ArielCast Application

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Software Requirements Specification (SRS) Document

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1. Introduction

1.1 Purpose

Create a user friendly, easy to use app to make learning from home easier and more enjoyable for students by helping university lecturers manage their courses and upload their lectures recordings in a well ordered way, and students to follow their lectures, communicate with them, watch search for and download their lectures easily and without the need to look in many web pages.

1.2 Scope

The application is called "ArielCast".

The app is designed for students that will can download to a personal device for easy listening/watching ,

and for lecturers that want to make their courses more accessible .

The "ArielCast" app allows students to:

1. Watch lectures of the courses taught (in the player within the app).
2. Download audio / video of lectures from the app to the personal device.
3. Send messages to lecturers of courses available in the app.
4. Add comments to lecture videos.
5. Add certain lectures to the "Watch Later" list.
6. Add courses to the "My Courses" list (for following the course and receiving notifications of new lectures).
7. Getting information for available courses, faculty, and contact information.

For lecturers, the "ArielCast" app allows:

1. Easy upload of audio / video of lectures.
2. Quick responses to students' questions in lectures.
3. Send messages directly to all students following a course.
4. An orderly display of all the courses that the lecturer teaches.
5. Information about students who follow the lecturer's courses (students' names and email)

1.3 Definitions and Acronyms

· **Admin (Administrator)**

He has the authority to modify the system interface and grant permission to various users. · **Firebase**

It is a database management system that provides a flexible and efficient database platform to maintain records of lecturer, student etc.

· **UML (Unified Modeling Language)**

It is a standard language for writing software blueprints. The UML may be used to visualize, specify, construct and document .

· **XML (Extensible Markup Language)**

It is a text based format that lets developers describe, deliver and exchange structured data between a range of applications to clients for display and manipulation.

· **Java**

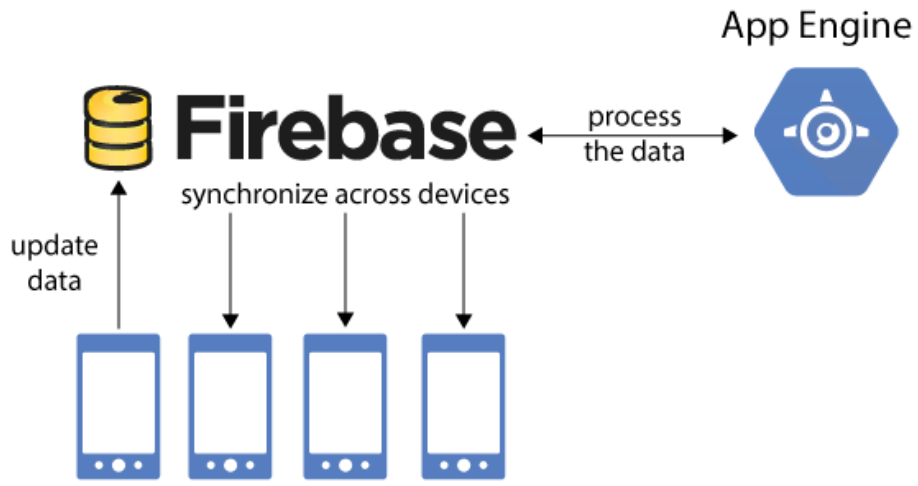
Java is a programming language originally developed by James Gosling at Sun Microsystems. Java is a general-purpose, concurrent, class-based, object-oriented language that is specifically designed to have as few implementation dependencies as possible.

· **Android**

Developed by Google, a popular operating system for smartphones .

Android Studio is the official integrated development environment (IDE) for Google's Android operating system.

2. Overall Description



Ariel University currently uses a system called "moodle".
moodle is software that serves as an online system for teaching / learning, integrated computers.
The purpose of the "Ariel Cast" application is to make the university's courses accessible also on a mobile device.
The idea for this app stemmed from the need to watch lectures of courses in an orderly manner, and independent of the Internet (download option for Android device).

The name, "ArielCast" comes from the word podcast

(A podcast is a digital audio or video file or recording, usually part of a themed series, that can be downloaded).

Users :

There are two users –Students and Lecturers.

All users have their own profiles.

2.1 User Needs

The app should be understandable and available.

The application is nicely designed, easy to use, available and has a reasonable time of execution, uploading, downloading and searching of data.

2.2 Assumptions and Dependencies

The need for our app was created as a result of the covid-19 pandemic .
As a result, Ariel University began teaching the courses online only and the lecturers were required to record the lectures for the students.
For now, students must be online and logged in to the university website in order to see those lectures, with the need to look for each lecture under its course's web page.

3. System Features and Requirements

3.1 Functional Requirements

- The app must allow users to log into their account using their email and password.
- The app must allow users to reset their password by clicking on "I forgot my password" and receiving a link to their verified email address.
- The app storage includes information about app users and must allow users to change their details.
- The app must have enough storage capacity that it can store users ,courses and lectures' information.
- The app allows uploading and downloading audio/video recordings of the lectures.
- This app must allow sending messages and interaction between the lecturers and the students.
- The app allows users to search for courses and lectures in the app.

3.2 External Interface Requirements

3.3.7 User Interfaces

- Login screen - Welcome page including the options: login, register, forgot

password, about us, help contact and phone book.

- Register screen - Includes form for registering new users.
- Help Screen - Provides help for using this application.
- About Us - Information About the development team.
- Contact Us Screen - Users have the app users to connect the development team via email.
- Phone Book Screen - A list of emails and contact details of the University faculty.
- Main Screen – Courses list, depending on the user type who's logged in.
- Course Screen - A list of all lectures of the course.
- Lecture Screen – Video/Audio player of lecture's recording.

3.2.2 Hardware Interfaces

Since the mobile application does not have any designated hardware, it does not have any direct hardware interfaces.

The hardware connection to the database server is managed by the underlying operating system on the mobile phone and the database.

3.2.3 Software Interfaces

Operating system - We have chosen Windows operating system for its best support and user-friendliness.

Android Studio - To implement the project we will use Android Studio.

Database - For our database we chose Google Firebase.

3.2.1 Communications Interfaces

This project supports all types of Android Versions. The communication between the different parts of the system is important since they depend on each other. However, in what way the communication is achieved is not important for the system and is therefore handled by the underlying operating systems for the mobile application.

3.3 Nonfunctional Requirements

3.3.1 Reliability:

The capability to maintain the specified level of performance is what is meant by reliability. This application will run on any android phone.

3.3.2 Availability

The application is available for use 24/7, while there is internet connection.

3.3.3 Security

Security requirements placed restrictions on the use of this application by the student and lecturer of Wireless Lan communicator only, control access to the data, provide different kinds of requirements to different people, require the use of passwords.

It requires proper programming techniques.

3.3.4 Maintainability

Maintenance is one form of change that typically is done after the software development has been completed.

As the time changes, so do the needs. It revolves around the understanding of the existing s/w and the effects of the change.

This application needs a timely updation of information table of the database by the admin. Any other feature as per the requirement can be added any time by the admin.

3.3.5 Extensibility

The application will be highly extensible in terms of adding courses ,students and lecturers' details . However,the application in general has low extensibility.

3.3.6 Application Compatibility

The application is compatible with Android 4.1 or any later version.