
SOFTWARE REQUIREMENTS SPECIFICATION

for

<chatroom robot assistant>

Version 1.0 approved

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<開放平台軟體 第15組>

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Contents

1	Introduction	5
1.1	Purpose	5
1.2	Document Conventions	5
1.3	Intended Audience and Reading Suggestions	5
1.4	Project Scope	5
1.5	References	5
2	Overall Description	7
2.1	Product Perspective	7
2.2	Product Functions	7
2.3	User Classes and Characteristics	7
2.4	Operating Environment	7
2.5	Design and Implementation Constraints	8
2.6	User Documentation	8
2.7	Assumptions and Dependencies	8
3	External Interface Requirements	9
3.1	User Interfaces	9
3.2	Hardware Interfaces	10
3.3	Software Interfaces	10
3.4	Communications Interfaces	11
4	System Features	12
4.1	System Feature 1	12
4.1.1	Description and Priority	12
4.1.2	Stimulus/Response Sequences	12
4.1.3	Functional Requirements	12
4.2	System Feature 2 (and so on)	12
5	Other Nonfunctional Requirements	13
5.1	Performance Requirements	13
5.2	Safety Requirements	13
5.3	Security Requirements	13
5.4	Software Quality Attributes	13
5.5	Business Rules	14
6	Other Requirements	15
6.1	Appendix A: Glossary	15

6.2	Appendix B: Analysis Models	15
6.3	Appendix C: To Be Determined List	15

Revision History

學號	Name	Date	Reason For Changes	Version
1031408	劉彥呈	5/19	顯示時間	1
1033336	尹法堯	5/19	Client進入訊息	2
1031408	劉彥呈	5/20	Client離開訊息	3
1033336	尹法堯	5/20	區分相同的name	4
1033336	尹法堯	6/14	完成資料庫所有功能和Server新增帳號	5
1031408	劉彥呈	6/14	完成資料庫與介面的互動	5
1031408	劉彥呈	6/17	顯示再現人數	7
1033336	尹法堯	6/18	Server刪除帳號	8
1031408	劉彥呈	6/19	Server踢除Client	9
1031452	何浩璘	6/19	Bot加入以及weather-api的使用	10
1031408	劉彥呈	6/19	更換介面的顏色	11
1031452	何浩璘	6/23	Bot增加匯率轉換-api和顯示日期區域時間	12

1 Introduction

1.1 Purpose

該文件提供cahtroom robot assistant Version12的相關說明，包含改產品的開發理念、最終成果，產品的提供對象及適用範圍，系統的程式碼架構，不同物件之間的上下關係，程式運行環境以及產品特色

1.2 Document Conventions

<Describe any standards or typographical conventions that were followed when writing this SRS, such as fonts or highlighting that have special significance. For example, state whether priorities for higher-level requirements are assumed to be inherited by detailed requirements, or whether every requirement statement is to have its own priority.>

1.3 Intended Audience and Reading Suggestions

本文件適合以下職位的人員觀看，部分內容須有程式邏輯相關知識:

- (1) 專案經理：專案經理可以根據該文檔瞭解預期產品的功能，以此進行系統設計。
- (2) 設計員：對需求進行分析，並設計出系統，包括資料庫的設計。
- (3) 程式師：瞭解系統功能，對後續更新版本或產品維護提供程式架構。
- (4) 測試員：根據本文檔對軟體產品進行功能性測試和非功能性測試。
- (5) 銷售人員：瞭解預期產品的功能和性能。
- (6) 用戶：瞭解預期產品的功能和性能，與分析人員對整個需求進行討論和協商。

1.4 Project Scope

該產品的開發理念為節省使用者在聊天室與夥伴聊天時，為查詢生活中的小資訊而必須頻繁切換應用程式的時間，希望使用者可以在與夥伴聊天時，在時間上有很好的使用者體驗，或者討論單日行的旅遊，或者與分隔兩地的朋友聊天時，可以方便的查詢當地天氣相關資訊以提供聊天話題。

1.5 References

1. <https://pypi.org/project/weather-api/>
2. <https://pypi.org/project/currency.converter/>

3. <http://pyqt.sourceforge.net/Docs/PyQt5/>

2 Overall Description

2.1 Product Perspective

<Describe the context and origin of the product being specified in this SRS. For example, state whether this product is a follow-on member of a product family, a replacement for certain existing systems, or a new, self-contained product. If the SRS defines a component of a larger system, relate the requirements of the larger system to the functionality of this software and identify interfaces between the two. A simple diagram that shows the major components of the overall system, subsystem interconnections, and external interfaces can be helpful.>

