent only in the UK in 2011 (<https://www.textmarketer.co.uk>). It seems to be the most used option in language delivery instruction too. In many studies, positive results were used and reported on their efficacy (Alavinia and Qoitassi, 2013; Chen, Hsieh and Kinshuk, 2008; Motallebzadeh and Ganjali, 2011; Yang, 2013). In addition, the skills area the choice seems to be the acquisition of vocabulary (Duman, Orhon, and Gedik, 2015, H.-S. Kim, 201 Kim and Kwon, 2012).

Both teachers and students have embraced the idea of mobile learning with great enthusiasm. Most recent characteristics of this learning are mobility and ubiquitous access. The teachers liked the idea because it gives them many options to present didactic material of interesting forms (Oz, 2015). Students also like the idea of mobile learning due to its mobility functionality, the convenience it offers in terms of time management and the option to participate in group work (Anaraki, 2009; Deng and Shao, 2011; Tai, 2012 Wong and Looi, 2010). The design of the MALL tasks you need special attention. The tasks should be easy to use, sensitive to the social and cultural context and short. Built around these guidelines, MALL tasks have a lot of potential to learn (Stockwell and Hubbard, 2013).

2.3 Learning Based on Mobile Technology

2.3.1 Learning technology

Over the most recent two decades there is by all accounts an outlook change from instruction to preparing to learning; From educator focused to understudy focused training; From direct figuring out how to learning as reflection; And up close and personal separation and e-learning (Griffin, Jarvia and Holfors, 2003). A key component of this change is the imaginative use of innovation to enhance the conveyance of training. The development of another learning

approach described e-learning has prompted new points of view on learning exhibited through various hypothetical focal points (Oliver and Conole, 2007). The instructive potential offered by convenient gadgets is one of these points of view called m-Learning. Portable learning, as it is presently referred to, has developed as an expansion of the e-learning boondocks, from less research enthusiasm to various noteworthy ventures in schools, working environments, exhibition halls, urban areas and provincial ranges far and wide (Sharples, 2007). This influx of enthusiasm for the instructive capability of handheld innovation is viewed as a consider push to "train" cell phones for instructive purposes (Bachmair, 2007). Joined with web 2.0 advancements, cell phones are presently considered as offering new learning conceivable outcomes that speak to a dynamic change in the techniques utilized by understudies and their generation and utilization of learning items (Conole et al., 2008). There are forms of learning and attractiveness (Naismith et al., 2004).

2.3.2 Definitions of mobile learning

Very few meanings can be found in the writing on Mobile learning and points of view driven by the specific circumstance. Quinn (2000) has characterized Mobile learning as "eLearning Through versatile processing gadgets, "a definition like the Common assention that m-learning is eLearning through Mobile figuring gadgets " (Ronchetti and Trifonova, 2003) Taking a more spatial viewpoint, (O "Malley et al, 2003) Mobile learning has been characterized as "a discovering that happens when the understudy is not Fixed default area or discovering that happens when the understudy exploits the Learning openings offered by Mobile innovations. "In this sense" the field alludes with the portability of understudies as in understudies ought to have the capacity to take part exercises without the restrictions of doing it in a physical casing delimiter Environment "(Kukulaska-Hulme, 2005). Consequently," Mobile learning is not just about getting the hang of Using compact gadgets, but rather learning through settings "(Walker, 2007).

Different components that recognize Mobile gaining from different types of e-learning can be found. Highlights incorporate site-particular learning and the level of Ownership and control over the learning procedure (Laurillard, 2007); personalization, Adaptation, duty, self-assessment and reflection with respect to the understudy (Stead, 2006); change In the physical

connections between the instructor and the understudy, the setting produced by the understudy and the understudy (Winters 2007, p.7-8); And the full of feeling measurement offered by the Mobile learning background (Issroff, Scanlon and Jones 2007). Learning exercises purportedly Supported by m-adapting likewise indicate some qualification

2.3.3 Mobile technologies and systems

The difficulties postured by the specialized functionalities of mobile phones Learning has been drawn nearer by Trinder (2005). In a balanced discourse, the specific circumstance and structure for understanding the specialized condition and frameworks inside the mobile learning works by tending to both developing and built up frameworks.

2.4 Mobile Learning and Learning Cultures in Workplaces

Is the guarantee of mobile advancements as a trigger for producing sensible learning societies? Furthermore, it is M-Learning more inclined to build enthusiasm for learning than some other type of conveyance? Articles on the connection between mobile advancements and learning associations appear to

Three categories:

- A database approach that captures organizational knowledge
- A human systems approach allowing synchronous communication and information share in the workplace
- A learning development approach that suggests that learning about new technologies generates a more general impulse for learning

The concentration of the database has moved toward becoming, to an expansive degree, the intelligence acknowledged in associations that utilization organized procedures for gathering, coding and overseeing learning. Mobile innovations can possibly gather a more prominent range and rate of information, through action enrollment gadget (and ensuing investigation of the examples of access to data or data sources) and through the decrease of paper-based records, for example, electronic frameworks field. The capacity of Mobile innovation to give synchronous correspondence and shared learning Can give benefits Human (or delicate). Proof

of these Benefits state Informed by Ragus (2004a), Who found that m-Learning Encouraged at the same time self-improvement, Such as systems And socialization, Unusual working Groups - a surprising, And positive aftereffect of m-Learning articles.

The idea of "learning apparatuses prompts learning society" is more shaky and has gotten Attention in the m-Learning writing. In any case, members in the Ragus' business (2004b) New Practices found that m-Learning had created new thoughts for the fuse of Technology in the work environment, demonstrating an energy for learning Through the m-Learning knowledge. Brodsky (2003) looks at drivers in learning associations and reasons that client, (for example, mechanized alternatives for phone request or online installments or enrollment of administration needs) will prompt changes in the way of client administration preparing.

Brodsky proposes that the robotization of routine exchanges implies that the part of the customer administration or deals work force, there is a more prominent need to oversee complex exchanges, with a level of information and association and that accordingly, preparing so instinctive that innovation will never again be the concentration, however the emphasis will be on how application addresses the issues of the organization. The writing portrays a scope of employments of m-advancements for adapting, some of which testing, and others where Mobile phones are normal or in regular utilize, and are acknowledged as should be expected some portion of learning.

CHAPTER 3

THEORETICAL FRAMEWORK

This chapter defines the structure of prospectus program in college or other learning units. The systems structure of the education prospectus programs, mobilizing those systems. Also in this chapter, cloud computing system is revealed. Then a chapter display role of cloud computing in application normally, in mobile applications personally. And the rest of this chapter is keen to debating mobile application for sunrise as a prospectus program cloud computing

3.1 System Information for Learning

The purpose of this thesis is to reflect on understand the position of mobile learning in education. It also hopes to develop succinct definition application in the context of college education. Reports project and pilot studies of mobile learning project.

3.1.1 Education technology

The most basic however propelled thought for plotting rule in this setting are the recognizing confirmation of advancement. The most versatile and learning material and Mobile development, for instance, helpful devices, Mobile learning or m-learning - can be considered from the findings that happens when intervened through a Mobile phone and a type of discovering that sets up the Legitimacy of migrant learners.

These are the advancements that have made Mobile telephones key mechanical assemblies the ability to pass on educational rule in a way that was never expected when the principle models of these devices were arranged and stamped. This makes development a particularly viable instrument for passing on and reinforcing content that would somehow be identified with the propelled training "establishment". The sort of easygoing getting the hang of utilizing Mobile telephones makes it an essentially more extraordinary gadget of educational correspondence than standard structures and strategies for ordinary preparing. These dynamic changes were delivered from the unforeseen noteworthiness of human social life when all is said in

accomplished more "Versatile", creative and adroit, than the formal strategies for standard guideline.

3.1.2 Learning English as a second language (ESL)

Students for whom English is a second vernacular are a growing piece of British Columbia's K-12 school people. Since 1990, the amount of understudies recognized as requiring ESL benefits in BC has significantly increased. All areas have felt the impact of this advancement, and the need to give adequate ESL organizations is transforming into an issue for locales all through the BC district.

Investigate into second vernacular learning exhibits that ESL understudies in the English-lingo instructive framework require appropriate English tongue reinforce. Teachers have an obligation to propel the unprejudiced venture of ESL understudies in B.C. Schools. An unmistakable cognizance of ESL understudies and their needs is a fundamental for the instructive framework to engage them to develop their individual potential. This record is planned to support the Ministry's available approach for ESL understudies and to highlight some present parts of data as for reasonable practices.

- **The ELS learner**

There are no customary ESL understudies. They begin from various phonetic and social establishments and have had a wide arrangement of life experiences. They can basically upgrade school life and help improve learning for all understudies. Not all need a comparative kind of offer assistance.

Some are imagined in Canada yet enter the school having contrasting degrees of introduction to the etymological and social models of most English-speaking Canadians. They may need to supplement their underlying youth and lingo experiences with expansive and genuine ESL support, including a variety of social traversing experiences, if they are to win in the English-tongue instructive framework.

Some have moved to British Columbia with their families in the wake of getting some formal direction in their countries of starting point. At times, they have learned English as a remote

lingo at school. Given reasonable ESL reinforce, including social framework experiences, these understudies generally move well in their new schools, particularly if their people support their academic attempts and creating bilingualism.

Some land in Canada as evacuees. These understudies may have become besides zero preparing in their country of root. They have experienced the traumatic conditions achieved by political, social and money related turmoil. They have every now and again left their country unintentionally, perhaps relinquishing key relatives. Despite ESL support, these understudies may require specific coordinating and additionally training in their tongue (s) of beginning stage to reinforce their academic achievement in English. Some discussion a tongue of English that is sufficiently not the same as the English vernacular taught at school that makes it troublesome for them to learn at school. This social event may join First Nations understudies.

Some are worldwide visa understudies who are recognized by individual school areas. These understudies, who are not met all requirements to get financing from the Ministry, pay costs that are wanted to deal with the cost of additional organizations (human and resource) they require. Generally in BC without their families, they abide in "home stay" conditions. They feel goliath weight to perform well, despite domains of issue with English. Your informative needs will vary broadly.

- **ESL and uncommon requirements**

ESL understudies who similarly have interesting necessities oblige organizations to address both their tongue capacity and their extraordinary needs. Understudies with one of a kind needs have insightful, physical, unmistakable, energetic or behavioral insufficiencies, or have a learning powerlessness or have phenomenal favors or enrichments.

- **Adjustment Phases for Newly Arriving ESL Students**

Understudies who have a confined zone of English/school and gathering who are new to British Columbia's lifestyle and instructive framework require a period of acclimation to feel awesome in school and prepared to intensify their learning potential. A sentiment partition damage that newcomers as a less than dependable rule experience may make them look pulled

back, depleted or uninvolved. Instructors should know about this credibility if they have to make correct assessments of understudies' honest to goodness capacities and necessities.

- **Purpose**

While classroom teachers share the obligation of training ESL understudies, the ESL master has particular planning in the field of English as a minute vernacular (ie, an obsession, affirmation, or ESL degree from the Faculty of Education Of an apparent school, leads), and can help make beginning evaluation, position and booking decisions. The specific teacher can similarly give information on the etymological, social, academic and social modification of ESL understudies at all ages and grades.

This guide has been delivered with the venture of ESL specialists all through the domain. It intends to help ESL specific teachers, including district specialists, educators, or voyaging teachers who work with understudies from a couple of one of a kind schools.

3.2 Mobile Information System (MIS)

At the point when a totally new application is composed, a considerable measure of exertion goes into its advancement and testing to concoct a steady item. Reuse of existing assets offers different advantages as far as lessening time, cost and exertion required in create ping an application. Reuse is the act of consolidating a benefit in more than one framework. Most instructive organizations as of now have their online data frameworks set up which implies they have web server/application server on which the site is facilitated and a database containing all school related information (counting understudy Data).If we reuse existing foundation and programming, existing procedures don't get tremendously affected and we primarily concentrate on settling the new components. Additionally, by utilizing administration situated engineering, on the off chance that we constructed independent web administrations for various parts of required data framework, they can be reused by various shopper applications over numerous stages by putting in next to no additional exertion.

This tripartite division of portability is obvious in the present writing regarding the matter and planners who have utilized versatile innovation for instructive purposes have affirmed this.

Figure 3.1 is a realistic delineation of the three divisions of cell phones that can convey a more elevated amount of instructive direction. By and by, the innovation, the learner and the real learning process work in a continuous continuum inside the social setting of instruction. The subversion of the signifier here (that works to the benefit of the teacher and the informed) is that cell phones were developed and advertised as types of innovation, planned exclusively to advance and upgrade the social and individual existences of clients. The fruitful conveyance of higher instructive guideline relies on upon the tripartite essentialness of the word portability as it is utilized as a part of the setting of cutting edge instruction. These three segments are connected and are likewise basic in making mobile phones attainable as instruments for the conveyance of advanced education instructional substance.

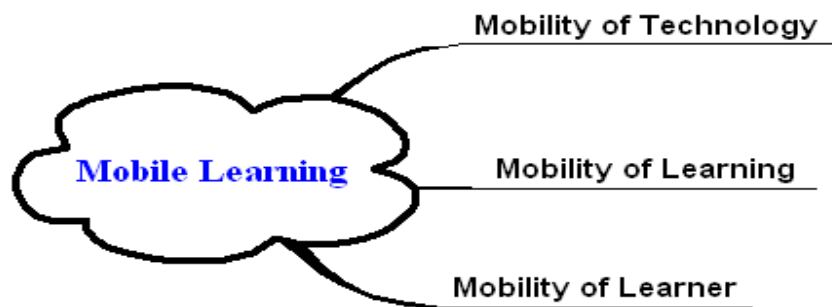


Figure 3.1: The three concepts of mobile learning

In like manner, the article's writers characterize mobile learning as learning ecological in light of mobility of technology, mobility of learners and portability of discovering that expands the higher instructive scene.

3.2.1 Mobile technology

The Mobile innovation alluded to in this theory is more best in class Mobile telephones, however there are distinctive sorts of development, for instance, "sharp" phone automated camera, streak circles, iPods and individual propelled help devices (PDAs). Cell phone used to pass on preparing content rule can in like manner work as sound player, media-player and mechanized cameras. Propelled Mobile phone are outfitted with Wireless Application

convention (WAP) and Wireless Fidelity (Wi-Fi) limits so that a client can associate with the Internet by methods for his or her PDA (Trinder, 2005)

The Mobile gadgets specified above have the ability to connection to the Internet and convey substance and direction that can empower learners to learn at whatever time and anyplace in an organization that is socially prestigious among individuals in a similar age and learning. It is correctly the portability of these gadgets that makes them exceedingly prestigious and in this manner alluring as instruments of learning among learners in a similar age gathering. Indeed they are very esteemed by youngsters

The primary organizers of this strategy for transport were to an extraordinary degree keen in the course in which they manhandled the eminence and well known estimation of Mobile telephones among adolescents in their twenties. Educationists have fundamentally skillfully utilized a champion among the most intense pictures of wealth, eminence and form among the young. Direction by techniques for Mobile telephones is subsequently nothing if not progressive in its plan techniques, suggestions and results.

Trinder (2005, pp. 7-8) clarifies the functionalities of the most prominent and costly Mobile phone advances. These fuse an organizer, camcorder, telephone, GPS and film player. They also join preoccupations, computerized book, email office Internet get to and melodic MP3s. Be that as it may, the most surely understood limits in all Mobile telephone remain the short advising organization (SMS) and the sight and sound illuminating organization (MMS) – a great part of the time used limits in the transport of cutting edge training bearings. This headway has been discussed in regards to Tinder's (2005) gathering of PDA value.

