



COMP704 Research and Development Project

**VN01** 3D acupuncture healthcare data management and treatment system

# Project Scope Statement

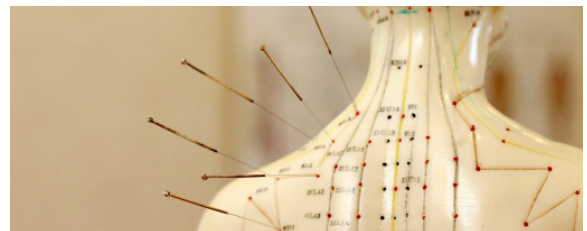
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## DOCUMENT VERSION CONTROL

### 1. DOCUMENT INFORMATION

Document code     **ScS**  
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### 2. DOCUMENT SIGN-OFF

ID	Member	Role	Signature	Timestamp
21142355	Tan Le Tran Ba	Project Manager		20 Oct 2022 11:05

### 3. DOCUMENT VERSIONS

Version	Timestamp	Description	Responsible members
<b>1.0</b>	19 Oct 2022 21:38	First version of the Scope Statement document for the project, defining the basic required sections.	<b>Nhan Nguyen Cao</b> (21142377)
<b>2.0</b>	20 Apr 2023 22:40	Second version of the Scope Statement, update for the new Scope of the project, following the updates from the change in approach and client withdrawal of the project.	<b>Nhan Nguyen Cao</b> (21142377)

## I. PROJECT SCOPE DESCRIPTION

Based on the requirements of Research & Development project, the project would cover both Research & Upskilling and Development criteria. In general:

- The Research & Upskilling of the project would cover the efforts required for researching in-depth about Acupuncture, to acquire the basic understanding about Acupuncture, collect enough data to be used in the final system, and upskill the required skills for applying the technologies in the technology stack to build up the features of the product.
- The Development phase would cover the design of the final system and develop all the features of the system. Besides, the process of assurance for quality of the final system is also included in the Development phase of the project.

The following items are some of the key points that have been decided to be In Scope of the project:

- A research about the experiments of applying advanced technologies into the field of acupuncture treatment.
- Collection of domain knowledge data about Acupuncture points and Meridians, in both Vietnamese and English, from medically trusted books and presentation slides, provided and suggested by the acupuncturists.
- A 3-D interactive human body with 362 acupuncture points and 14 meridians (12 main meridians and 2 extraordinary meridians).
- An Acupuncture Domain knowledge Search system, allowing searching about basic information of 362 acupuncture points and 14 meridians.
- Quiz and Personal Learning Progress feature to support Medical University Students (main users of the project) with their learning progress about Acupuncture using the system.

## II. PROJECT ACCEPTANCE CRITERIA

The Project would only be accepted and approved by the Client and the Development team if and only if the following basic Acceptance Criteria are met:

- The most basic features of the project, including at least an interactive 3D human body model with acupuncture points and meridians marked at appreciated locations, must be finished and delivered to production that is accessible for the Client.
- The information involved within the project must be medically trusted, and should reference trustful medical resources suggested by the Acupuncturists.
- Basic documents required for the deployment of the project should be included in the final hand-over and submission of the Project.
- The project must be aligned with the schedule defined for Research & Development project, ensuring that the final delivery is ready by June 2023.

For the requirements defined for the project, some of the Acceptance Criteria include:

Feature	Acceptance Criteria
<b>3D Human Body model</b>	The model should be displayed into the view space at the middle, with camera able allow basic panning around the model but not too far to one side.
<b>3D Human Body model interactions</b>	The model should be equipped with basic hovering and clicking effects to interact with the meridians or acupuncture points. Effects like mesh color changing, resizing, border color changing should be added to improve user experience.
<b>System Language Support</b>	The site should support two languages for all the flows, components, layouts and data: Vietnamese and English.
<b>Meridian Quick Selection Bar</b>	The bar should be equipped with option for 14 meridians (12 main meridians and 2 extraordinary meridians). On selected, the model should be focused to the selected meridian, with only the acupuncture points included in the bar selected.
<b>Acupuncture Points Combinations Recommendation System</b>	The system should be able to visualize the acupuncture points included in the combinations to cure common diseases. It should be required that the combinations selected must be collected trustfully from journal papers and scientific articles.
<b>Model Manual Control Panel</b>	The control panel should provide buttons for interacting with panning and zooming controls, the interactions that encountered basic conflicts between devices using different operating systems. Rotating interactions can be skipped from the panel.
<b>Domain Knowledge Advanced Search</b>	The feature should allow basic search by query like Quick search feature. Besides, there should be advanced filtering and sorting options, including: Filter the search query by one field or all fields, Filter only the results of one meridian or all meridians, Sorting the results in alphabetical order.