2.2 Product Functions

<Summarize the major functions the product must perform or must let the user perform. Details will be provided in Section 3, so only a high level summary (such as a bullet list) is needed here. Organize the functions to make them understandable to any reader of the SRS. A picture of the major groups of related requirements and how they relate, such as a top level data flow diagram or object class diagram, is often effective.>

2.3 User Classes and Characteristics

<Identify the various user classes that you anticipate will use this product. User classes may be differentiated based on frequency of use, subset of product functions used, technical expertise, security or privilege levels, educational level, or experience. Describe the pertinent characteristics of each user class. Certain requirements may pertain only to certain user classes. Distinguish the most important user classes for this product from those who are less important to satisfy.>

2.4 Operating Environment

1. OS: Window7 以上版本 (未在其他作業系統測試過)
2. 開發語言: python3
3. 使用python api: weather-api, currency_converter
4. 其他python開發套件: socket, threading, os, sys, time, PyQt5
5. 資料庫: mongoDB

2.5 Design and Implementation Constraints

<Describe any items or issues that will limit the options available to the developers. These might include: corporate or regulatory policies; hardware limitations (timing requirements, memory requirements); interfaces to other applications; specific technologies, tools, and databases to be used; parallel operations; language requirements; communications protocols; security considerations; design conventions or programming standards (for example, if the customer's organization will be responsible for maintaining the delivered software).>

2.6 User Documentation

<List the user documentation components (such as user manuals, on-line help, and tutorials) that will be delivered along with the software. Identify any known user documentation delivery formats or standards.>

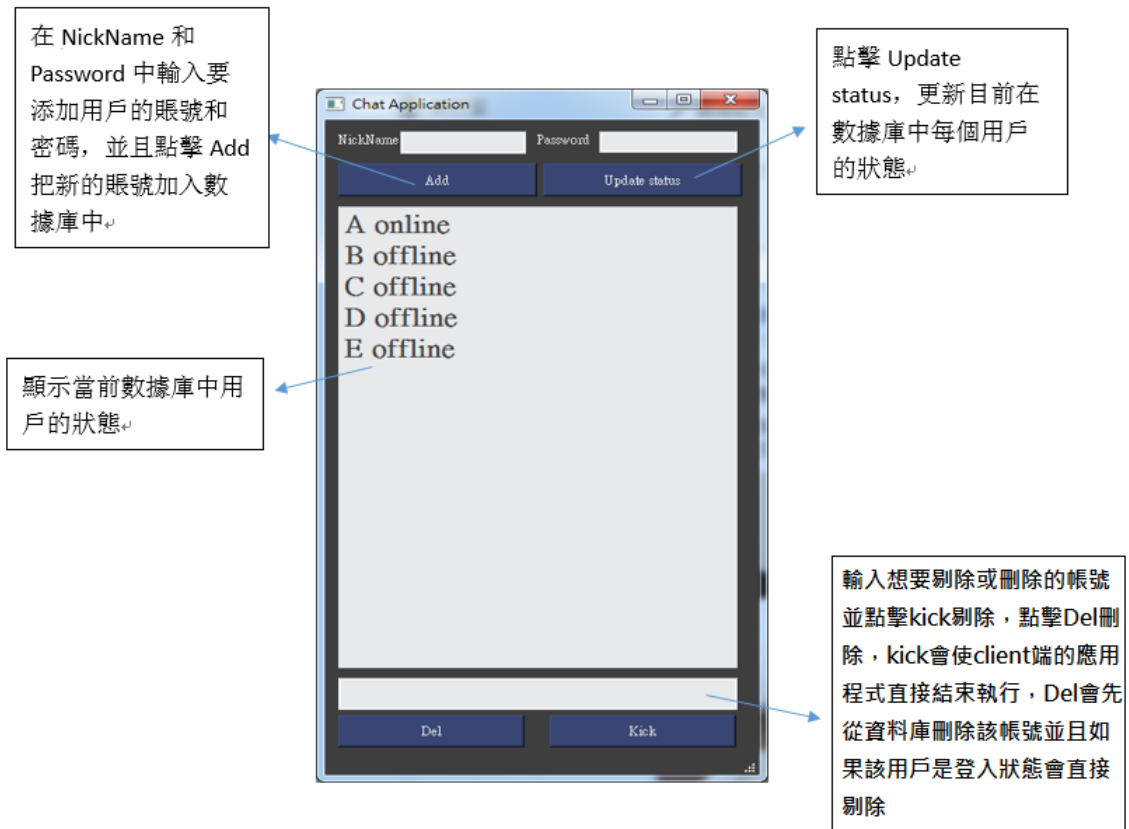
2.7 Assumptions and Dependencies

<List any assumed factors (as opposed to known facts) that could affect the requirements stated in the SRS. These could include third-party or commercial components that you plan to use, issues around the development or operating environment, or constraints. The project could be affected if these assumptions are incorrect, are not shared, or change. Also identify any dependencies the project has on external factors, such as software components that you intend to reuse from another project, unless they are already documented elsewhere (for example, in the vision and scope document or the project plan).>