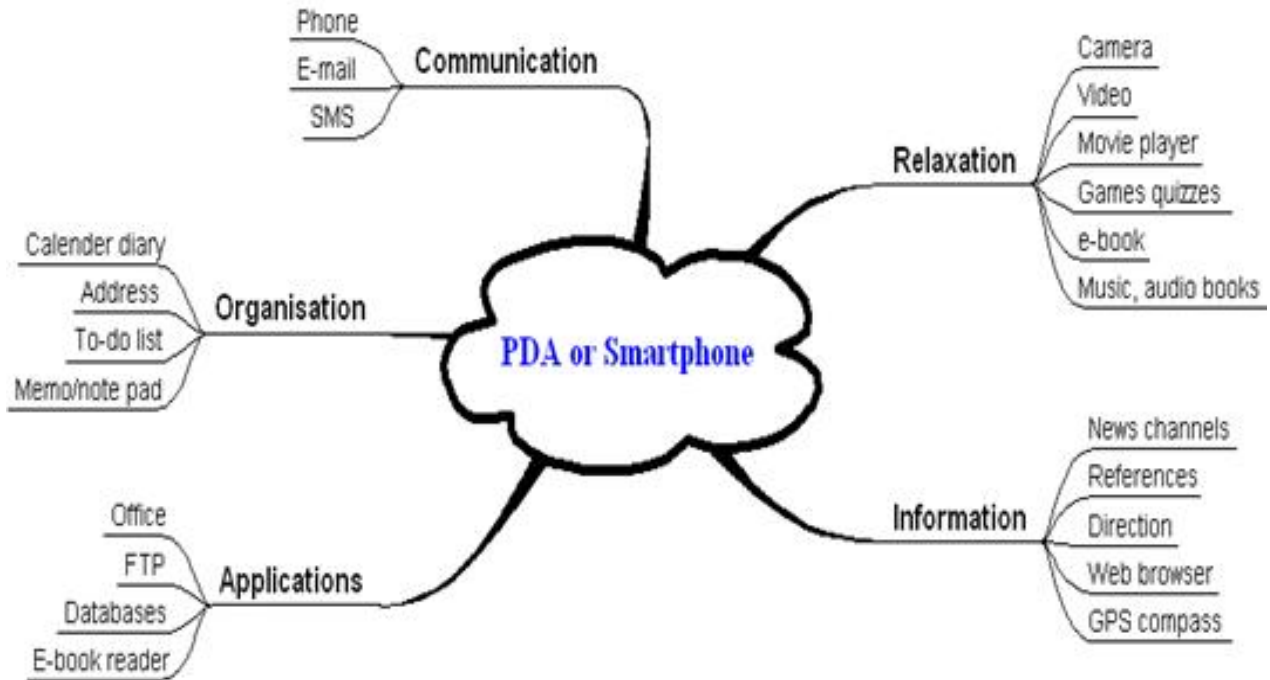


Figure 3.2: PDA technology (Source: Trinder, 2005, p. 7)

3.2.2 Mobile learning

Described it sometime recently, as basically finding that occurs with the help of PDAs, or the meeting of adaptable figuring (the utilization of little, advantageous, and remote enlisting and concentrated devices) and e-learning (learning empowered and supported utilizing information and correspondence development) portrayed it sometime recently, as basically finding that occurs with the help of PDAs, or the union of flexible figuring (the utilization of little, advantageous, and remote enrolling and concentrated contraptions) and e-learning (learning energized and reinforced utilizing information and correspondence advancement)

3.2.2.1 Five types of mobile learning

There are some of the agile methodologies for software development. Meanwhile, Mobile-D, RaPiD7, Hybrid methodology Design, MASAM, and SLeSS are some of the existing methodologies for mobile application specifically as shown in table.

Table 3.1: Five types of mobile learning

Mobile Process	Mobile Development Process Description	Year	Techniques
Mobile_D	An Agile Approach for Mobile Application Development	2004	XP, Crystal, RUP
PaPiD 7	Rapid Production of Documentation _ Steps	2005	AM
Hybrid Methodology Design	Designing an Agile Methodology for Mobile Software Development _A Hybrid Method Engineering Approach	2007	ASD, NDP
MASAM	Development Process of Mobile Approach SW Based on Agile Methodology	2008	XP, RUP, STEM
SLeSS	A Scrum And Lean Six Sigma Integration Approach for the Development of Software Customization for Mobile Phones	2011	Scrum, lean Six Sigma

3.2.3 Mobile applications

Applications are projects that keep running on versatile processors, which bolster input, yield, Internet get to and tablet association through application programming interfaces (APIs) running on various frameworks to perform distinctive assignments. The versatile organizations have an internet advertising like play store or application store, that permit to download and to purchase its preparations. Some of these organizations are open source frameworks like the Android framework, dissimilar to others; they are shut source framework like IOS framework (Quinn, 2011). Moreover, Flash innovation is another program used to make versatile applications. These programming dialects are utilized as a part of scopes of assortments, for example, wellbeing, training, play, and so forth. Today a few organizations, media

organizations made a specific application to bond a few operations or to exhibit and publicize their preparations.

3.2.4 Architecture for personal mobile information system

Figure 3.3 gives an overall point of view of the Personale Mobile Information System System configuration proposed. The system design starts with the customers of the structure which are the General User and the Police User.

The PMIS was formed thusly to help both customers in performing specific endeavors viably and decisively, in this manner shielding the uprightness of the PMIS information. To fabricate confide in the PMIS, the teacher application is protected essentially in view of the sensitive method for understudy data made by the instructor. Likewise there ought to be a system that can create a reputation for being a reliable source by guaranteeing the veracity of such information that is scattered.

Like Sennett's arrangement, the proposed system is customer driven, suggesting that the achievement of the structure seriously relies on upon the customers' support of the data. Any information that ought to be submitted or requested from the PMIS will be done through the customer's application as a HTTP GET sent over a versatile data affiliation. The request would be gotten by the application server running Apache. This affiliation is set up in an establishment string. The structure is formed thusly in light of the fact that in adaptable data relationship, all over responses put aside a long chance to either be sent or got. Consequently, the customer may have a terrible association with applications, for instance, direct response time in light of the way that the crucial string is blocked.

Right when the application server has constantly gotten the relationship from the customer's application, it will set up a relationship with the PMIS database server and execute set away frameworks to either remove or submit information to the database. This proposed system uses MySQL as both the database server and database. The customer relationship of structure is showed up in Figure 2 by techniques for use case diagram.

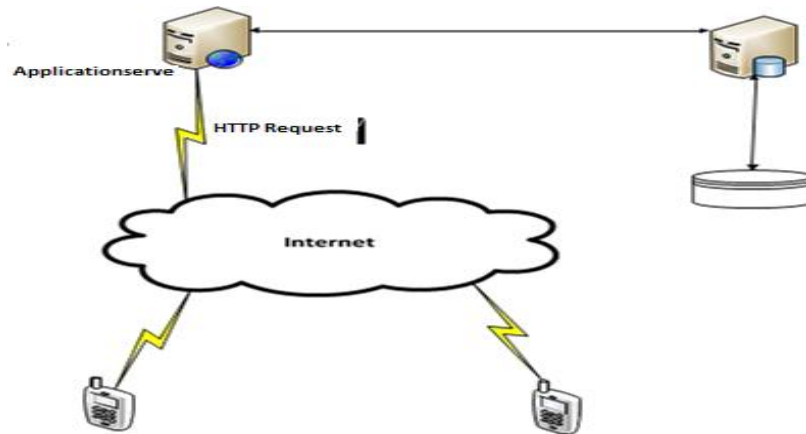


Figure 3.3: Architecture for personal mobile information system

3.3 Sunrise12

3.3.1 Who is sunrise 12 for?

Sunrise is particularly composed to address the issues of understudies in their last year of auxiliary training in the Northern Iraq.

The content:

- Its vibrant and simple to take after.
- Its rousing and agreeable.
- It got clear points and gives general amendment and testing.
- It's socially suitable for the Kurdish young people and has significant social, social and chronicled data identified with contemporary Kurdistan.
- It can be utilized for understudies with various levels of capacity.

The Instructor's Book gives some discretionary exercises to help the educator adjust to various showing circumstances, and the Activity Book gives additional exercise where required.

Sunrise 12 merges and augments dialect effort completed in Grades 10 and 11 now that understudies have achieved the finish of the high-ranking auxiliary stage. It unites dialect that was instructed independently in before evaluations and creates it to more elevated amounts of

multifaceted nature and differentiation. Sunrise 12 reuses, expands and finishes different practical and linguistic strings which have been produced over the course. Vocabulary is likewise solidified and reached out with the utilization of systems of procurement and association to create learner autonomy.

Expanding on these semantic components will likewise significantly lift understudies' tuning in, talking, perusing and composing aptitudes.

What are the parts of Sunrise 12?

- Learner's Book
- Activity Book
- Teacher's Book
- CD

Student's Book

The main teaching units: There are eight parts in the Student's Book, six of which are the primary showing (Units 1, 2, 3, 5, 6, and 7). These principle showing units concentrate on points which are intriguing, essential and helpful for the understudies, for example, protection, abilities required for forthcoming work and study, sustaining a developing populace and cooperating for a superior world.

Revision units: Units 4 and 8 are update units. Unit 4 modifies Units 1, 2 and 3. Unit 8 modifies Units 5, 6 and 7. Amendment units concentrate on the sentence structure and vocabulary things of the past units.

Role plays: There are six pretends situated after the primary showing units and correction parts in the Student's Book. The pretends are to be utilized with every principle showing unit (1, 2, 3, 5, 6 and 7). They offer understudies the chance to reuse the dialect and vocabulary of the unit in a significant and persuading oral setting identified with subject of the unit.

Literary Reader: The eight scenes of the Literary Reader (Treasure Island by Robert Louis Stevenson) are situated after the pretends in the Student's Book. The Literary Reader is

expected to build understudies' perusing aptitudes and acquaint them with the propensity for broad perusing for joy.

The structure of the main teaching units: The center of each fundamental showing unit comprises of six lessons.

Each twofold page contains two lessons. Quite far, there is one page for every lesson, and every lesson is finished in itself. On the off chance that a lesson is longer than one page, a spotted red line over the page shows where the lesson ought to end. After Lesson 6 in the principle showing units, there is a two-page Language Focus segment.

Lessons 1 and 2 present a portion of the principle sentence structure and vocabulary of the unit, chiefly through tuning in and talking exercises. These lessons additionally unite and add to the known vocabulary to gather valuable word fields.

Lessons 3 and 4 present a further language structure and vocabulary in a more drawn out bit of perusing. Vocabulary is systemically created through the Activity Book by presenting word groupings through linguistic and semantic connections.

Lessons 5 and 6 reuse the language structure and vocabulary of the initial four lessons during the time spent creating tuning in, talking and composing abilities. They likewise incorporate exercises to create articulation.

Ordinarily, a twofold page of programs in the Student's Book is bolstered by a twofold page of vocabulary and syntax practices in the Activity Book. These resources are intended to be usable for homework by and large. Nonetheless, it is for you, the educator, to choose whether to utilize them like this or whether to do some of work in class. In the event that you set material for homework, you ought to enable some an opportunity to set up the exercises with the class so understudies know about how they ought to do the activity. You ought to likewise give consistent input on understudies' work. You might need to utilize marks given for this work as a major aspect of your progressing evaluation of understudies.

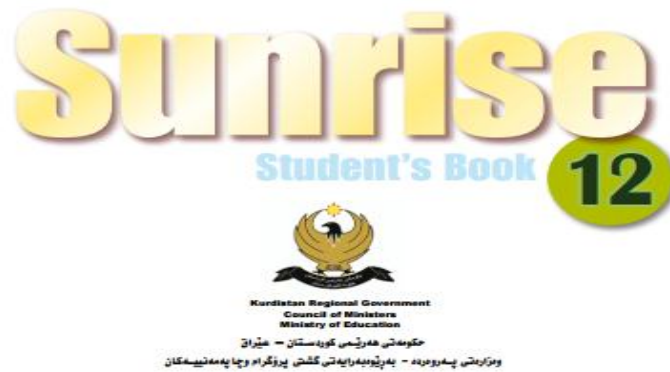
3.3.2 What is sunrise 12?

English is the most prevalent dialect on the planet. Sunrise12 is an English program for twelfth grade understudies which are the top of the line of secondary schools in Iraq-Kurdistan. The time of understudies contemplating Sunraise12 is 17-18 years. The Sunrise12 program is distributed by Macmillan Publications and is claimed by the Ministry of Education in Iraq-Kurdistan (Macfarlane, 2009). The segments of Sunrise12 are:

Understudy Book: It is the principle educational programs book comprising of ten units (seven primary units and three modification units). Every unit is partitioned into four lessons including linguistic use, talking, tuning in, and perusing exercises.

- Book of exercises: It is book of supplements for the understudy book. It additionally contains eight units, including distinctive homework related understudy book that understudies can hone at home.
- Audio CD: The educational programs likewise has a CD supplement that incorporates sound records that are utilized to tune in to exercises in the classroom and at home.

In a few nations, designers utilized compact gadgets in the instructive procedure (Qiang, 2013). The present application prepares Sunrise12 in light of the fact that it is a vital program to learn English that incorporates vital parts of the English dialect like language structure, vocabulary, talking, tuning in and exercises. Then again, the time of understudies considering Sunrise12, is appropriate for the utilization of cell phones. Figure 3.4 demonstrates the cover picture of the understudy's book of Sunrise12.



نەم پەرتووکه هونکی وەزارەتی (پەروەردە) حکومەتی هەرێمی کوردستانه . فرۆشتنی له بازار
هەردوێهه یه دژ یه یاسایه

Figure 3.4: Sunrise 12

Sunrise12 curriculum includes seven units, each unit divided into six lessons. The contents of the Sunrise12 curriculum are grammar, vocabulary, listening, speaking, and homework's. The present application contains lessons (1, 2, 3, and 4) from unit one of the program as a case study to develop the application. In the future, it is possible to add the rest of other units of the Sunrise12 for this project.

3.4.2 .1 Grammar

The most main elements of Sunrise12 are grammar idea. Then, this study chose the grammar part of the student's book.

نامادکردنی ماموستا : که یزی عزیز ، 2015-2016 ، چاپی نوی ، نامادهیی کوردستانی کوران

1. What's river in the world?
(a. long b. longer c. **the longest** d. length)

2. Yesterday was day of the year.
(a. hot b. **the hottest** c. hotter d. less hot)

3. That was holiday I have had for a long time.
(a. good b. well c. better d. **the best**)

Q: Choose the suitable one.

1. Everything is a lot there.
(a. quiet b. quieter c. the quietest d. the most quiet)

2. I have lived in some of cities in the world.
(a. big b. bigger c. the biggest d. less big)

3. It is city I've ever known.
(a. safe b. safety c. safer d. the safest)

4. They get to know you much than is here in New York.
(a. good b. well c. the best d. better)

5. There is much work than there is here in New York.
(a. less b. little c. the least d. the most)

6. Our planet looks its real size from the moon. 2015-2014 دەوری دوومە
(a. **smaller than** b. smaller c. the smallest d. small)

Past simple and perfect tenses: رابردویی ساده و کاتنه ته‌واوەکان

1. Past simple: (رابردویی ساده) به‌کاردهیت بۆ دەربرینی کرداریک له رابردوو...
(S + V(past) + ...)
Negative form: شێوی ئه‌ری (S + didn't + V(base) +)

- Tom played football.
- They wrote the story.
- Tom didn't play football.
- They didn't write the story.