<b>Quiz feature</b>	The feature should provide basic question and answering, in multiple choice options. Timer and some basic sound effects are required to be added to the feature.
<b>Personal Learning Progress dashboard feature</b>	The dashboard should summarize basic information about the whole learning progress (accumulated results) or by each quiz attempted by the users. It would be good if the statistics can be displayed in form of charts and graphs.
<b>Data Management feature</b>	The accounts with admin rights (authorized for development team and the specialist consultants) can update information within the system. It should be noticed that only Updation is allowed, as the list of acupuncture points and meridians is static and no Insertion or Deletion is allowed in the system.
<b>Authentication feature</b>	Users can register for a valid account within the system using either their email or Google account. For account registered using email, it should be validated through a validation email.
<b>Profile feature</b>	Users would have a profile linked with each valid account within the system. Not much information is required to be linked with each account, except for the name and the profile image.

### III. PROJECT DELIVERABLES

The planned deliverables of the Project during the implementation include the following main items:

Table 1 - Project Planned Deliverables

Deliverable	Type	Description	Quality Criteria
<b>Project Proposal</b>	<b>Document</b>	A document defining the goals, and objectives for the project and justifying the approach used to deliver the project outcomes.	The document provides enough details and propose enough trustfulness for the project to be approved by the coordinators.
<b>Requirements Specification</b>	<b>Document</b>	A document with details about the requirements for the project at different abstract levels, and different types of requirements.	The requirements should be planned in detailed, and feasibility should be carefully considered, making sure they are completable within the scope and duration of the project.
<b>Prototype</b>	<b>Design</b>	Design of the basic layouts and pages within the final system.	Design should be verified from the Client and should be upgraded based on feedback from the Supervisor.
<b>Project Plan</b>	<b>Document</b>	A document about the detailed plan of the project, including the timeline of the project and planned technology stack of the project.	Plan should be clear, and should match with the conditions of the project. Plan should take into account the possible risks of the project.
<b>Data for the Final system</b>	<b>Resource</b>	Database of acupuncture points' information, acupuncture treatments for common diseases, which are gathered using different data collection techniques and from research results.	Should include data about all acupuncture points and meridians. For evaluation purpose, it is suggested that data should be collected in both Vietnamese and English.
<b>3D Human Body model for the Final system</b>	<b>Resource</b>	3D model of human body that would be integrated into the final system for production.	The model should be realistic and has a good body ratio, shape to show all the acupuncture points and meridian flows. Texture of human skin color is a must-have for the 3D model

<b>Final System – Version 1.0</b>	<b>Product</b>	First version of the Website, also built to be sent to the target users as the Interactive Prototype for Collecting Feedback	The layouts for basic screens of the project must be completed. The 3D model is not required to be implemented at this version.
<b>Final System – Version 2.0</b>	<b>Product</b>	The second version of the website with the 3D model, acupuncture points and meridians and basic interactions added.	At least the model is available for the website, with some basic interactions available. The model should also be marked with the basic acupuncture points and meridians.
<b>Final System – Version 3.0</b>	<b>Product</b>	The final version of the website with API integrated and UX flows improved.	All proposed features, dynamic flows should be included in the final system, and tested in development environment and through manual testing. The website at this version is ready for production.
<b>Testing Document</b>	<b>Document</b>	A document including the procedures, agreement levels, detailed descriptions of test plans, and test cases for the final product.	The document should describe in detailed about the plan for testing, results of testing (different methods) and the detailed defined process for Bug Tracking.
<b>Project Infographic</b>	<b>Resource</b>	Final poster for the project, that would be used as the Infographic Poster about the project during the Final Defense presentation	Poster must cover the basic information: Project Description, Architecture Design, Features List, Stakeholders, Timeline and can state some basic information about Pains and Gains, etc.



## IV. PROJECT EXCLUSIONS

The following are some of the points that have been agreed to not be included of the project, or Out of Scope of the project:

- Advanced 3-D animation for the display of acupuncture points and meridians.
- Anatomy mode for the 3-D model, of internal organs and internal anatomy structure (Excluded later during the project due to lack of budget).
- Inclusion of deep medical knowledge of the internal organs and blood vessels, as well as explain or provide information about how they can be beneficial from acupuncture treatment from an advanced point of view.

