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**AI-智慧餐點機器人 ---開放人生小組出品3.0**

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內容

版本歷史 3

1 引言 4

1.1 目的 4

1.2 文件約束 4

1.3 目標讀者和閱讀建議 4

1.4 項目範圍 4

1.5 參考 4

2 總體描述 6

2.1 產品透視 6

2.2 產品功能 6

2.3 用戶類別與特徵 6

2.4 Operating Environment 6

2.5 設計和實現約束 7

2.6 用戶文檔 7

2.7 假設和依賴 7

3 外部接口要求 8

3.1 用戶介面 8

3.2 硬件接口 8

3.3 軟件接口 8

3.4 通信接口 8

4 系統功能 9

4.1 智慧點餐服務 9

4.2 天候查詢服務 11

5 其他非功能性要求 13

5.1 性能要求 13

5.2 安全要求 13

5.3 軟件質量屬性 13

5.4 業務規則 15

6 其他要求 16

6.1 Appendix A: Glossary 16

6.2 Appendix B: Analysis Models 16

6.3 Appendix C: To Be Determined List 16

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# 版本歷史

|  |  |  |  |
| --- | --- | --- | --- |
| Name | Date | Reason For Changes | Version |
| 初始 | 6.10 | 16 | 1.0 |
| 進階 | 6.16 | 25 | 2.0 |
| 最終 | 6.21 | 32 | 3.0 |

# 引言

## 目的

*<*Identify the product whose software requirements are specified in this document, in- cluding the revision or release number. Describe the scope of the product that is cov- ered by this SRS, particularly if this SRS describes only part of the system or a single subsystem.*>*

*<*在快節奏的社會，點餐方式將不僅僅限於人工服務，智能機器人的存在將大大節省人力成本，同時帶來高效益的匯報.我們小組所開發的產品將以此為出發點，打造一款可以為用戶帶來點餐服務，同時可在地性的結合天氣情況，給用戶提供反饋與建議。*>*

## 文件約束

*<*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.*>*

## 目標讀者和閱讀建議

*<*Describe the different types of reader that the document is intended for, such as de- velopers, project managers, marketing staff, users, testers, and documentation writers. Describe what the rest of this SRS contains and how it is organized. Suggest a sequence for reading the document, beginning with the overview sections and proceeding through the sections that are most pertinent to each reader type.*>*

*<* 本份描述文檔不僅僅針對少部分的讀者，而是面向所有的讀者，包括開發人員、項目經理、測試人員以及文檔編寫人員。在程式軟體的開發過程中，我們的這份描述文檔將會採用最通俗易懂語言介紹，讀者只需要按序從頭開始閱讀，便可以對我們的產品有一個清晰的認識.*>*

## 項目範圍

*<*Provide a short description of the software being specified and its purpose, including relevant benefits, objectives, and goals. Relate the software to corporate goals or business strategies. If a separate vision and scope document is available, refer to it rather than duplicating its contents here.*>*

*<*我們小組所開發的這款軟體主要是應用於點餐服務，可以使業者大大減少成人力成本的投入，同時提高顧客點餐的效率，縮短顧客的等待時常，進一步優化企業的收益。在短期時間內獲得較好的反饋，長遠時間利於業者站穩時常，擁有核心競爭力。*>*

## 參考

*<*List any other documents or Web addresses to which this SRS refers. These may include user interface style guides, contracts, standards, system requirements specifica- tions, use case documents, or a vision and scope document. Provide enough information so that the reader could access a copy of each reference, including title, author, version number, date, and source or location.*>*

*<*王選仲，玩轉資料與機器學習-以自然語言處理為例系列

---https://ithelp.ithome.com.tw/users/20107576/ironman/1450?page=1

Wolke，Microsoft Bot Framework 30天上手+自幹Line Builder串接+Line Bot Demo

---https://ithelp.ithome.com.tw/users/20046160/ironman/1510?page=1

Duran Hsieh，利用 Ms Bot framework與Cognitive Service建構自用智慧小秘書

---https://ithelp.ithome.com.tw/users/20091494/ironman/1411?page=1

maduka，建立Microsoft LUIS的App服務，進行語意是別的訓練並整合Bot framework

---https://dotblogs.com.tw/maduka/2016/06/24/113852*>*

# 總體描述

## 產品透視

*<*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 compo- nent 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.*>*

*<*我們小組團隊所開發的產品是我們依據網路上前輩的經驗所改造而成，是我們的初代產品，主要是使用了Microsoft公司旗下提供的框架與接口。*>*

## 產品功能

*<*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.我們的AI-智慧餐點機器人主要的功能是識別用戶所打出的需求，我們將會通過對話框的形式展現，主要是應用了前輩所提供的與line之間的交互介面，目前已經實現的功能有點餐功能、查詢天氣以及相關的天候訊、同時我們還新增了送禮功能。*>*