(yesterday, ago, last) (in + سالیکی رابردوو ...) تیئینی : رابردویی ساده بهم وشانه دەناسرێته‌وه...
1. We a movie last night.
(a. watch b. **watched** c. had watched d. have watched)

2. Haval to the party yesterday.
(a. don't come b. wasn't come c. **didn't come** d. didn't came)

3. She a jacket two days ago.
(a. buys b. had bought c. has bought d. **bought**)

4. They to New York in 2004.
(a. travel b. had traveled c. **traveled** d. have traveled)

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grammar part of the student's book

Figure 3.5: Sample of grammar

Figure 3.5 shows the grammar point page in Sunrise12 book which is chosen and put into the grammar part of the developed system because the students need to look at this page for preparing him/herself to do a quiz which is another part in the developed system. The quiz also includes some questions about the grammar parts.

3.3.2.2 Listening activity

Sunrise12 program has a supplement CD, which contains the sound documents that record of them are discourse convers activities. The understudy need to hear them out, comprehend them and answer the inquiries concerning the discussions.

LISTEN AND READ Track 3

Ms Reilly gets a 'Skype' call on her computer.

Azad Hello?

Ms Reilly Hello, Azad! How was your journey?

Azad It all went very well, thanks to you. I arrived last night.

Ms Reilly Good. And the conference starts tomorrow, doesn't it?

Azad Yes, and I'm preparing now.

Ms Reilly But you aren't giving your presentation tomorrow, are you?

Azad No, that's on Tuesday. But there's lots of information to read.

Ms Reilly Well, yes, but you don't want to miss the chance to see New York, do you? **What about** going over to Central Park later on?

Azad Good idea!

Ms Reilly And listen, **why not** contact my New York cousin Stella? She's a student too, and I'm sure she'd be happy to show you round.

Azad I'd like that, but maybe she won't have time!

Ms Reilly Let me contact her and ask. Then let's talk again later.

.....

Ms Reilly Azad, I've talked to Stella, and she's very happy to meet you later in the week. So why not write down her name and number? Then I suggest you call and **arrange** a time. Have you got a pen and paper?

Azad Right!

Ms Reilly It's Stella Farrant.

Azad Er ... Could you spell that, please?

Ms Reilly S-t-e-double l-a ... Farrant. F-a-double r-a-n-t.

Azad I've got it. Stella Farrant.

Ms Reilly And her mobile number is oh-double-

True or False? Correct the statements that are false.

- 1 Azad used his mobile phone to call Ms Reilly.
- 2 He was preparing his conference talk.
- 3 He was worried that Stella would not have time to show him round.
- 4 Ms Reilly emailed Stella between her two conversations with Azad.
- 5 Ms Reilly asked Stella to make contact with Azad.

FUNCTIONS p10

- 1 Look.

Making suggestions

What about going over to Central Park?

Why not contact my New York cousin?

Let's talk again later.

I suggest you call and arrange a time.

- 2 Work with a partner and make suggestions. You both want to do something together this coming weekend:
 - What about (playing computer games)?
 - Let's (go to the basketball match).
 - I suggest we (do some work on our project).

Agree: *Good. / Great. / Fantastic idea!*

Disagree: *I'm not sure. / Maybe not. / No, I don't think so.*

SPEAK

Work with a partner. Person A: speak as yourself in New York on the phone to B. Person B: you are an American who is going to visit Kurdistan. Person A: suggest people B could meet.

A Why not visit / What about seeing my friend / cousin / ... (Nasreen Mahmood) in (Dohuk)?

B I'd like that. Er ... Could you spell that, please?

A Yes, of course, it's N-a-s-r-double e-n. And then it's M ...

Activity Book Unit 1 pages 2-3 Activities 2-5

dialog conversations

Figure 3.5: Sample of listening

Figure 3.5 shows, listening page of the book which is chosen and put into the listening part of Sunrise12 application. The students use this part on the developed system to test themselves and improve their listening.

CHAPTER 4

SYSTEM DEVELOPMENT

4.1 System Description

The chapter, the Sunrise12 application system will be discussed in feature. And analysis mobile application for sunrise12 is described, also the system construction of the up-to-date application is explained for well understanding of how the system was made. In addition, mobile development of this application is publicized. This application entails the real-time e-learning plus social concept that offers a dependable mobile learning application. This application is real time application and offers free of charge e-learning.

4.2 Technology and Language Learning

My business of appearing on the web has put me in a voyage of disclosure. Innovative adaptability it has given me boundless resources and learning materials, and the ability to show understudies from all sides of the globe. I am honest to goodness aficionado to the centrality of development in the classroom and learning as a phase for training. In any case, an always expanding number of understudies are using phones to interface with the web.

Learning Mobile (or m-learning) is the limit of learn in wherever and at whatever point through a device electronic advantageous. Convenient of learning is less sorted out that the adjusting, however as I would see it supplements perfectly.



Figure 4.1: Technology and language learning

4.3 Mobile Android Operating System

4.3.1 Android

Android is an item pile for mobile phones which fuses employed structure and crucial applications. However, android is an item stage and working structure for mobile phones in light of the Linux working system and made by Google and the Open Handset Alliance. Android, open source cell phones stage in view of the Linux operating systems.

The assemble numerous different portable operating system such aggregate telephone, add up to advanced mobile phone, Android, IOS, windows telephone, RM, and other telephone. The current made application executes on cell phones in light of the operating system Android. The best broad operating system Android, Now. Figure the working framework was prominent and ask for it enhanced for 2014 to 2016 years in piece of the overall industry.

Worldwide Smartphone OS Market Share (Share in Unit Shipments)

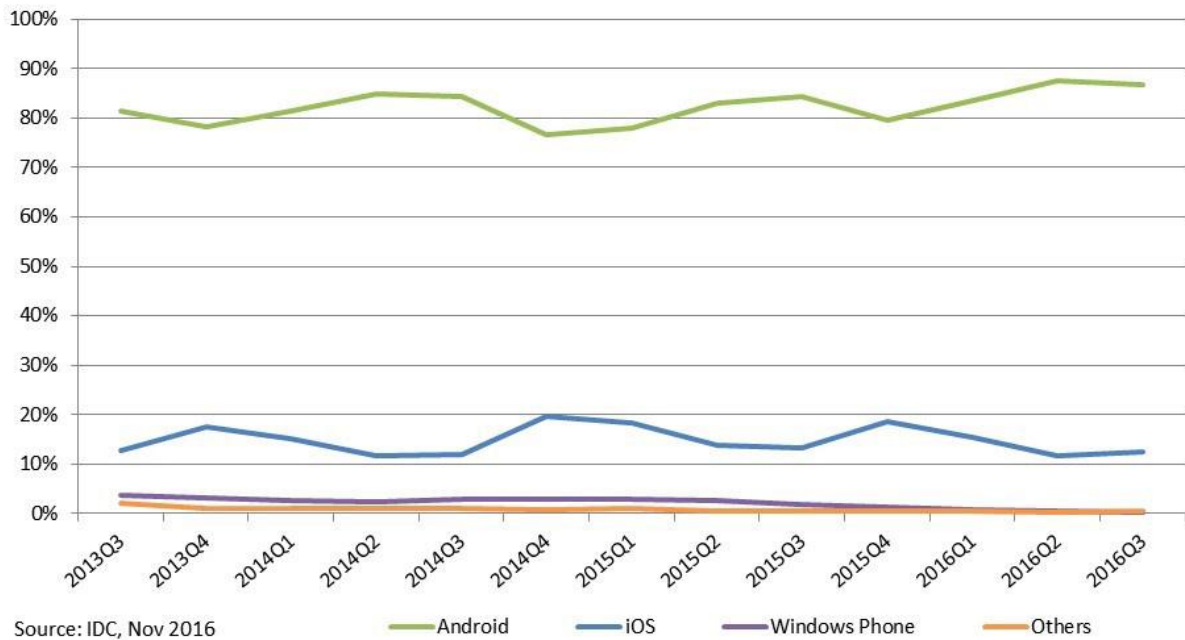


Figure 4.2: Worldwide smartphone OS market share (Llamas, 2016)

The general PDA promote grew 1.1% year over year in 2016Q3, with 363.2 million shipments, as shown by data from the International Data Corporation (IDC). Shipments grew 5.2% QoQ, appeared differently in relation to the 345.5 million units in the second quarter of 2016. IDC would like to see a detectable stoppage in phone shipments in 2016 with China showing a more create advancement plan. Android overpowered the market with 86.8% offer in 2016Q3. Samsung continued with its overall expert regardless of the Galaxy Note 7 audit.

Table 4.1: Growth of smartphones (Lomas, 2016)

Period	Android	IOS	Windows phone	Other
2015Q4	79.6%	18.7%	1.2%	0.5%
2016Q1	83.5%	15.4%	0.8%	0.4%
2016Q2	87.6%	11.7%	0.4%	0.3%
2016Q3	86.8%	12.5%	0.3%	0.4%

4.3.2 Android advantages

1. Android is termed open source – This means that it's free for use by anyone
2. Multitasking - Android telephones can run numerous applications; it implies you can peruse while tuned in to the tune.
3. Can introduce an adjusted ROM - We now and again locate an informal ROM. That is the rendition that was not as per the detail discharge our receivers, the last way is change. Does not stress there is numerous conventional ROM that you can use on Android telephones, and ensured not to hurt your gadget.
4. Gadget – With the gadgets on the home screen, you can without much of a stretch get to an assortment of settings rapidly and effortlessly.

4.3.3 Disadvantages android

1. Require web association - Android requires a dynamic web association. At any rate there should be a GPRS web relationship in your general region, so that the device is set up to go web according to our requirements.
2. Publicizing - Application in the Android telephones can for sure be obtained easily and to no end, yet the results in each of these applications, will reliably be commercials on display, either the top or base of the application.

3. Inefficient Battery - Android more wasteful than some other working system, since this working structure is a huge amount of "process" beyond anyone's ability to see that incite the battery quickly exhausts.

4. Numerous applications comprise virus - the infection installed android applications including Counter Strike Ground Force is photo, et cetera. Android Application contain disease moreover display in the Android Market.4.3.4 Android program language

Android bolsters numerous dialects. All of the significantly utilized dialects are bolstered and the rundown goes more than 100. With this element android can without much of a stretch adjust. Google claims 900,000 android device activations

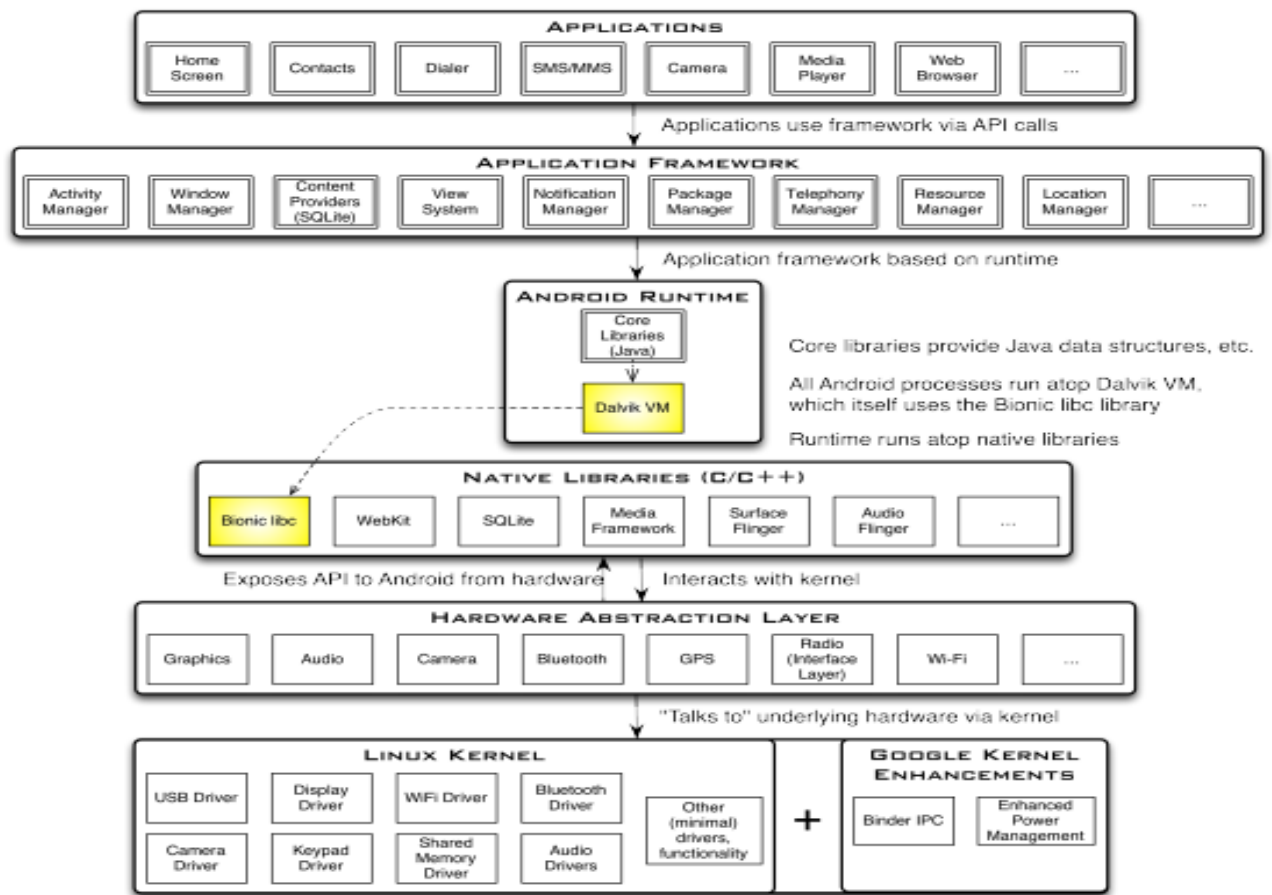


Figure 4.3: Android program language

- Android apps implement on Dalvik VM, a “clean-room” execution of JVM
 - Dalvik improved for effective implementation
 - Java .class byte code translated to Dalvik Executable (DEX) byte code, which Dalvik interprets
- Android apps written in Java 5
 - Actually, a Java dialect (Apache Harmony)
- Apps use four main components:
 - Activity: A “single screen” that’s visible to user
 - Service: Long-running background “part” of app (not separate process or thread)
 - Broadcast Receiver: Module that eavesdrops for specific Android system “events”, e.g., “found wireless device”, and replies consequently

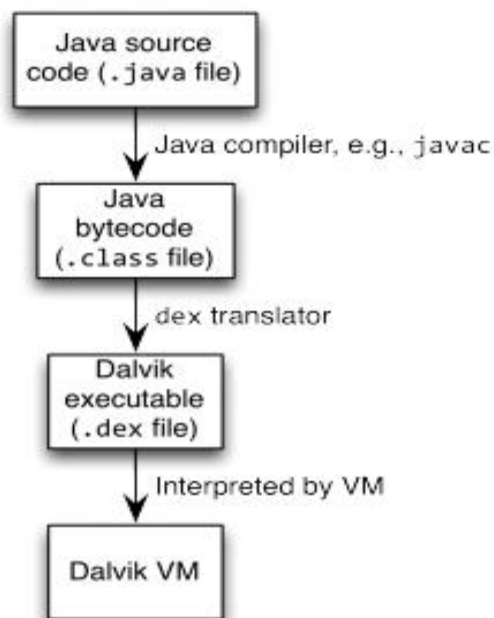


Figure 4.4: Apps use four main components

4.3.5 Android software development kit (SDK)

The API level identifier plays a key role in ensuring the best users and application developers:

- It lets the Android platform describe the maximum framework API revision that it supports
- It lets applications describe the framework API revision that they require
- It lets the system negotiate the installation of applications on the user's device, such that version-incompatible applications are not installed.

