



COMP704 Research and Development Project

VN01 3D acupuncture healthcare data management and treatment system

Project Scope Statement

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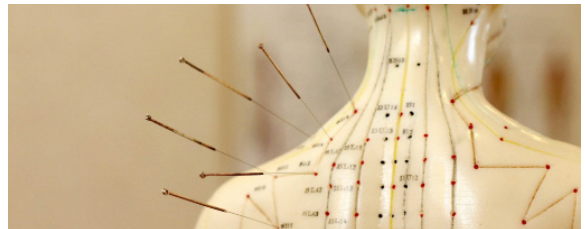


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DOCUMENT VERSION CONTROL

1. DOCUMENT INFORMATION

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3. DOCUMENT VERSIONS

Version	Timestamp	Description	Responsible members
1.0	19 Oct 2022 21:38	First version of the Scope Statement document for the project, defining the basic required sections.	Nhan Nguyen Cao (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 data from experiments, and article papers, to be stored as a database for the system to promote commonly used acupuncture points combinations for curing specific diseases.
- A 3-D model website for interacting and understanding acupuncture treatments.
- A 3-D model website for experimenting, and justification of different treatments using acupuncture for specific diseases.
- A data-based information base for recommendations about acupuncture points combinations to be used for diseases.

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
3D Human Body model	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.
3D Human Body model interactions	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.
Domain Knowledge Quick Search Bar	The feature should allow searching by query, and filtering the results on item names or item codes. The search results should be filtered by meridians and acupuncture points blocks.
System Language Support	The site should support two languages for all the flows, components, layouts and data: Vietnamese and English.
Meridian Quick Selection Bar	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.
Acupuncture Points Combinations Recommendation System	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.
Model Manual Control Panel	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.

Domain Knowledge Advanced Search	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.
Quiz feature	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.
Personal Learning Progress dashboard feature	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.

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
Project Proposal	Document	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.
Requirements Specification	Document	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.
Prototype	Design	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.
Project Plan	Document	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.
Data for the Final system	Resource	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.
3D Human Body model for the Final system	Resource	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

Final System – Version 1	Product	A website with an interactive cut-off 3-D model of the human body, with acupuncture points marked and allowing basic interactive features.	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.
Final System – Version 2	Product	The final version of the product, with all the defined features.	All proposed features 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.
Testing Document	Document	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.
Project Infographic	Resource	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 visualizing acupuncture treatments.
- Recommending or providing information about diseases that are not available in the database, management system, or those not commonly cured by acupuncture.
- 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

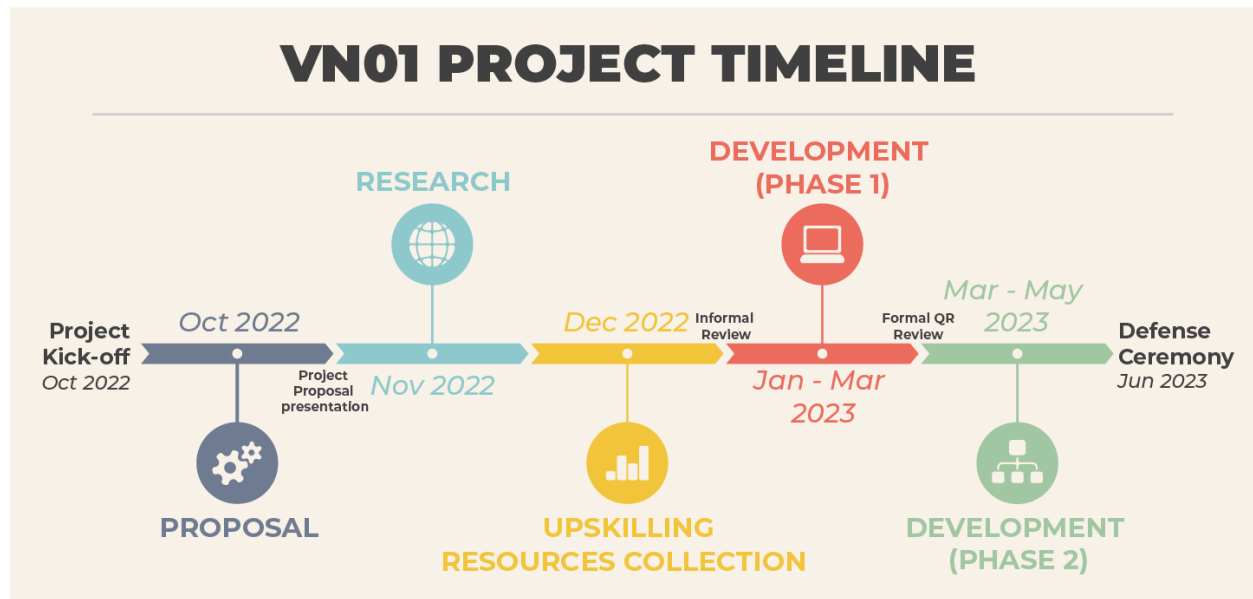


Figure 1 - Project timeline

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
Proposal	Deliver the Project Proposal document for the project, and evaluate the feasibility of the project	Project Proposal Presentation (early November 2022)	October 2022
Research	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
Upskilling & Resources Collection	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
Development (phase 1)	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.		
Development (phase 2)	Develop the final project with all defined requirements.	Defense Ceremony <i>(at the beginning of June 2023)</i>	late March – June 2023