## 用戶類別與特徵

*<*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, tech- nical 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.我們的產品所面向的用戶類別涵蓋全體民眾。吃飯是我們必不可少的一項日常任務，因此只要你是人，你就必定可以接觸我們的產品，在我們後期對系統的升級，日常的點餐服務都將可以通過手機完成。您可以直接在家通過line進行點餐，每一位食客都是我們的用戶。*>*

## Operating Environment

*<*Describe the environment in which the software will operate, including the hardware platform, operating system and versions, and any other software components or appli- cations with which it must peacefully coexist. 我們軟件所運行的環境只需要有網絡，您可以通過聊天程式軟體，例如line即可完成。我們的服務依託聊天軟體，無再安裝其他系統以及其他軟件組織或應用程式*>*

## 設計和實現約束

*<*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 tech- nologies, 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).在我們產品的設計過程中，我們主要受限於具體的技術層面並不是特別的精通，同時在機器人機器學習的過程中也是有較大的問題，需要大數量的對機器人進行訓練，這是我們所受到的一個巨大約束，當然後台數據庫的連結我們也有一定的問題，我們團隊在盡力解決中。*>*

## 用戶文檔

*<*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 docu- mentation delivery formats or standards.我們的軟體無須其他的用戶文檔文件，只需要基本的軟體意識，會進行聊天就可以輕鬆操作。因為我們的軟體依附與其他程式平台。*>*

## 假設和依賴

*<*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).我們的軟體會依賴與其他現有的程式軟體，例如line及facebook，這是我們軟體成功使用的必要因素。我們項目無其他重用的軟體組織，無遠景和範圍文檔。*>*

# 外部接口要求

## 用戶介面

*<*Describe the logical characteristics of each interface between the software product and the users. This may include sample screen images, any GUI standards or product family style guides that are to be followed, screen layout constraints, standard buttons and functions (e.g., help) that will appear on every screen, keyboard shortcuts, error message display standards, and so on. Define the software components for which a user interface is needed. Details of the user interface design should be documented in a separate user interface specification.這裏可能需要一張圖，我們有用戶介面嗎？*>*

## 硬件接口

*<*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.我們的軟體支持所有的手機，數據的操作與處理都將在我們的後台服務器中進行，軟件和硬件之間的控制交互不受外界影響，要使用的通信協議依賴於line和facebook的相關協議。*>*

## 軟件接口

*<*Describe the connections between this product and other specific software components (name and version), including databases, operating systems, tools, libraries, and inte- grated commercial components. Identify the data items or messages coming into the system and going out and describe the purpose of each. Describe the services needed and the nature of communications. Refer to documents that describe detailed applica- tion programming interface protocols. Identify data that will be shared across software components. If the data sharing mechanism must be implemented in a specific way (for example, use of a global data area in a multitasking operating system), specify this as an implementation constraint.無從下手*>*

## 通信接口

*<*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 com- munication standards that will be used, such as FTP or HTTP. Specify any communica- tion security or encryption issues, data transfer rates, and synchronization mechanisms.Line以及Facebook聊天軟體，通信標準依據HTTP協議*>*

# 系統功能

*<*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.我們產品所提供的主要服務包括“智慧點餐服務”以及“天氣查詢服務”，其他服務正在加緊開發當中。*>*

## 智慧點餐服務

*<*Don’t really say “System Feature 1.” State the feature name in just a few words.*>*

### 描述和優先級

*<*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).該功能是我們產品的最核心功能，優先級最高。主要提供的服務類型是點餐，可以在對話聊天框中直接進行，描述您所需要的服務，系統會自動回應您。*>*

### 刺激和反應序列

*<*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.我們產品的核心元素是對話中的關鍵字，通過我們不間斷對後台機器人的訓練，可以做到基本識別用戶發出的訂餐需求，並且回應相關的需求。*>*

### 功能要求

*<*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 mean-

ingful tag of some kind.*>* REQ-1: REQ-2:

### 4.1.4 功能實用截圖

## Macintosh HD:Users:huangjinli:Downloads:11.jpg

## Macintosh HD:Users:huangjinli:Downloads:12.jpg

## Macintosh HD:Users:huangjinli:Downloads:13.jpg

## 天候查詢服務

### 4.2.1描述和優先級

*<*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).該功能是我們產品的另一核心功能，優先級最高。主要提供的服務類型是天氣查詢，可以在對話聊天框中直接進行，描述您所需要的天氣服務，系統會自動回應您。*>*