The following table specifies the API level supported by each version of Android platform

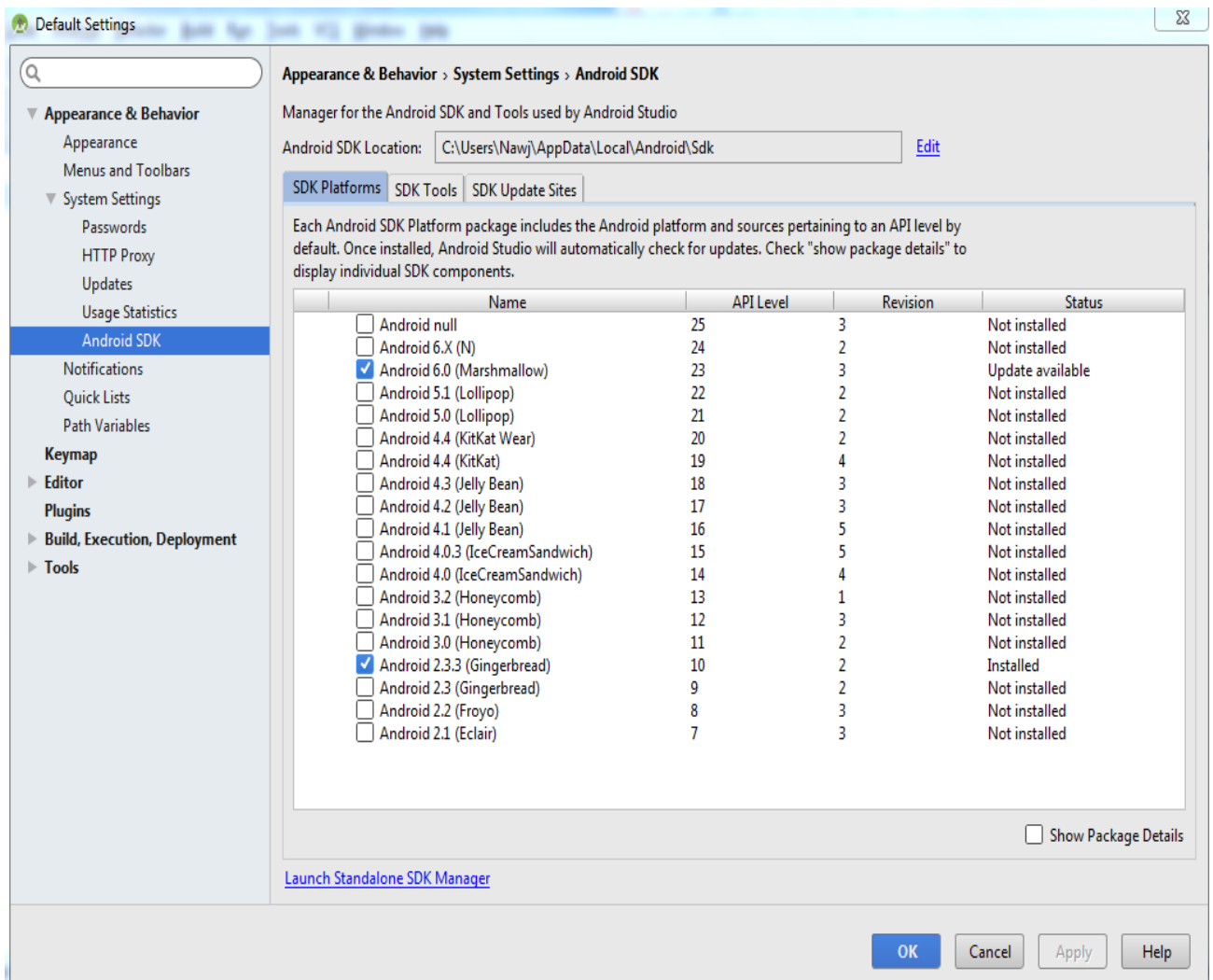


Figure 4.5: API Level supported by each version of the android platform

4.3.6 Java development kit (JDK)

A Java Development Kit (JDK) is a program advancement condition for compose Java applets and applications. It encompasses of a runtime area that "is in top "layer of the working framework, and also the devices and programming that engineers need to incorporate, investigate and execute applets and applications inscribed in the Java dialect JDK version 1.8.0_25 is used in this project.

4.3.7 Intel hardware accelerated execution manager (HAXM)

Intel (r) HAXM is the Intel® Hardware Accelerated Execution Manager is a Hardware-helped virtualization motor (hypervisor) utilizing Intel virtualization Technology (Intel (r) VT) to quicken copying of Android applications on a host machine. In Combination with Android x86 emulator pictures given by Intel and Android SDK Manager, HAXM empowers quicker copying of Android in Intel VT Enabled. The Intel HAXM driver keeps running inside the emulator, and in the Host machine. It keeps running on a few adaptations of Windows, Linux and Mac OS. The following platforms are compatible with Intel HAXM processor.

- Windows 8 and 8.1 (32/64-bit)
- Windows 7 (32/64-bit)
- Windows Vista (32/64-bit)

4.3 Flow Chart

The flow chart is a graphical representation of the application system functionalities, features and other operations. It serves as a road map of the whole system design during the development of the application.

The following Figure 4.6 shows the application flow chart which includes the system functions from 'Open Application' to displaying several options for the user to where the user quits the application.

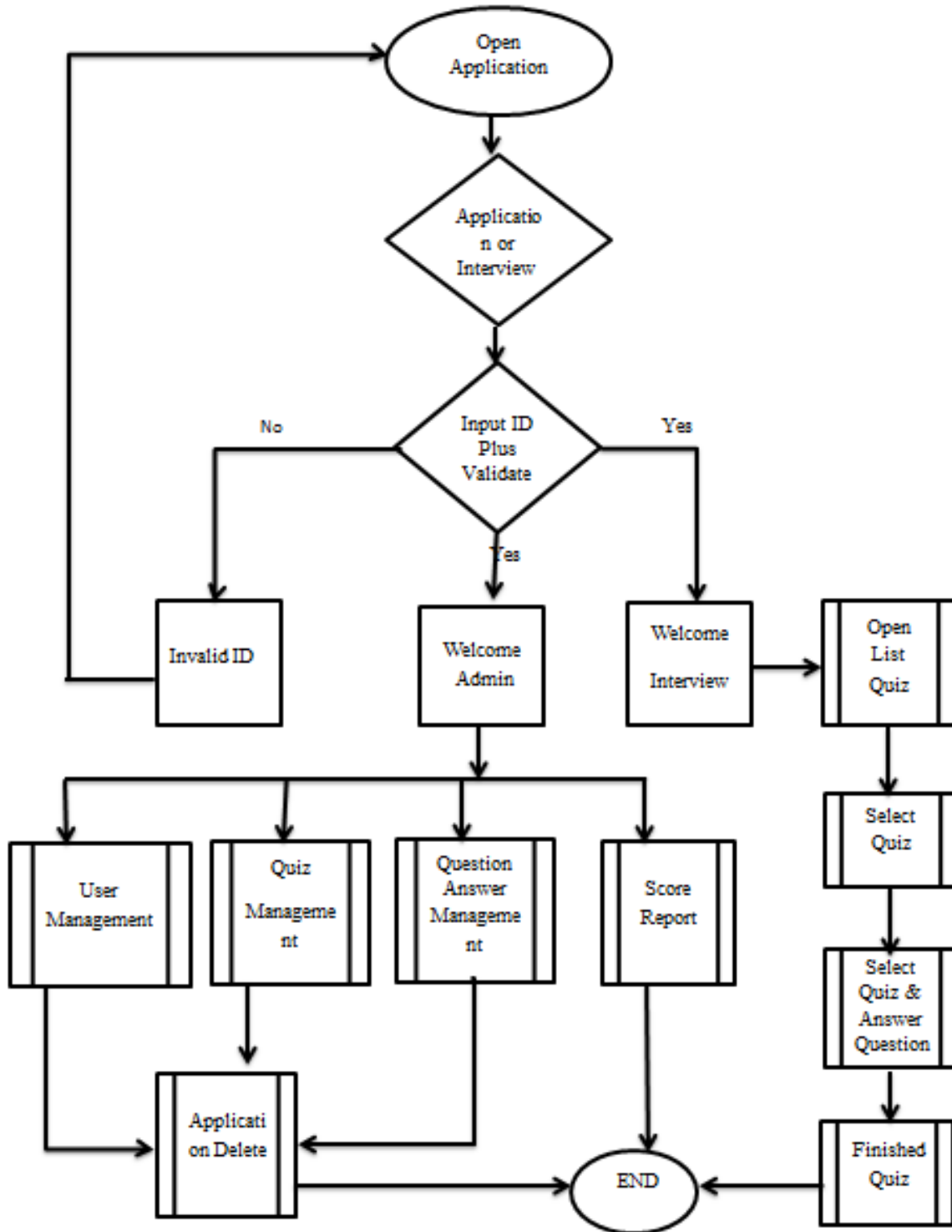


Figure 4.6: Flow chart of the application

1. After login with username and secret word, Role for that specific client will confirm from server database.

2. In the event that client is executive, after choices might be overseen.

- Quiz
- Question and Answer
- Report
- Users

Over four alternatives can be included, alter and erase by executive.

3. Score report will show to director in read just mode.

4. In the event that client is interviewee, all dynamic test records will empower for giving test.

5. Test will execute with certain time restrain. Test will complete after that time or all address replied

4.4.2 Login and enroll

- Open the application
Give username and secret key. Username is characterizing as the email deliver to concern client.
- After tap on login catch application speak with server and check whether the gave username and watchword is right or not.
- If gave data found at server end and match with part "Administrator" or "Interviewee" then open the craving entryway. One part is characterized as "others" for future extension.
- If client is manager the client, question and reply, Report, client catch is empowering.
- If client is interviewee, all test which are dynamic will show up and he/she can choose from those to begin test.

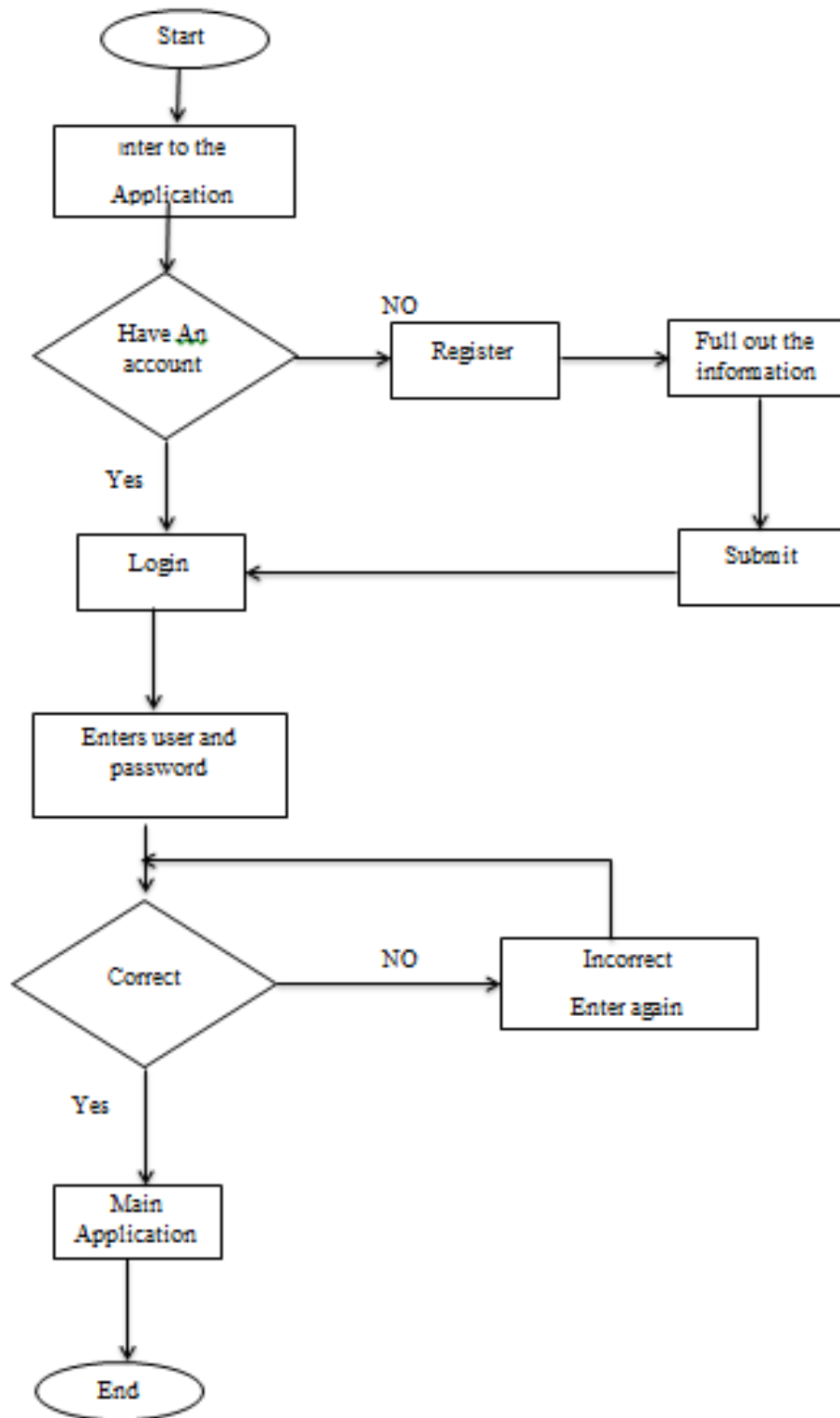


Figure 4.7: Flow chart of login and register

Login and Register secret key approval has designed with the accompanying way.

- should contain no less than one digit
- should contain no less than one lower case
- should contain no less than one capitalized
- should contain no less than 6 from the specified characters
- Email Validation has likewise designed.

4.4.3 Interview board

- Any competitor who approaches this application will get the rundown of dynamic inquiries
- After signing in
- The applicant will pick the challenge of wishes to take an interest in the test.
- After finishing any test, the applicant can't sit for that test twice.
- Result (where $M = \text{Correct Answers}$) will appear (if empowered) in the wake of finishing the poll and put away in the database for particular competitors.