## V. PROJECT CONSTRAINTS

Some basic constraints for this Research & Development project include:

- **Fixed duration of the Project:** The project must followed the timeline defined by paper of COMP704 – Research & Development Project. Because of that, the plan and scope of the project should be planned in association with this, make sure that there would be no conflicts.
- **No fundings for the Project:** All required assets, services and platforms for the implementation throughout the Project cycle should be based on free plan or tier provided for students. The project should be constrained to the budget of 0\$.
- **Client satisfaction:** Features should be developed with frequent updates to Client, to make sure that the satisfaction level of Client during the implementation of the project is maintained.

## VI. PROJECT ASSUMPTIONS

At the end of the project, some of the assumptions for the enclosure of the project include:

- Running website with basic features available, and quality assured, is submitted to the Client.
- Project code base with basic documentation for setting up environment, understanding the flow and being able to catch up for enhancement or addition of new task should be considered.
- Portfolio with all basic documentations for different phases and different management flows of the project should be submitted.
- Project Defense presentation should be delivered to the Project Coordinators, with the expectation that all team members would have clear understanding about the project and can answer any question from the council.

## VII. PROJECT MILESTONES

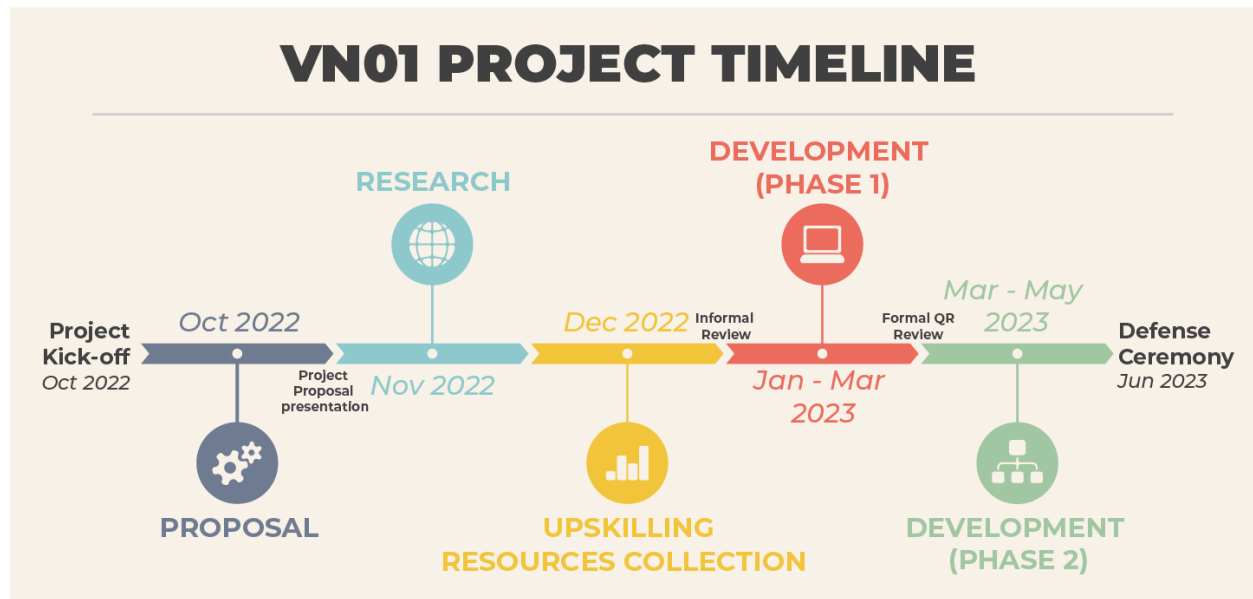


Figure 1 - Project timeline

The project is aimed to last for about 8 months, covering all of the phases of the project. The project team decided to apply the Scrum project development and management framework during the implementation of the project. The main milestones defined for the project, covering the different phases, are as follows:

Table 2 - Project's key phases and milestones

Phase	Description	Milestone	Planned Schedule
<b>Proposal</b>	Deliver the Project Proposal document for the project, and evaluate the feasibility of the project	Project Proposal Presentation (early November 2022)	October 2022
<b>Research</b>	Agreement on the Idea and scope of applying the research results to the final product	Report on the research result (at the end of November 2022)	November 2022
<b>Upskilling &amp; Resources Collection</b>	Related data would be collected to be used later for the final system. Acquire the required skills for implementation of the project: data mining skills and techniques, 3-D development skills, etc.	Report on skill improvement and data selected (at the end of December 2022) Informal Review (January 2023)	December 2022
<b>Development (phase 1)</b>	Build the first version of the system with basic	Formal QR Review (mid-March 2023)	January – early March 2023

	interactive features and the rendering of the 3-D model.		
<b>Development (phase 2)</b>	Develop the final project with all defined requirements.	Defense Ceremony <i>(at the beginning of June 2023)</i>	late March – June 2023