

# DESCRIPTION OF PRODUCT REQUIREMENTS

Group: C2SE.01

Project: CVPMS

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## I. Short description of product ideas (less than 7 statements)

With the aim to help everyone monitor and resolve the pollution problems from their craft village area more effectively. Some aspects that will make our system that the people will find much more effective:

- ❖ Our system will help everyone to monitor their local craft village despite where the location. This means whether the user stay in a big city or a small village at the top of the mountain our system will still function.
- ❖ Our system will provide a function that lets people make an instant survey to the system.
- ❖ Our system will detect all kinds of pollution instead of focusing on some specific kinds. This will help to collect a variety of data that could help people to a bigger picture about their pollution levels in the area.
- ❖ Our system will have an AI that will take images from people then analyse the image to know what kind of pollution the user is facing and the result will be automatically filled into the form which will be sent directly to the local environment department to resolve the problem. This is so easy to use that even an elementary school child can do and it also reduces a massive amount of the cumbersome and bureaucratic process that people have to go through.
- ❖ Our system is also integrated with location-based technology to detect the location of the pollution and layout the data on the map for the user to monitor.

## II. Requirements

High-level Functional Requirements	1. Detect pollution types using input photo (AI detection)
	2. Auto detect user location
	3. Auto fill the form with detected information
	4. Map pollution craft villages to the map
	5. Add new unknown craft village
Quality Attributes Requirements (Example related to issues: Ease Use, Easy to Like, Easy to Learn, Easy to Understand, Easy to Buy / Yes, ...)	1. Tasks handle no more than 10 seconds.
	2. Account can be protected with authentication and encryption with high security
	3. User can use easily app without taking much time
	4. The processing features are logical and easy to understand
	5. Extending a new feature is easy and doesn't redesign the architecture
Operation Requirements (Related to issues: Speed, Accuracy, Performance, Stability, Load Resistance, Scalability, Safety, ...)	1. Process quick tasks for no more than 10 seconds per task
	2. Handling traffic to applications that are more than 500 concurrently accessed.
	3. Ensure the number of transactions is processed correctly at the rate of 99.9%
	4. Completely load the application in no more than 10 seconds
Environment & Operation Requirements (Related to issues: physical impacts on the environment, interact with relevant or existing systems, conditions for product commercialization, ...)	1. Web browsers: IE, Fire Fox, Google Chrome with latest version.
	2. Mobile: Android 10 and more, IOS 13 and more
	3. Operating systems: Microsoft Windows 10, Ubuntu 18.04 with SSD 120GB, RAM 2G, minimum 50Mbps
	4. External Services: Google Cloud, Map API

Requirements for Maintenance & Support	1. Direct customer support consulting via email or phone number of our organization.

Security/ Safety Requirements (Related to issues: conditions of use / access to products, personal freedom, inspection, ...)	1. Must login to use registered account
	2. 3-layer password encryption
	3. Clear authorization for each type of user and restrict access.

Culture Requirements	1. Vietnamese and English language support
	2. Culture according to international standards
	3. Does not contain harmful content, content level, toxic cultural content is specified in the law of Vietnam and international.

Evaluate the complexity of engineering problems		1. Involving wide-ranging or conflicting technical issues
		2. Having no obvious solution
		3. Addressing problems not encompassed by current standards and codes
	X	4. Involving diverse groups of stakeholders
	X	5. Including many component parts or sub-problems
		6. Involving multiple disciplines
		7. Having significant consequences in a range of contexts

Standard requirements	X	1. Code standard. (GNU, Oracle standard for Java, ...)
	X	2. Design standard. (Design patterns, object-oriented analysis and design, ...)
	X	3. IEEE (1058, 1540, 830, 1016, 829, 1012, 1008)
	X	4. ISO/IEC/IEEE 12207:2017 (TCVN 10539:2014); ISO/IEC 25051:2006(TCVN 10540:2014);
		5. Other standards. (Related to specific topics)