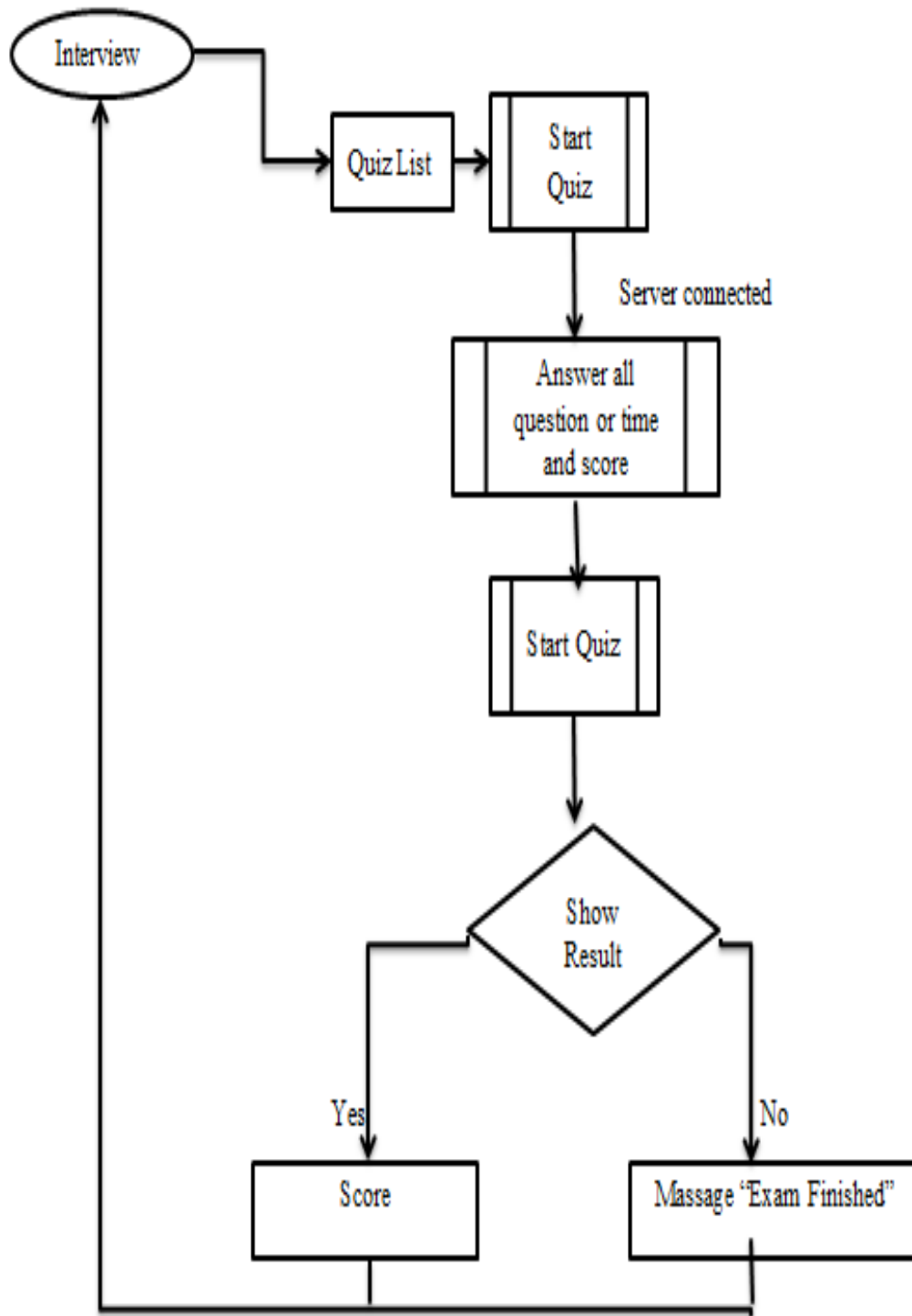


Figure 4.8: Interview panel

4.5 Sequence Diagram

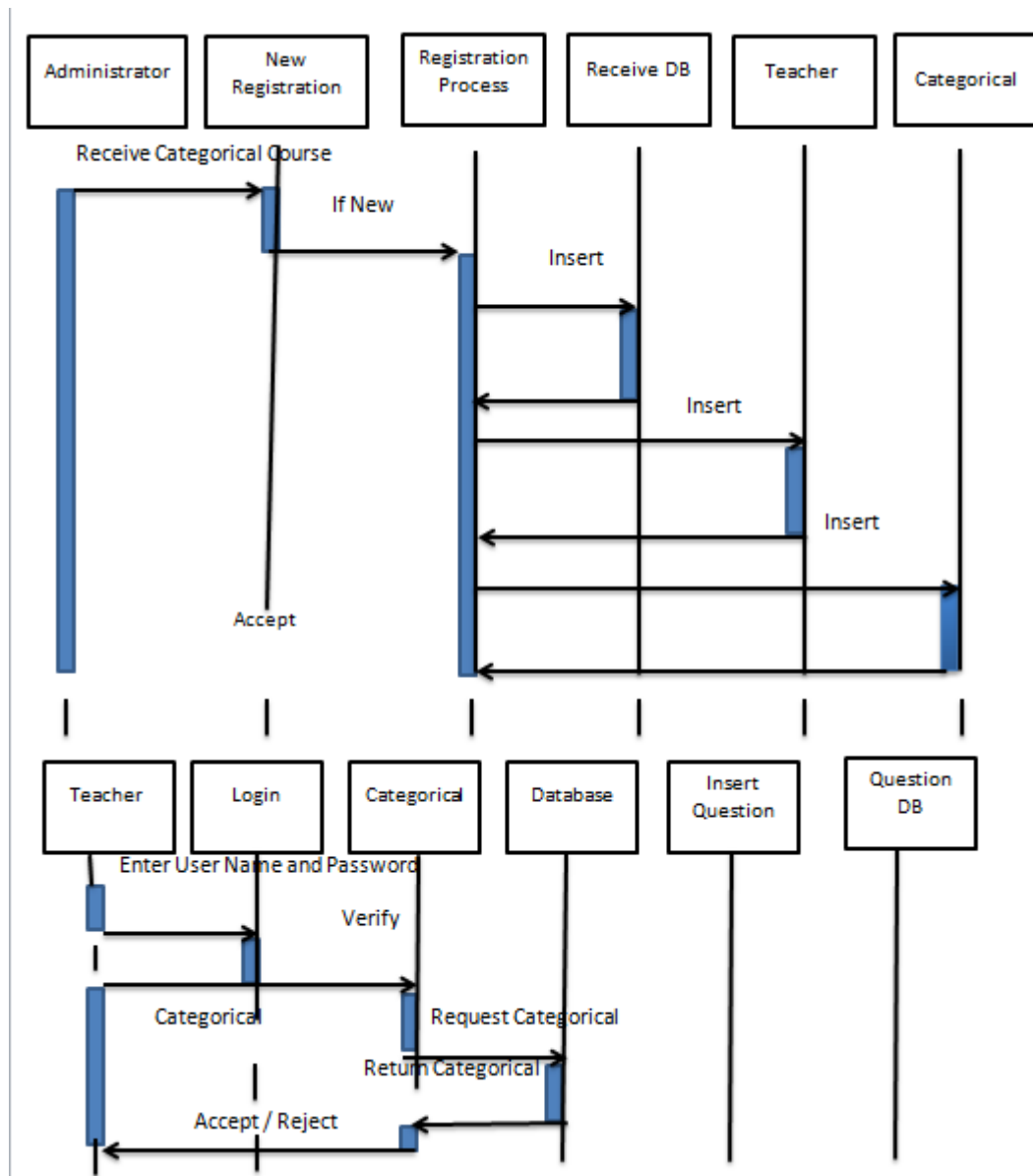


Figure 6: Administrator and teacher sequence diagram

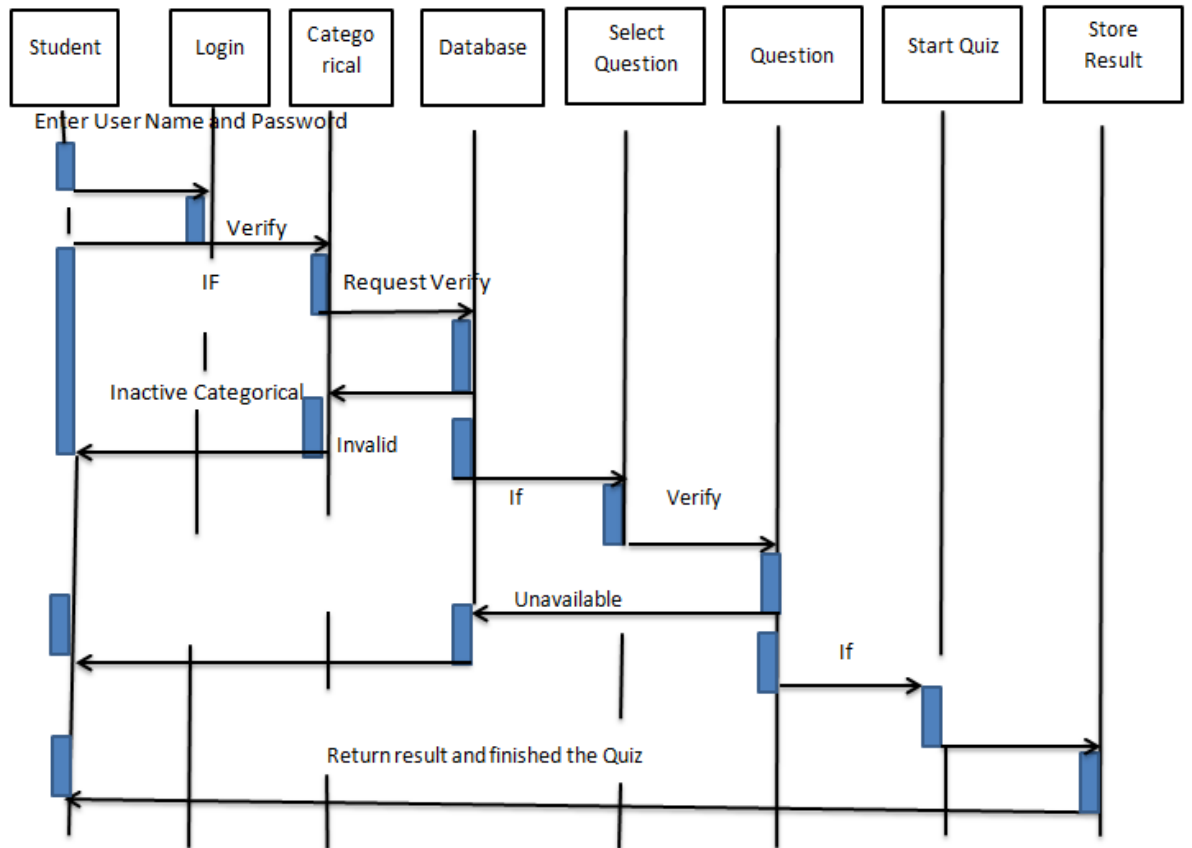


Figure 4.10: Student sequence diagram

4.6 Class Diagram

The subsequent simplified figure shows the central classes of the scheme. This is a reference the extended class diagram that includes the features and operations of the classes. In addition, in the following diagram, the classes that belong to the admin package and the classes (JSONParser, ServiceFunctions) are not shown, because each of the other classes has dependencies (arrows) on them, and then the pattern is not easily readable.

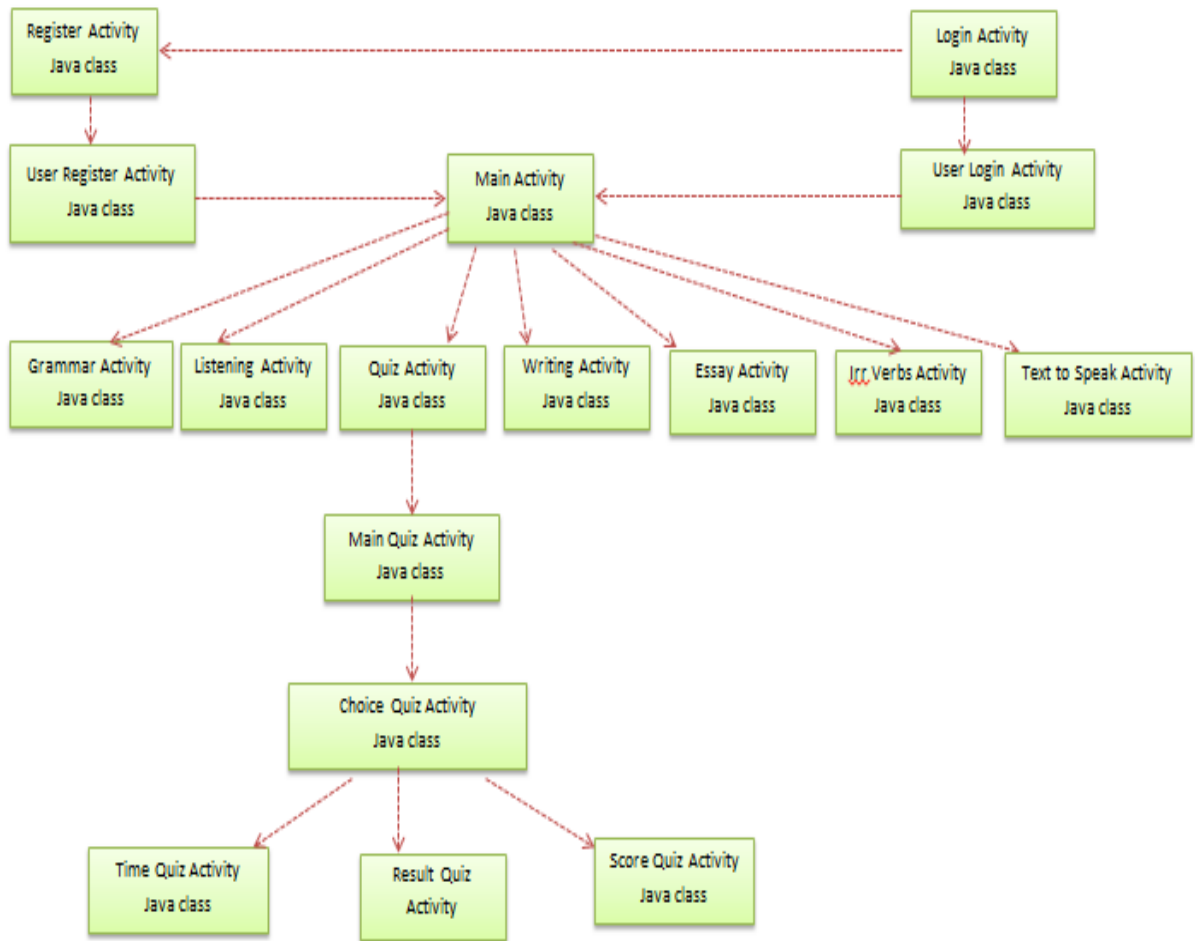


Figure 4.11: Application Diagram

4.7 Database Design

Wampserver : Implies an item stack for the Microsoft windows working framework, make by Remain Bourdon and containing the web server, Open SSL for SSL support, MySQL database and PHP programming tongue shown in figure

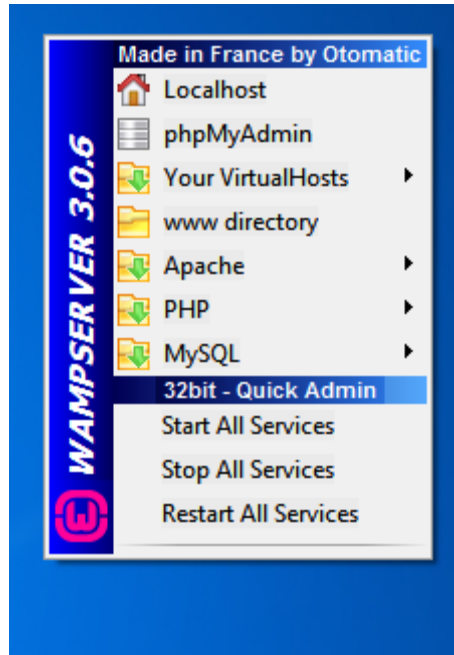


Figure 4.12: Wampserver

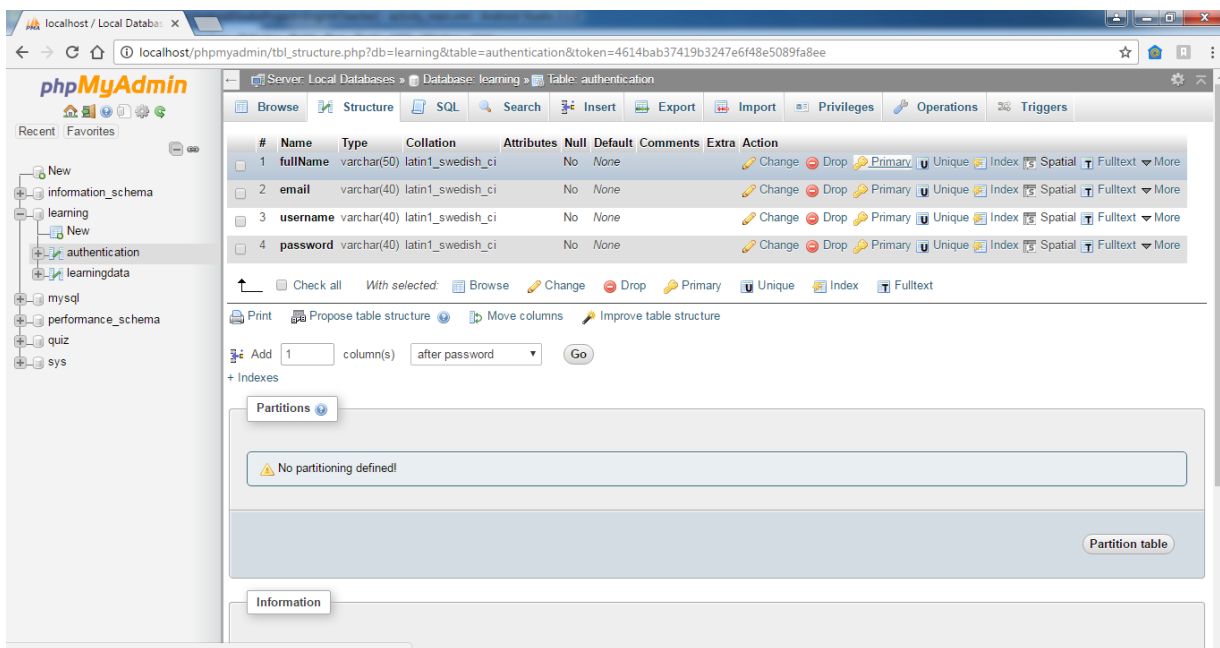


Figure 4.13: List of database servers

SQLite database: Part of the primary standards of the SQL databases is the pattern: an official announcement in what way the database is sorted out. The composition is reproduced in the SQL proclamations that you use to make your database.