Title												
	1	2	3	4	5	6	7	8	9	10	11	12
A												
a												
b												

3 External Interface Requirements

3.1 User Interfaces



+

Figure 3.1: sever interface

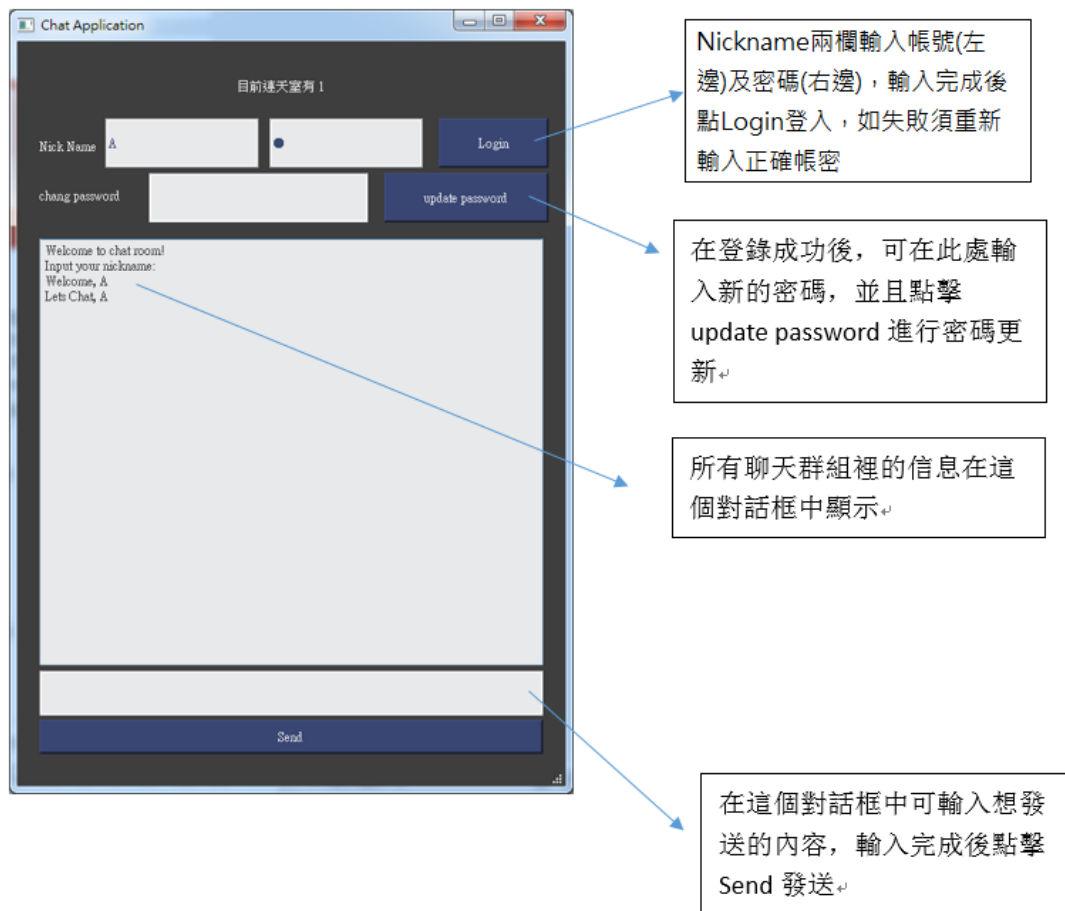


Figure 3.2: client interface

3.2 Hardware Interfaces

<Describe the logical and physical characteristics of each interface between the software product and the hardware components of the system. This may include the supported device types, the nature of the data and control interactions between the software and the hardware, and communication protocols to be used.>

