1. Introduction
   1. Purpose

The Design document (DD) must contain a functional description of the system, and any other view you find useful to provide.

The document exposes the techniques, decisions, implementations, components and the architecture that we decided to implement QDocs app system. From an easy and simple description of the all architecture (Chapter 2.1) the document starts with a specific and dedicate part for each component. For all specific system parts is recommended to read the dedicate chapters.

* 1. Scope

The QDocs app is a file-based mobile app which help users to organize, visualize and, above all, find in a few second their personal files. In fact, there are many files that users use rarely and after some time they no longer remember where they were placed. QDocs permit the user to link a file to a qrcode that can be printed and placed in a site of the “real world” that are related with the file. When the qrcode is scanned, the related file is shown on the smartphone. An example can be the following:

<<A student takes notes on his notebook and he wants to extends his notes with some articles or some book pages. He can upload the articles on QDocs storage and print the relative qrcode on the personal notebook. When he has to study and want to read the articles he can scan the qrcode with the qdos scanner and immediately the file appears on the smartphone.>>

Obviously, the file can be opened also directly from the smartphone. QDocs permit to open image and audio and the other files are opened with other apps that are installed on the device. Any user has his personal account and can access only his files. QDocs permit also to download the files on the cloud on the physical users’ devices.

1.3 Glossary

* + 1. Definitions
* Client/User: All clients that use QDocs app
* Firebase Storage: the service of storage provided by google firebase
* Firebase Database: the database service provided by google firebase
* Firebase Authentication: the authentication service provided by google firebase
* Firebase Cloud Function: the service provided by google firebase that permit to run function on the google cloud service
  + 1. Acronyms
* RASD: Requirement analysis and specification document
* DD: Design document
* API: Application programming interface
* DB: Database
* DBMS: Database management system

1.5 Document structure

1. Introduction: The introduction of a document is the first part that explains the principal characteristics of this documents (Design document) and the system. In addition, you can find also a Glossary, where all Acronyms and all Abbreviations that are used in the document for all technical words are defined and explained.

2. Architectural design: In this part of the document is described all decisions that the creators of QDocs have taken to create physically its system. Are describe the reason why of the specific selection components, the power of the system and his possible limitations.

3. Algorithm design: The principal algorithms, used by QDocs app, are described in this DD’s section. After a short introduction, a specific description and the real code (or a similar code write in pseudocode) will show the reader the code and its implementation.

4. User interface design: QDocs app is a fresh application, with a user interface simple and usable by all kind of clients. In this section the reader can see all possible interactions and actions that the client can do with the QDocs mobile application.

5. Requirements traceability: Naturally QDocs has some Goals, a way and a component/s that satisfy them. In this part is explained this.

6. Implementation, integration and test plan: In this part, the order and which test cases has decided to use to make sure that QDocs respects and satisfies the clients’ expectations, are explained and identified.

7. References: Final part of the document that describe the programs and tools that QDocs has used to develop this DD document