An agreement class is a holder for constants that characterize names for URIs, tables, and segments. The agreement class enables you to utilize similar constants over the various classes in a similar bundle. This gives you a chance to change a section label in one abode and have it engender all through your cipher

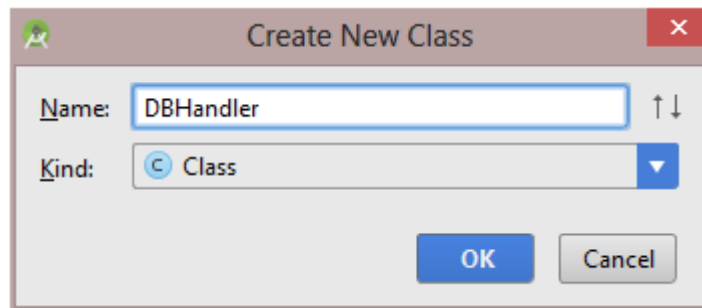


Figure 4.14: Create a database using a SQL helper

```
privatetaticfinalString SQL_CREATE_ENTRIES =  
    "CREATE TABLE "+Query.NameOfTheTable+" (" +  
    Query._ID +" INTEGER PRIMARY KEY," +  
    Query.NameOfTheCol+" TEXT," +  
    Query.NameOfTheSubtitle +" TEXT)";  
  
privatetaticfinalString Query =  
    "DROP TABLE IF EXISTS "+ Query.NameOfTheTable;
```

4.8 System Development Methodologies

To perceive how swift practices can be executed in An adaptable wander, the investigated investigate papers on Development of uses using Agile systems. In this way, the found four deft strategies, some with the mix from non-Agile systems: Mobile-D, HME, MASAM and SLeSS as depicted underneath.

The Mobile D

One of the leading considers in deft approach is by Abrahamsson. Spry flexible D framework to hold change down and ensure bewildering programming versatile application vendors must approach programming headway with feeling of obligation in regards to inside efficiencies. it is move to iterativeand incremental transport procedures to remain mindful of the snappy pace and unfaltering change inborn in the business. It relies on upon blend of ridiculous programming similar to hones, valuable stone gathering of approachs in gatherings of flexibility and normal bound together process in the terms of life-cycle scope. It shows that agile progression gives a strong match to adaptable application change Environment and proposes an approach called Mobile-D. It depends on XP, Crystal and Rational Unified philosophies Process (RUP) and is prescribed to be utilized by little, Co-found groups dealing with short advancement cycles.

In the claim expressing the school of data report that these nine constituents must be enmeshed inside the different strategy related with the cycle of advancement Phasing and placing.

1. Architecture line
2. Mobile test-driven development
3. Continuous integration
4. Pair programming
5. Metrics
6. Agile software process improvement
7. Off-site customer
8. User-centered fouce

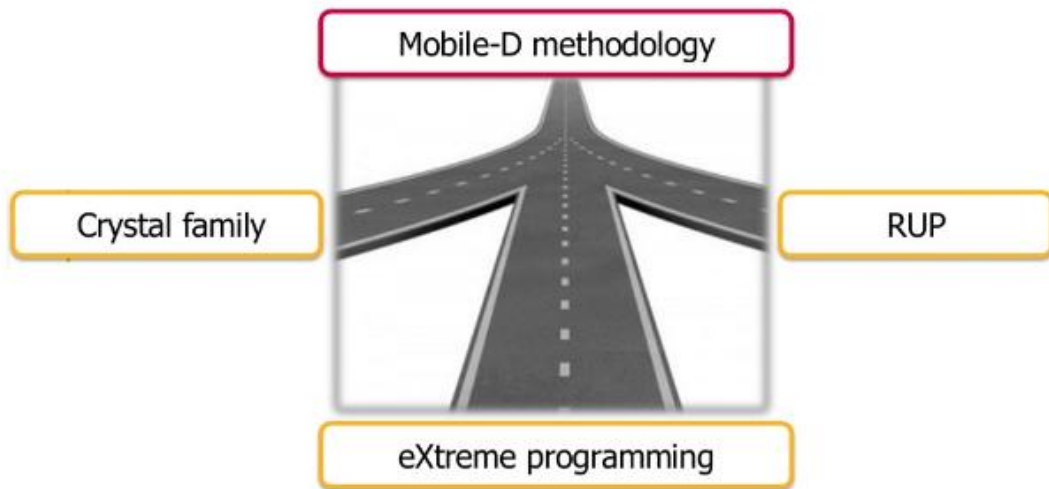


Figure 4.15: Mobile-D methodologies in development of mobile applications

The idea of this application is to help tourists who visit the city of Pula so they can easily go sightseeing.

1. Explore: The aim is to establish initial project as well as to prepare foundation for future development.

2. Initialize: The purpose of this stage is to describe and prepare all components of application, as well as to predict possible critical issues of project.

3. Productionize: Includes implementation of required functionalities using iterative and incremental development cycle.

4. Stabilize: The goal is to finalize the implementation, including integrating subsystems if needed.

5. System test & fix: review whether the application is developed according to requirements of clients and whether it contains all required functionalities.

Figure 4.16: The mobile-d process comprises of five phases

Mobile-D has as of now been executed being developed undertakings, and a few favorable circumstances have as the expanded perceivability of advance, revelation and repair

specialized issues, low deformity thickness in the last item and an advance improvement (Abrahamsson, et al., 2004). Different utilizations of the technique are introduced in (Pikkarainen, Salo, and Still, 2005) and (Hulkko and Abrahamsson, 2005).

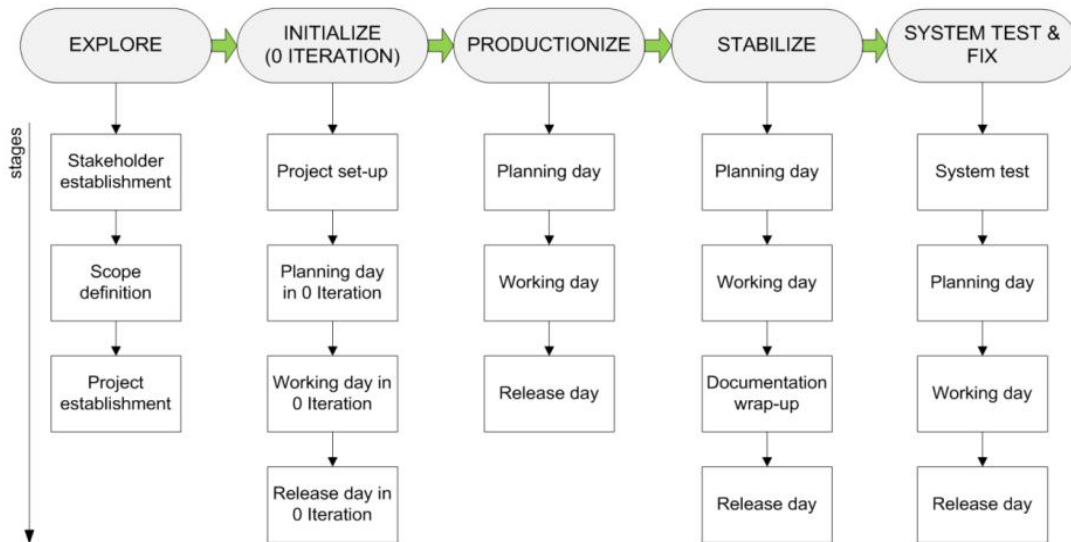


Figure 4.17: Mobile-D phases and stages; Source: (VTT Electronics, 2006)

Planning has direct impact on project success and represents the major part of the mobile app Development

- Establishing the stakeholder group
- Defining goals of the mobile app
- Choosing members
- Deadlines
- Development environment

This stage can only start when the previous stage explore is finished. The stage places emphasis on exploring the requirements and architecture of future mobile application and preparation of technical and human resources. The third stage and its aim is to implement the principal functionality of the mobile application.

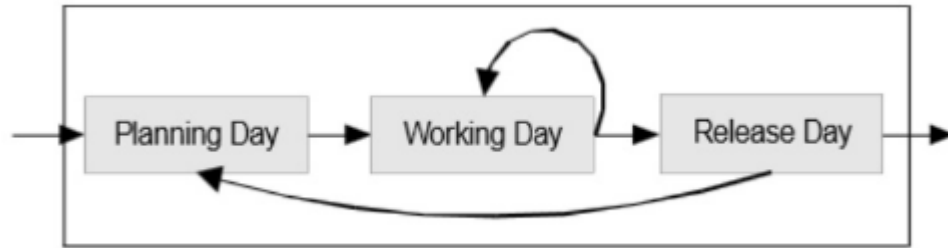


Figure 4.18: Scope meaning stage, adapted from (VTT Electronics, 2006)

Finalize the implementation and the documentation of the mobile application. Improve and ensure the quality of the mobile application.

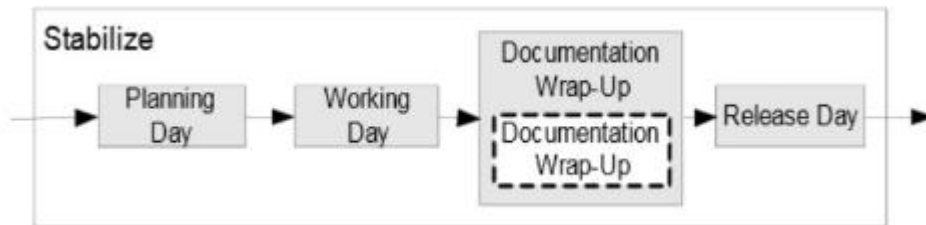


Figure 4.19: Finalize the software architecture design

The last of the five stages is aimed to test the system according to the documentation, provide information on the possible shortcomings, allow the team to remove defects and deliver the mobile application without errors if it is possible.

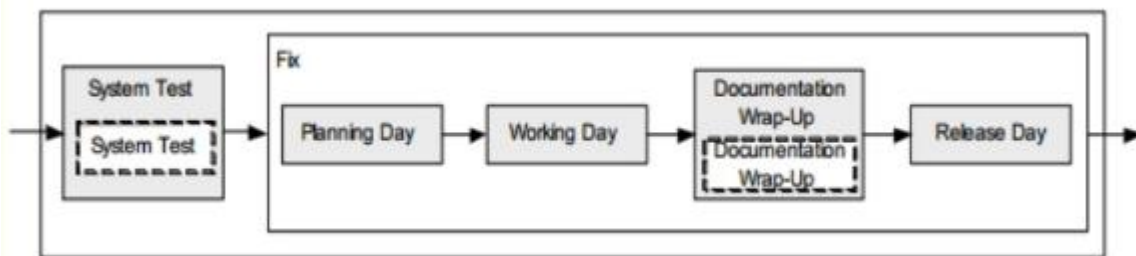


Figure 4.20: Mobile development method projected in (Ramsin and Rahimian, 2008)

Below is the summary of mobile -D methodology

- Grounded in agile processes
- No more than 10 team member

- Product turnaround in 10 weeks
- Cohesive, communicative team

4.9 System Requirements

The following need the system of hardware and software, as tools and mobile devices

4.9.1 Computer Tools

The used to make application for English teacher learning developer as mobile Application as follows

- Android studio the software for editing the project codes.
- Personal computer on windows 7 (32 bit) operating system was used.
- (JDK) Java Development Kits, version java 8 and java SE Development Kit 8 with android studio to run and deploy the java programming language code using application.
- (SDK) is needed to android studio for develop the application (API 17 -24) includes tools (emulator, debugger, libraries).
- (AVD) an emulator for showing output project run code project application.

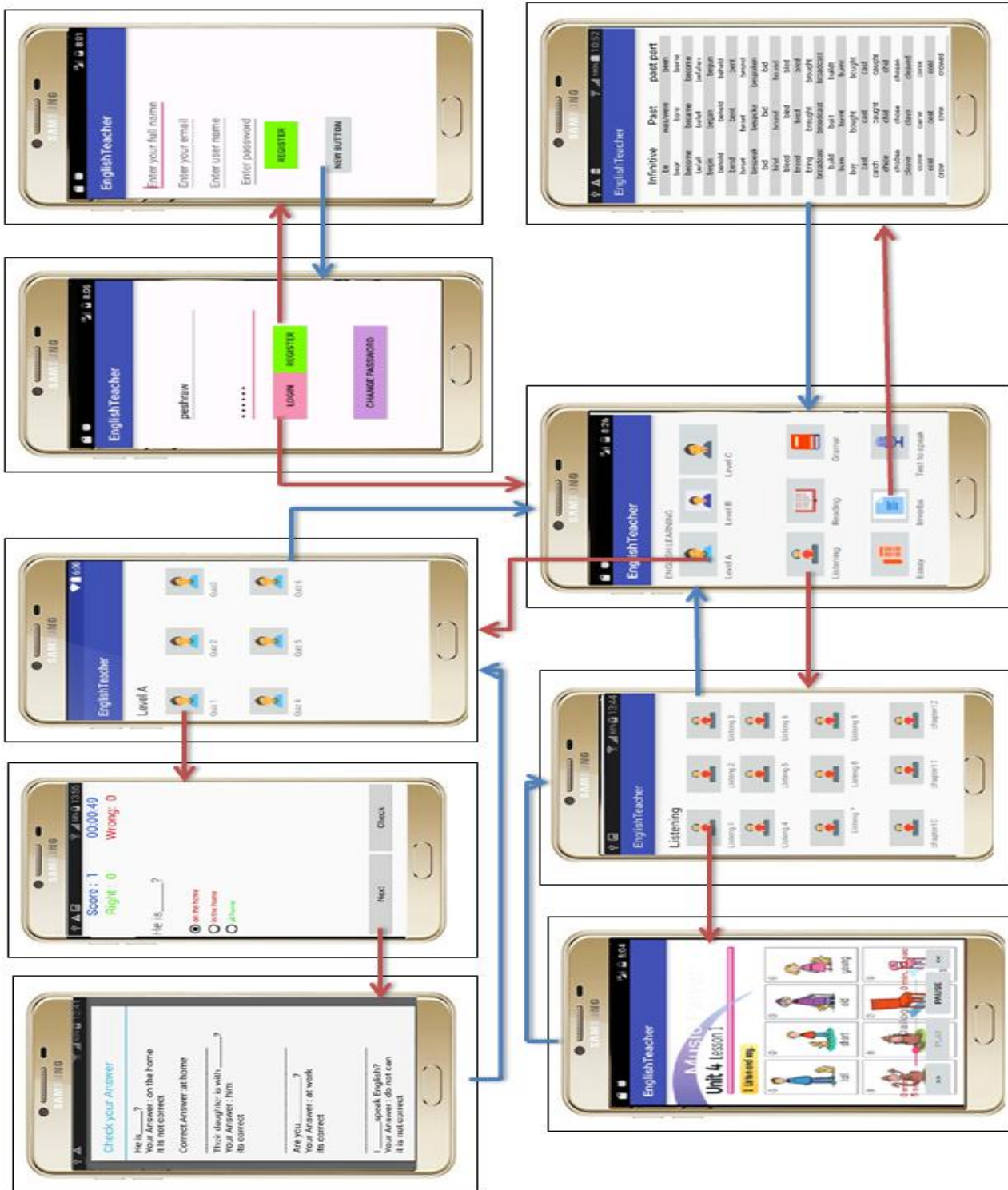
4.9.2 Android Device

The application is suitable for Samsung Galaxy s5 devices which have these features:

- Android OS v4.4.2.
- Size 5.1 inches (~69.6% screen-to-body ratio).
- Resolution 1080 x 1920 pixels (~432 ppi pixel density).
- Dimensions 142 x 72.5 x 8.1 mm (5.59 x 2.85 x 0.32 in).