### 4.2.2刺激和反應序列

*<*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.我們產品的核心元素是對話中的關鍵字，通過我們不間斷對後台機器人的訓練，可以做到基本識別用戶發出的查詢需求，並且回應相關的需求。*>*

### 4.2.3功能要求

*<*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 mean-

ingful tag of some kind.*>* REQ-1: REQ-2:

### 4.2.4 功能實用截圖



## 送禮功能

### 4.3.1描述和優先級

*<*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).該功能是我們產品的附加功能，優先級最低。主要是為了增加軟體的趣味性，我們可以提供給客戶送禮功能，接收方可以收到匿名用戶送來的禮物，當然禮物也必須是我們的產品之一。當用戶發送送禮請求後，機器人會收到相關指令，將禮物送給指定人，並可以以匿名的方式。*>*

### 4.3.2刺激和反應序列

*<*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.我們產品的核心元素是對話中的關鍵字，通過我們不間斷對後台機器人的訓練，可以做到基本識別用戶發出的送禮需求，並且回應相關的需求。*>*

### 4.3.3功能要求

*<*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 mean-

ingful tag of some kind.*>* REQ-1: REQ-2:

### 4.3.4 功能實用截圖





# 其他非功能性要求

## 性能要求

*<*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.無附加的性能要求*>*

## 安全要求

*<*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.在使用我們產品的過程中，因有涉及到付款，而機器學習難免會有失誤的可能性存在，我們開發團隊已盡量避免這種情況的存在，因此後期涉及到付金融問題，我們將遵守相關法律法規，並回引入信用服務機制，將風險和損失降到最低。*>*

## 軟件質量屬性

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

適應性：軟體依附其他在市場上成熟的聊天軟體，適應性很強

可用性：經過我們多次測試，軟體已具有很完整的可用性

正確性：在軟體的使用過程中，我們已通過保護機制，確保軟體有序運行

靈活性：我們所開發的軟體，因依附與其他平台，靈活性極強，不會隨意dong機

可維護性：軟體核心由後台完成，可維護性很強

可移植性：當市面上成熟的聊天軟體開放相關接口，我們的產品都可覆蓋移植。

可重用性和穩健性是顯而易見的，可測試以及可用性也經過我們的反覆模擬，無bug。*>*

## 業務規則

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

（1）需要點餐的人可以按需求使用我們的產品

（2）需要知道天氣情況的人可以使用我們產品進行查詢

（3）當不知道做什麼時，可以使用我們的軟體與機器人交流*>*

# 其他要求

*<*Define any other requirements not covered elsewhere in the SRS. This might include database requirements, internationalization requirements, legal requirements, reuse ob- jectives for the project, and so on. Add any new sections that are pertinent to the project.無必要及可提及的相關要求*>*

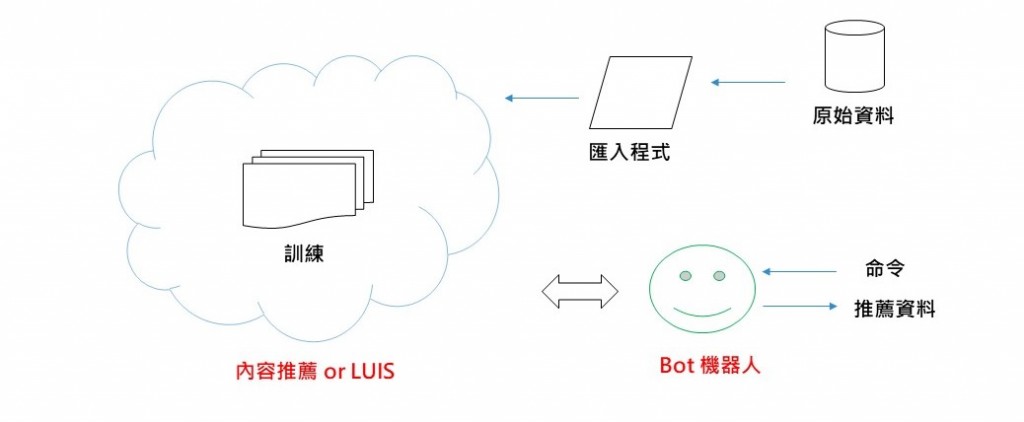
## Appendix A: Glossary

*<*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.*>*

## Appendix B: Analysis Models

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

資料分析的處理模型、Microsoft Bot Framework、Line Builder、Line Bot Demo*>*

**

## 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.*>*