3.3 Software Interfaces

一、資料庫

(1) mongoDB 3.6 : 用於管理帳號密碼以及狀態資訊

二、python 套件

- (1) socket：用於處理server與client之間的訊息傳遞
- (2) threading：用與處理接收訊息、傳遞訊息、GUI之間的線程管理
- (3) os：用於強制讓程式結束運作
- (4) time：用於顯示發送或接收訊息時，當下的時間資訊
- (5) PyQt5 5.10.1：用於呈現server與client的UI介面、按鈕事件控制
- (6) pymongo 3.6.4：python用於控制mongoDB的函示庫
- (7) weather-api 1.0.4：用於取得某地的天氣資訊，輸入為地區名稱，輸出為當地溫度、天氣狀況、濕度等資訊
- (8) CurrencyConverter 0.13.5：用於轉換兩個不同的貨幣，輸入為金額、原始貨幣、轉換後貨幣，輸出為轉換後貨幣的金額

3.4 Communications Interfaces

<Describe the requirements associated with any communications functions required by this product, including e-mail, web browser, network server communications protocols, electronic forms, and so on. Define any pertinent message formatting. Identify any communication standards that will be used, such as FTP or HTTP. Specify any communication security or encryption issues, data transfer rates, and synchronization mechanisms.>

4 System Features

<This template illustrates organizing the functional requirements for the product by system features, the major services provided by the product. You may prefer to organize this section by use case, mode of operation, user class, object class, functional hierarchy, or combinations of these, whatever makes the most logical sense for your product.>

4.1 System Feature 1

<Don't really say "System Feature 1." State the feature name in just a few words.>

4.1.1 Description and Priority

<Provide a short description of the feature and indicate whether it is of High, Medium, or Low priority. You could also include specific priority component ratings, such as benefit, penalty, cost, and risk (each rated on a relative scale from a low of 1 to a high of 9).>

4.1.2 Stimulus/Response Sequences

<List the sequences of user actions and system responses that stimulate the behavior defined for this feature. These will correspond to the dialog elements associated with use cases.>

4.1.3 Functional Requirements

<Itemize the detailed functional requirements associated with this feature. These are the software capabilities that must be present in order for the user to carry out the services provided by the feature, or to execute the use case. Include how the product should respond to anticipated error conditions or invalid inputs. Requirements should be concise, complete, unambiguous, verifiable, and necessary. Use "TBD" as a placeholder to indicate when necessary information is not yet available.>

<Each requirement should be uniquely identified with a sequence number or a meaningful tag of some kind.>

REQ-1: REQ-2:

4.2 System Feature 2 (and so on)

5 Other Nonfunctional Requirements

5.1 Performance Requirements

<If there are performance requirements for the product under various circumstances, state them here and explain their rationale, to help the developers understand the intent and make suitable design choices. Specify the timing relationships for real time systems. Make such requirements as specific as possible. You may need to state performance requirements for individual functional requirements or features.>

5.2 Safety Requirements

<Specify those requirements that are concerned with possible loss, damage, or harm that could result from the use of the product. Define any safeguards or actions that must be taken, as well as actions that must be prevented. Refer to any external policies or regulations that state safety issues that affect the product's design or use. Define any safety certifications that must be satisfied.>

5.3 Security Requirements

<Specify any requirements regarding security or privacy issues surrounding use of the product or protection of the data used or created by the product. Define any user identity authentication requirements. Refer to any external policies or regulations containing security issues that affect the product. Define any security or privacy certifications that must be satisfied.>

5.4 Software Quality Attributes

<Specify any additional quality characteristics for the product that will be important to either the customers or the developers. Some to consider are: adaptability, availability, correctness, flexibility, interoperability, maintainability, portability, reliability, reusability, robustness, testability, and usability. Write these to be specific, quantitative, and verifiable when possible. At the least, clarify the relative preferences for various attributes, such as ease of use over ease of learning.>

5.5 Business Rules

<List any operating principles about the product, such as which individuals or roles can perform which functions under specific circumstances. These are not functional requirements in themselves, but they may imply certain functional requirements to enforce the rules.>

6 Other Requirements

<Define any other requirements not covered elsewhere in the SRS. This might include database requirements, internationalization requirements, legal requirements, reuse objectives for the project, and so on. Add any new sections that are pertinent to the project.>

6.1 Appendix A: Glossary

<Define all the terms necessary to properly interpret the SRS, including acronyms and abbreviations. You may wish to build a separate glossary that spans multiple projects or the entire organization, and just include terms specific to a single project in each SRS.>

6.2 Appendix B: Analysis Models

<Optionally, include any pertinent analysis models, such as data flow diagrams, class diagrams, state-transition diagrams, or entity-relationship diagrams.>

6.3 Appendix C: To Be Determined List

<Collect a numbered list of the TBD (to be determined) references that remain in the SRS so they can be tracked to closure.>