4.10 User Interface

The following Figure 4.21 depicts all the application user interfaces such as login, register, main forum, quiz form, listening form, reading form, grammar form, essay form, text to speech form, Irregular verbs form.



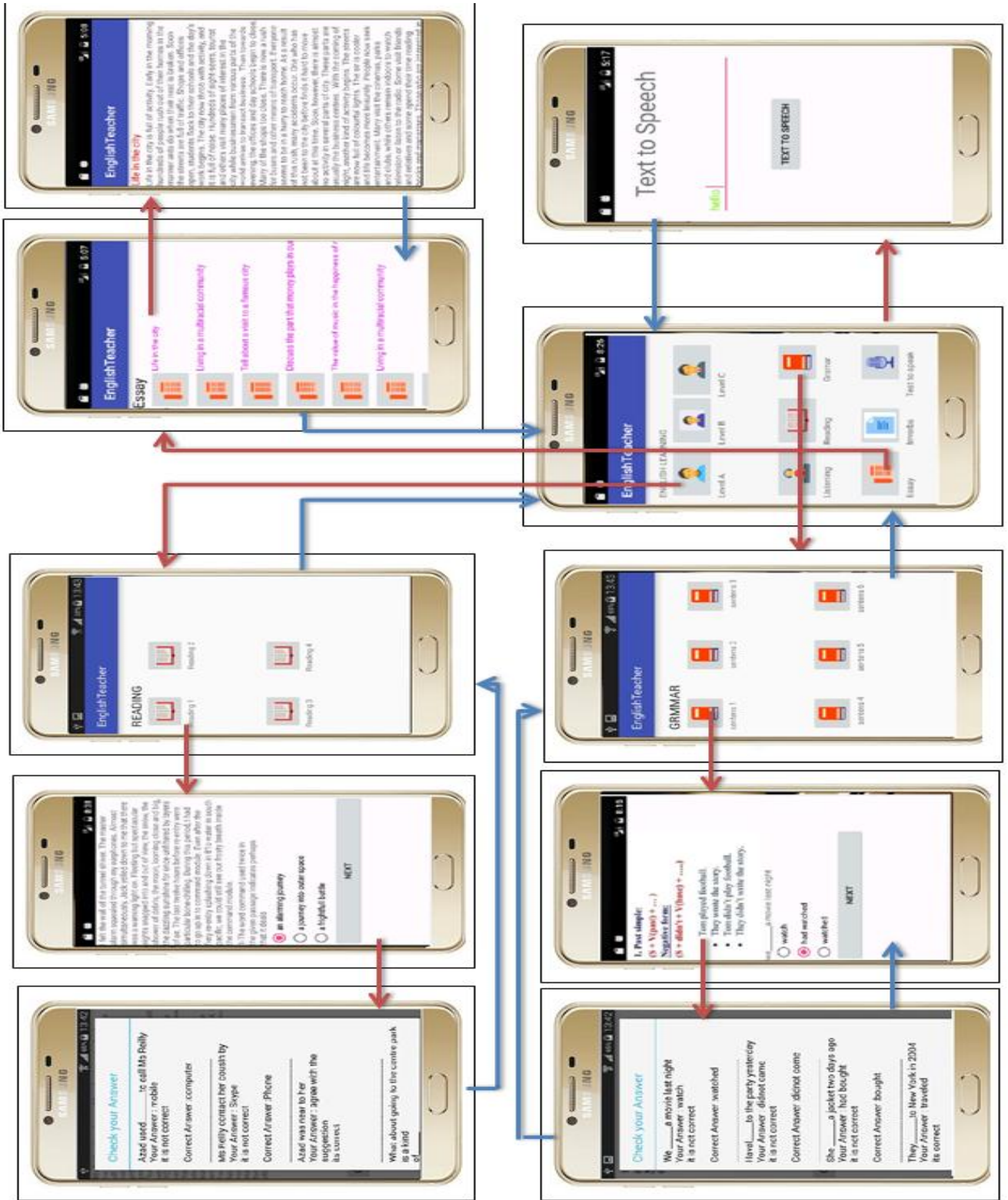


Figure 4.21: User interface (all screen)

CHAPTER 5

SYSTEM IMPLEMENTATION

5.1 Description of Application

This is a mobile application for learning English without teacher to improve Quiz, Listing, Writing, Reading, Grammar, Essay, Irregular verbs and text to speaking can learn anytime anywhere, some of the models have self-test.

5.2 Registration Page Testing

The following screenshot shows that the registration page.



Figure 5.1: Register form

5.3 Login

Login screen will appear when the student's registration has been done successfully. Then, they should enter username and password to the desire field. Hint text indicates where you want to input username and password. Tap the login button to open the main form and to see the full functionality of the application (Figure 5.2).



Figure 5.2: Login form

5.4 Main Form

This is the proposed mobile English learning application main page; this page consists of eight categories and sub categories. After exceeding login successfully the main interface of the student is appeared. Figure 5.3 shows the action as follows:

- Quiz leaves (Level A, Level B, Level C)
- Listening
- Reading
- Grammar
- Irregular Verb
- Essay
- Text to speech



Figure 5.3: Main form

5.4.1 Quiz

Quiz section has been categorized into three levels which are level A, B and C (Figure 5.4 and Figure 5.5). In this proposed mobile application, the quiz category has 3 levels in order of difficulties, the level A is for the beginners while level B for the intermediary and level C for experts. In this application three levels of quiz have been chosen based on the examination in Kurdistan Regional Government in Iraq. The students can do different exams in order which are first-term exam, second term exam and final exam. Based on the materials have been taught within our secondary school, we have exams three different times. The level A is for the beginner which means that the first part of the materials is included within the first term exam. The level B is for the intermediate which means that the second part of the materials is included within the second term exam. The final level is C, it is difficult one because all the materials are included within the final examination. The student should select one answer (s) before moving on to the next questions. The correct answer will be presented to the student.

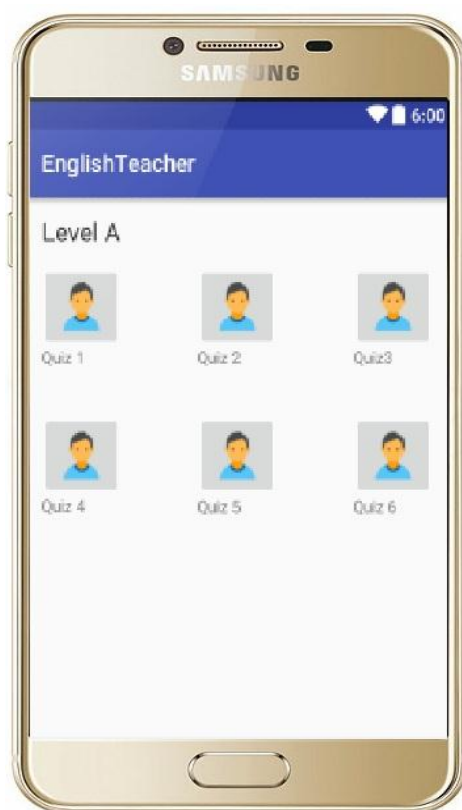


Figure 5.4: Main quiz forms

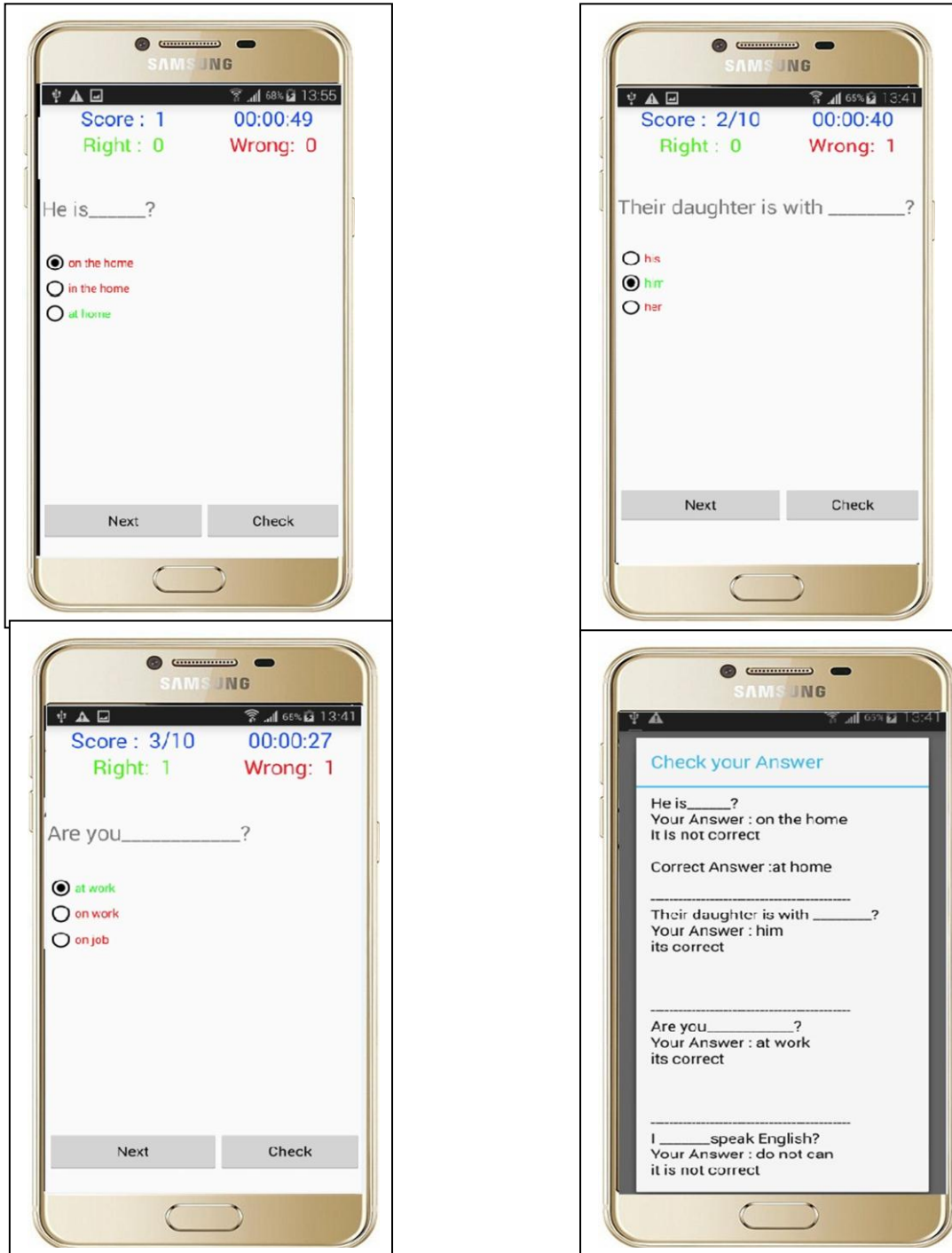


Figure 5.5: Quiz forms

5.4.2 Listening

The listening section is organized as a podcast which are Dialogs, then, the user will be able to listen to different dialogs according to his desired selection, which are categorized in order of difficulties. This helpful app will help you listen to English and speak English more fluently. There are many lessons divided into different lessons (Figure 5.6).

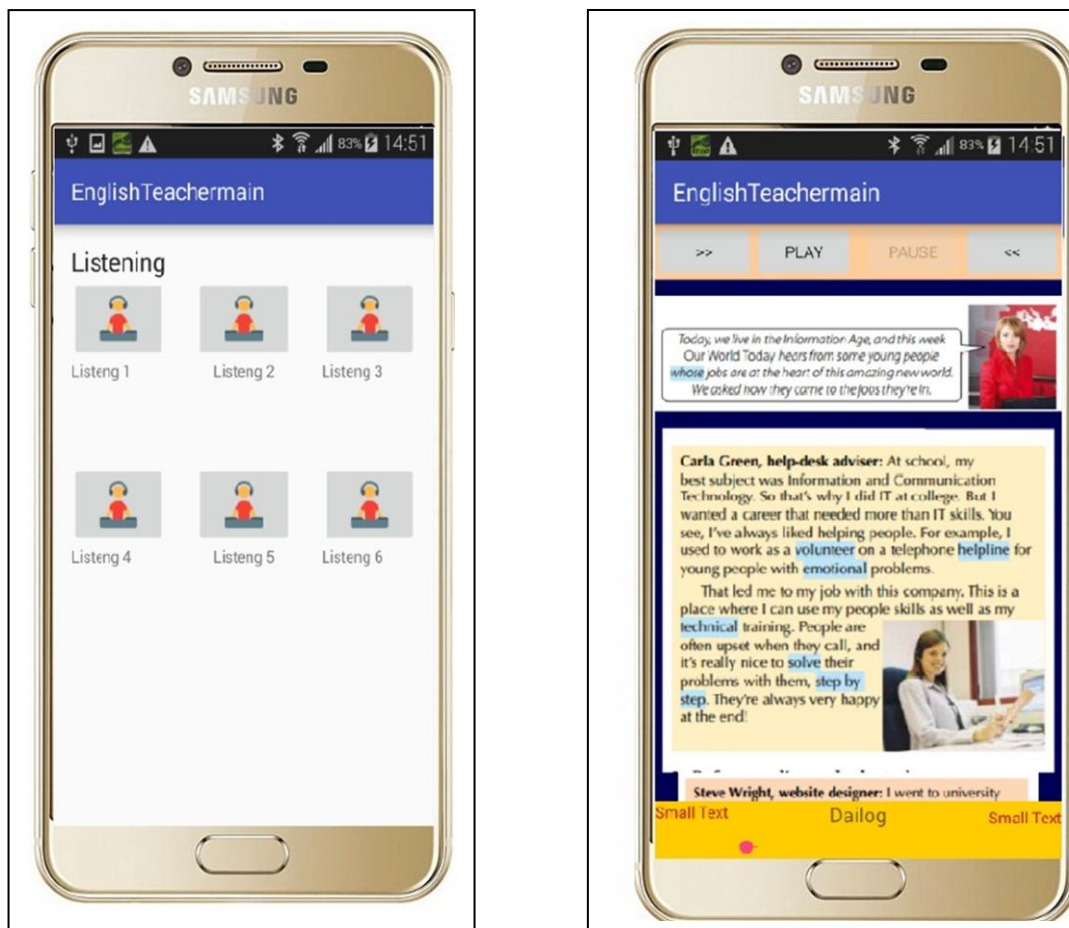


Figure 5.6: Listening forms

5.4.3 Reading

The reading page consists of an English passage or short essay where a reader will answer some series of questions after reading the full passage (Figure 5.7 and Figure 5.8). Then the user will be able to do a quiz afterward. . Each set of questions in this section is based on a single passage or a pair of passages. The questions are to be answered on the basis of what is stated or implied in the passage or pair of passages. For some of the questions, more than one of the choices could conceivably answer the question. However, you are to choose the *best* answer; that is, the response that most accurately and completely answers the question, and blacken the corresponding space on your answer sheet.

