SOFTWARE REQUIREMENTS SPECIFICATION

FOR

BotTELL

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Revision History

Name	Date	Reason For Changes	Version

1. Introduction

1.1 Purpose

The main objective of this document is to illustrate the requirements of the project, botTELL

Document Conventions

- Entire document should be justified.
- Convention for main title and body
    - Font face: Calibri
    - Font size: 14

1.2 Intended Audience and Reading Suggestions

- The software is suitable for all age groups; however, it's specifically designed with the college environment in mind.

1.3 Project Scope

- Scopes of this software are numerous, few of which are:
- Reminding various information
- Increasing knowledge via facts
- Entertainment
- Private polling
- Delivery of mass information individually

And much more.

1.4 References

- [1] https://core.telegram.org/bots
- [2] https://python-telegram-bot.readthedocs.io/en/stable
- [3] https://www.stackoverflow.com
- [4] https://github.com/python-telegram-bot/python-telegram-bot
- [5] https://www.codementor.io/@karandeepbatra

2. Overall Description

2.1 Product Perspective

- The name “botTELL” stands for bot-(TEL)L, i.e., A bot that started off with the sole purpose of reminding (TELL-ing) the birthdays and various information of friends and colleagues via telegram (TEL), but quickly grew into something much more ambitious.
- The user will issue various commands to the bot and the bot will process these commands accordingly.

2.2 Product Features

- The two features of utmost importance in **botTELL** are **APIs** and **Cloud computing.**
- API stands for *A*pplication *P*rogramming *I*nterface and in a nutshell, is something that acts as an intermediate between two software or a software and a hardware.
- Cloud computing on the other hand, is a way of storing and managing data on remote servers hosted on the internet rather than on a personal computer. In this way a script can run 24/7 safely, without any interruptions and the data can be stored without eating up space on our personal computers.

2.3 User Classes and Characteristics

- The primary API module (python-telegram-bot) itself comes in the form of a class and makes use of a wide range of data structures.
- For the DB itself, there are multiple modules to choose from: SQLite, MySQL, PostgreSQL.
- Cloud environment: Microsoft azure/Amazon AWS/Oracle.
- As far as the DB GUI application is considered, Tkinter has been chosen as the module of choice.
- For maintaining logs, performing serialization (if needed) and regular expressions, the modules of choice are logging, pickle and re respectively.

2.4 Operating Environment

The main BOT will be operating on Microsoft Windows as well as on Android and iOS. It is platform independent. The admin application is best suitable for PCs, I.e., Windows and Linux.

2.5 Design and Implementation Constraints

Designed using Tkinter, python-telegram-bot and more.

2.6 User Documentation

The user has to register with the bot either as a faculty or a student. The commands to use will be issued to a new user at the beginning of the chat.

2.7 Assumptions and Dependencies

Assumptions are:

- The coding should be error free
- The user should be using one of the specified operating systems.
- The commands are issued correctly
- The cloud servers should be running without any fault
- Telegram should not drop its support for the API

The dependencies are:

- The specific hardware and software due to which the project will run
- The end users should have proper understanding of the product
- On the basis of listing requirements and specification the project will be developed and run

3. System Features

3.1 System Feature 1

3.1.1 Description and features

People often forget various information that needs to be remembered and they have to be reminded, for this very purpose botTELL came into the picture initially. But it evolved into a bot that can not only remind stuff, but also do much more like: Polling, personalized birthday messages, quick facts etc.

3.1.2 Methodology

3.1.2.1 BOT

- User starts the conversation with the bot by issuing /start command.
- API recognizes this and activates the backend script and database.
- The user now issues various commands, say /command.
- IF /command is store or retrieve or modify command do:
    - Establish a link with the database
    - Execute the commands for store/retrieve/modify
- ELSE produces the suitable output, making use of various modules in the process.

3.1.2.2 DB Application

- Ask the administrator what action they'd like to perform.
- Establish a direct connection with the DB.
- Execute the suitable commands.
- Display the suitable output.

4. External Interface Requirements

4.1 User Interfaces

The User Interface is provided by the Telegram app itself and is very user friendly and easy to understand. As far as the bot is considered, it will help the user out in case of any confusion, be it via image, text or even video.

- All the modules provided with the software must fit into the GUI and accomplish to the standard defined.
- The design should be simple and easy to use.
- The UI should be able to interact with the user management module.

4.2 Hardware Interfaces

OS	Windows 8 or higher
Architecture	x64, x86
Keyboard	Integrated Keyboard
Mouse	Integrated Mouse
Memory	512 MB
Graphics Processor	ATI FireGL T2-128
CPU	Itel Pentium 4 1.70 GHz
Hard Disk	200 MB

4.3 Communications Interfaces

A stable internet connection is required.