**SRS Document**

# Introduction

Today the communication clinicians use an old, not properly developed system that cannot provide their needs. This community approached the university with a request for a system that can store big data and perform analysis on it. According to the experts that we interviewed the current system they use can only perform basic functions such as read and store data

# Purpose

The main purpose of this project is to create a medical file management system.The system will provide the ability to view and document the patient’s medical examination results, the focus is on hearing examinations.

The system supports:

* Documentation of various examinations.
* Fast and efficient search queries on the data.
* View analysis based on the stored data.
* Schedule appointments with patients and print the summary of the appointment

# Intended Audience

The developers and project managers of this project will have access to this document

The project managers are Liron – manager of the communication clinician department in “ASUTA” Ashdod hospital Dr. Amit Dvir and Dr. Riki Titlboum.

The developers can also edit this document.

# Intended Use

The main goals of this documents are:

* Present the system.
* Describe the system functional and nonfunctional requirements.
* Describe the need for this system.
* Define the clients for this system.

# Scope

The need for a management system came from the communication clinician’s community due to lack of abilities in the current system they use.

Our main goal of this project is to provide an enhanced medical file management system that will stratify the following requirements:

* Search specific patient records.
* Edit patient medical file details.
* Create a medical file for a new patient.
* Review, print and edit patient’s appointments details.
* Create a new patient appointment documentation. That process includes the ability to insert the examination results and diagnosis.
* The communication clinician can submit the examination result manually or automatically integrate with a medical device - audiometer.
* Perform fast and wide queries on the data.

Benefits:

* Big data storage.
* Integration with a medical device – audiometer.
* Simple and user-friendly interface.
* Perform efficient analysis calculation on data.

Goals:

* Create a new improved system for the communication clinician’s community.
* Store and view data.
* Produce reports based on the stored data.
* Reduce the false positive and false negative diagnosis by consulting an expert from the field. (This goal is not included in this stage of the project).

# Definitions and Acronyms

Describe of possible Risks:

* Submit wrong examination results and diagnose for a patient.
* Data breach of patients personally identifiable and medical information.
* The medical device – audiometer fails.

# Overall Description

The outcome product of this project is a new improved medical file management system. The developers team will create a website that supports the newest technologies. The system will satisfy the communication clinician’s community requirements.

# User Needs

The main users of this system are the communication clinicians and the system managers.

Following are the communication clinician requirements:

* Review and edit patient medical file.
* Review and edit patient appointments details.
* Submit and edit hearing examination results.
* Perform analysis calculation based on stored examination results.
* Perform efficient search on the data.
* Print appointment summary and diagnosis.
* Simple integration with the “audiometer” - medical device.

Following are the system manager requirements:

* Permissions management – add. remove or edit communication clinician user.

The secondary users are the patients, following are their requirement:

* Secure personally identifiable and medical information.
* Provide a hard copy of an appointment that included details examination results and diagnosis.

# Assumptions and Dependencies

 Factors that can impact the ability to fulfill the requirements are:

* Failure of the audiometer device.
* Failure of reading data from the audiometer device caused by wrong implementation of the API.
* Lack of resources such as servers or big data base.
* Unsecured data base.

# System Features and Requirements

# Functional Requirements

* Integration with audiometer- a medical device.
* Use data structure that allow quick data access.
* Integrate with data base that can perform quick and efficient search. (Elastic search).
* Print or create a pdf file with the appointment summary and diagnosis details.

# System Features

* Management of a patient medical file that include the patient information, examinations results, diagnosis, and appointments details.
* Management appointments between a patient and a communication clinician.
* Manually insert and edit examinations results as patient record.
* Graphic view of examination results.
* Extract the examination results from the audiometer device into the system.
* Perform calculation analysis on the data such as average function on the results of a specific examination type.
* Print or create a pdf file with the appointment summary and diagnosis details.
* Efficient search on the data such as run a query according to the appointment details –diagnosis, summary, patient cause of visit the clinic etc.
* Add additional data to the examination results and alert the user if the addition of data does not match to the examination type.

# Nonfunctional Requirements

* Functional suitability- the system provides a graphic view of the hearing examination results.

The graph view describes the signal volume that was tested for both patient’s ears.

* Performance efficiency- data access will be quick and efficient.
* Compatibility- the user can automatically integrate with the audiometer device and view the results in graphic view.
* Usability- user friendly and modern interface.
* Portability- the system platform is a website the user can log in to the system from any place in the world with an internet connection.