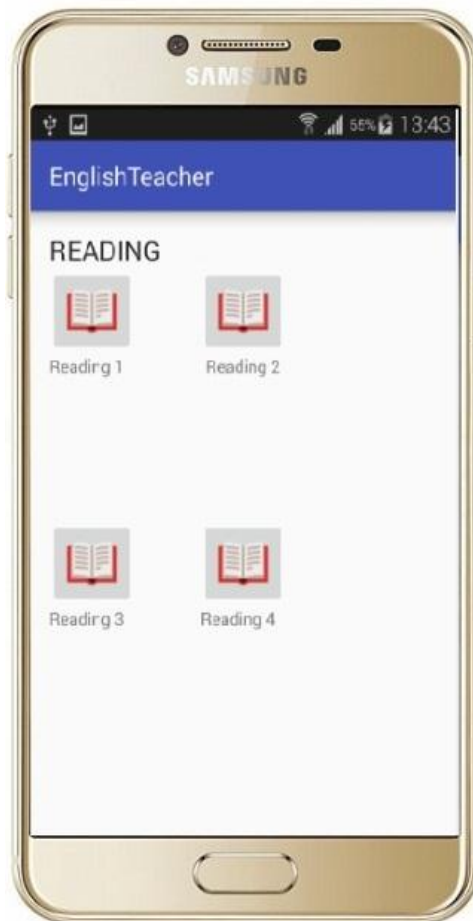


Figure 5.7: Main reading forms

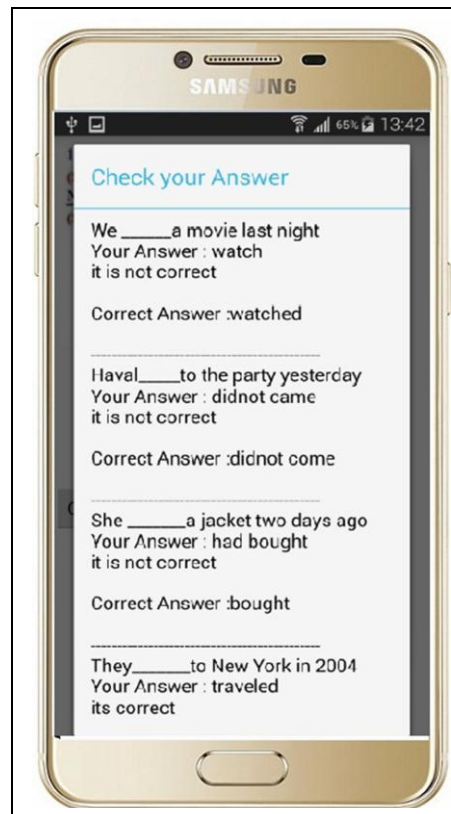
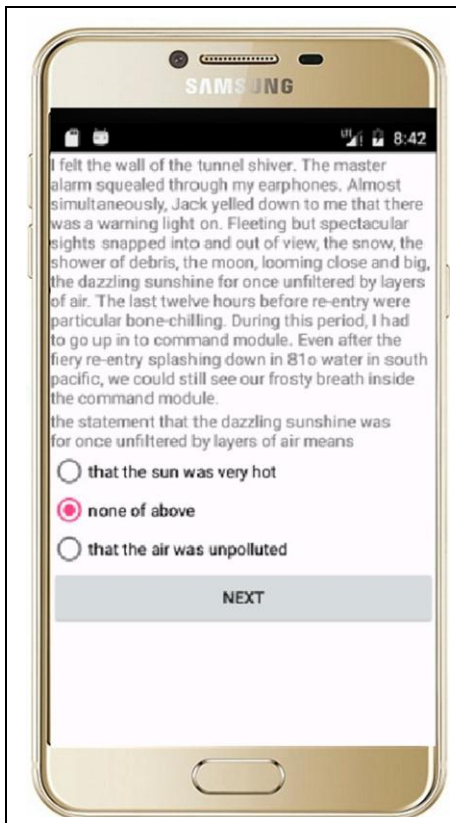
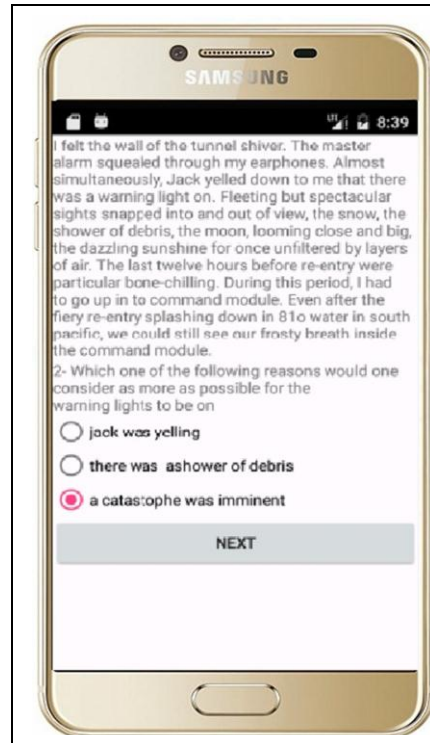
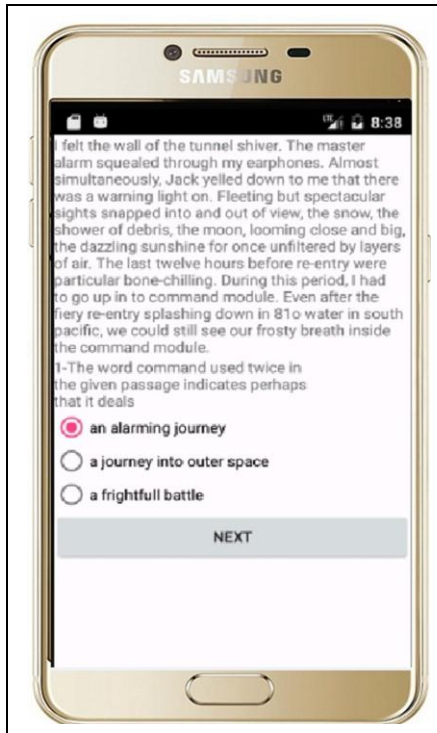


Figure 5.8: Reading forms

5.4.4 Grammar

This Grammar menu lets an individual makes it possible to read and learn lots of English grammar with plenty of resources (Figure 5.9 and Figure 5.10). This section explains different grammar tenses or rules with enough examples. Then the student should answer the followed questions about the explained grammar. This grammar test is the best way to improve your English grammar knowledge. Stunning minimalist design and clear user interface make it easy to test your English language skills. This English Grammar Test app is perfect for sunrise12. Each one contains four tests with four or three exercises.



Figure 5.9: Main grammar forms

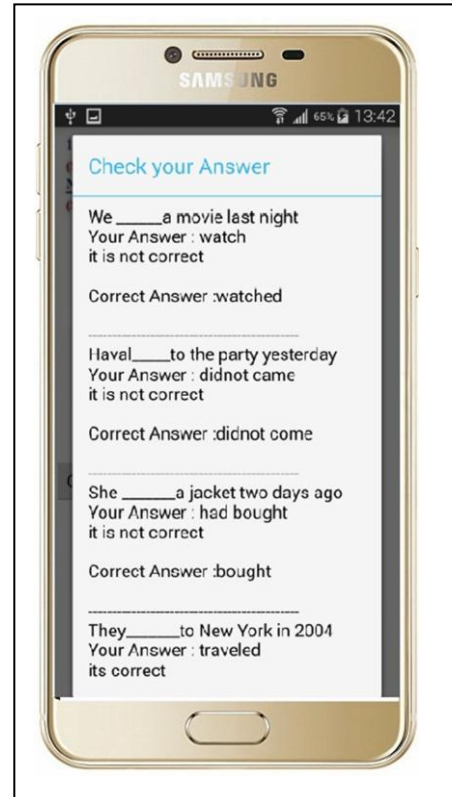
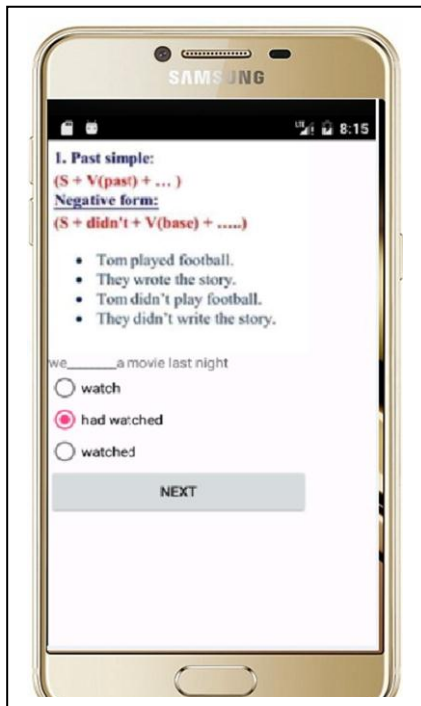


Figure 5.10: Grammars forms

5.4.5 Essay

This essay page has lots of essay that each consist of 200-300 words for reading, essays about ‘life in the city’ as an example (Figure 5.11). It is an application that can help you work with the essay in English or writing task that your teacher gives you. Sometimes it is difficult to start the first paragraph. With this application, you can find which topic is related to what you are going to read and there will be some ideas or opinions you can draw from it. As a result, it can help you how to write a short essay effectively.



Figure 5.11: Essay and sample essay forms

5.4.6 Irregular Verbs

The irregular verb section gives lots of English verbs which consist of infinite, simple past and past participle (Figure 5.12). For the grammar test, you will find four topics within each level. Some topics are: prepositions and irregular verbs for easy level, gerunds and more for medium level, modal and conjunctions for hard level. Most of the questions came in the form of multiple options, but always with time limits.



Infinitive	Past	past part
be	was/were	been
bear	bore	borne
become	became	become
befall	befell	befallen
begin	began	begun
behold	beheld	beheld
bend	bent	bent
beset	beset	beset
bespeak	bespoke	bespoken
bid	bid	bid
bind	bound	bound
bleed	bled	bled
breed	bred	bred
bring	brought	brought
broadcast	broadcast	broadcast
build	built	built
burn	burnt	burnt
buy	bought	bought
cast	cast	cast
catch	caught	caught
chide	chid	chid
choose	chose	chosen
cleave	cleave	cleaved
come	came	come
cost	cost	cost
crow	crew	crowed

Figure 5.12: Irregular verbs form

5.4.7 Text to Speech

Android's text-to-speech has been an integral part of Android. It is used to read translations and pronunciations of words, to read books, to give navigation step by step and to improve the accessibility in the whole system. After one of the most recent updates, Google Text-to-speech can also be invoked by any third-party application that supports both text selection and sharing. Add a text-to-speech option (with different speeds). This is very useful for students - reading and listening to text simultaneously is much more efficient (Figure 5.13).

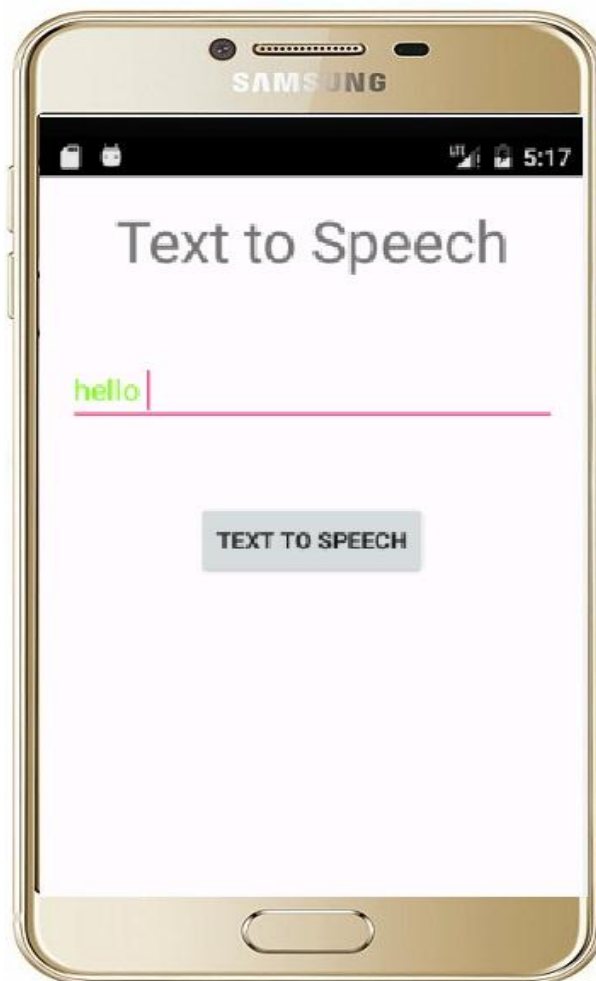


Figure 5.13: Text to speech form

5.4.8 Feedback Quiz

In Quiz Level, at the beginning there is a default time limitation 1 minute for 10 questions. The question is displayed along with various options to select from the most appropriate answer, with each question having its own score (Figure 5.14). Answering the right question will update green 'Right' label at the top of the screen, otherwise the 'Wrong' label is updated. Pressing the check button will determine if the selected option is right or wrong. However, the green signifies right answer while red signifies wrong answer. In addition, the result will be displayed and updated at the top of the screen based on the right answer. In addition, the result will be displayed and updated at the top of the screen based on the right answer. This application shows feedback to the learners in two different ways. Firstly, it shows the wrong and right answers directly on the application while you practice on quiz level by changing the color. The other one, while the quiz or all answered questions are finished, the learners will be able to click on 'check your answer' button to see the all answered result as a text. At the same time, it shows that the answer is correct or not and then shows the correct answer while the learners picked the wrong answers.



Figure 5.14: Feedback quiz forms

CHAPTER 6

CONCLUSION AND RECOMMENDATIONS

This chapter concludes the design and development of mobile application that teaches the English language through the use of an interactive process such as quiz, listening, reading, grammar and essay, and as well contains recommendations for future studies.

6.1 Conclusion

Conclusively, the study shows how to design and develop a mobile learning application to teach basically English language through various interactive practices adopting the northern Iraq as a case study. Before embarking on the study literature review of related research to provide with a depth understanding of how previous researches on this topic area were conducted, the review of literature help sharpened the study focus. The system was developed using the android studio framework and the MySQL backend based on the proposed mobile learning model. The system is android based which implies it runs solely on android based operating systems. However, the application consists of various features such as quiz, listening, reading, grammar, essay, verbs and text to speech modules. The developed application consisted of three levels for the quiz module ranging from basic to expert. The development application should make it easy to learn English as a second language.

Lastly, this developed English learning mobile android based application will help students interested in learning English language quickly and efficiently because of its coupled interactive features which had shown to be very effective in mobile learning activities.

6.2 Recommendations

Regarding the design and development of this developed mobile learning application that teaches English language to non-English natives, the platform dependencies should be eliminated in such a way that the application will run across all platforms not restricted to just android based smartphones. Below are some additional suggested recommendations. The user interface should be more interactive and pictures should be used to make some expression. The speed of the application should be considered, functionality, reliability, efficiency, maintainability, portability, quality in use, quality of content, loading time, and most importantly ease of use. In addition the mobile application should be in conformance with the learning goal which is learning English. Finally, further study should be carried out in more cities.

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