



# KML Guard

**GIS File Management Web Application**

**Requirement Specification <1.0>**

Chelsea Marfil
Anton Carrillo
Christopher Greer
Marc Marcelino
Duong Pham
Stakeholder: Christopher Priebe

# Table of Contents

# Executive Summary

## System Context

KML Guard is a GIS file management web application that will support a cross-domain file sharing requirement.

## System Motivation - Problem to Solve

G2 Software Systems contracts with numerous DoD agencies including NORAD/US Northern Command. At NORAD, G2SS supports mission partners such as the National Guard unit, FEMA, state or local governments, etc., sharing GIS files, usually as KML, which provide amplifying information for the US DoD to provide support to those civilian authorities. In order to provide that support, the US DoD needs to engage their resources at the classified level, and so data provided by a state or county, for instance showing flood plain mapping data, needs to be transferred from an unclassified network to a classified one so that the DoD can engage some of their own mission systems to provide machinery, manpower, or other resources in support of civil authority.

## Solutions Provided in this Document

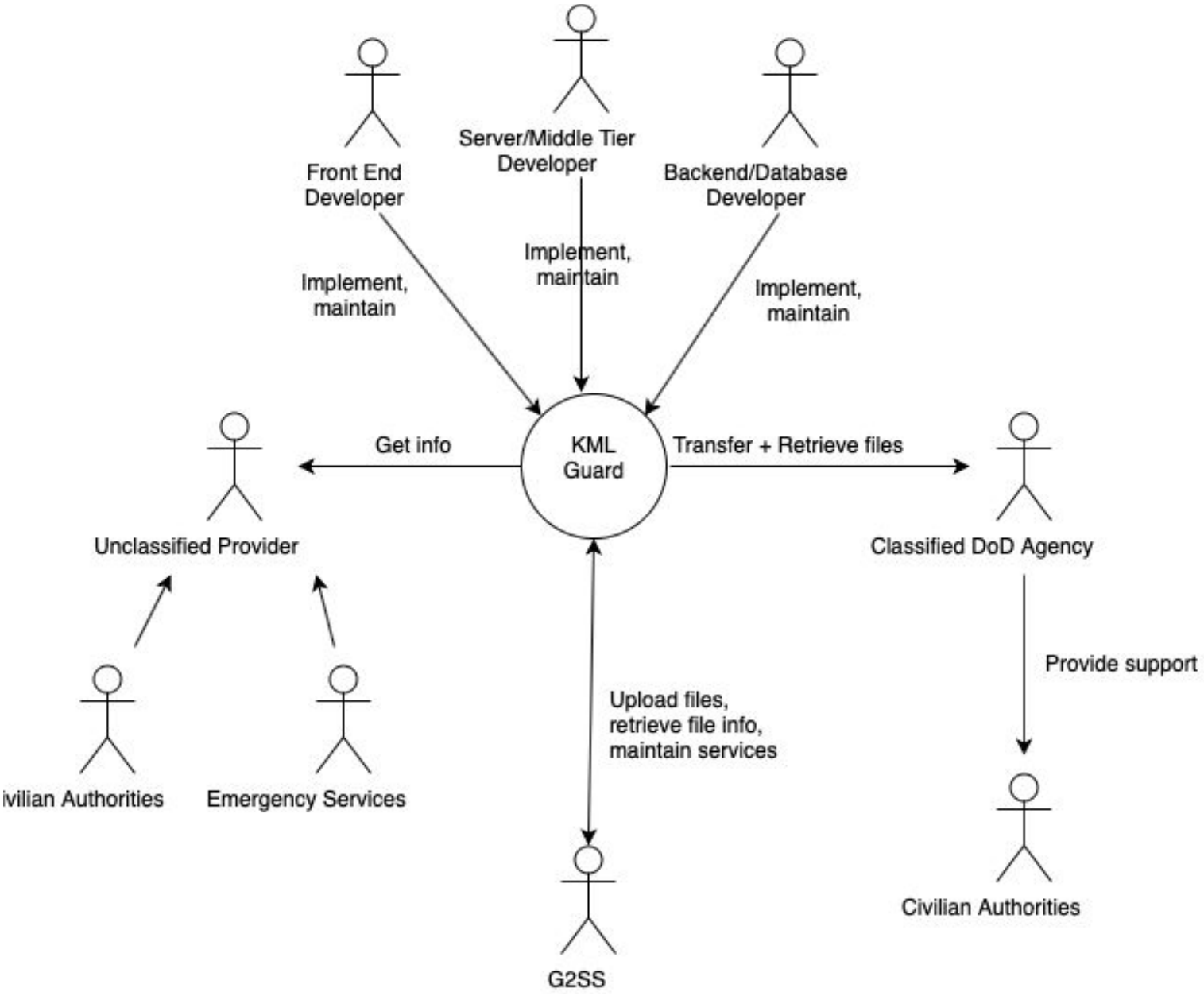
We begin with an introduction giving context and an overview of the motivation for this software and how this software will solve the problem at hand. We will then provide a system vision which illustrates the vision of the system and its core purpose and context. Then we will provide a stakeholder model which gives an easy overview of the stakeholders involved in the project along with additional details about them such as their roles, expertise, responsibilities and functions, main goals and concerns, and their contact information. **TODO: Add goal model, use cases**

## Impact - What This Helps, Why This Matters

The ultimate goal of this system is to support the movement of a file from an unclassified network to a classified one in order to provide the US DoD with crucial information needed to provide support to civilian authorities.

# Stakeholder Model

## 1. Stakeholder Diagram



# 2. Stakeholder Matrix

| Stakeholder Name | Stakeholder's Goals/Motivations | What is expected of them | Stakeholder's Skills | Priority |
|---|---|---|---|---|
| G2SS (Client) | 1. To have a file management web system implemented by the team.<br><br>2. To have this web system support a cross-domain file sharing requirement.<br><br>3. To excel at delivering superior software development solutions.<br><br>4. Ability to upload files and retrieve file information from the system. | 1. Provide the team with system requirements/features and overall system vision.<br><br>2. Make decisions on feature prioritization.<br><br>3. Act as a consultant, advisor, and mentor for the team. | Provides configuration management services and production test suites for all types of commercial, DoD, and other government projects. | High |
| Web frontend/UX/UI developer(s) | 1. Personal skill development.<br><br>2. Contribute to implementing a sophisticated system.<br><br>3. Relationships | 1. Participate in team meetings.<br><br>2. Take notes and communicate information with the team. | CSS, HTML5, JavaScript, JavaScript libraries, Angular, Trello, Draw.io or other diagramming tool, G (Google) Suite | High |

| | | | | |
|---|---|---|---|---|
| | and networking. | 3. Provide support.<br><br>4. Participate in documentation.<br><br>5. Complete assigned tasks by assigned deadlines.<br><br>5. <System Goal> [technical] Implement a simple, easy to use WebUI and WebUX while conforming to the overall vision of the system.<br><br>6. <System Goal> [technical] Provide interface to upload KML file.<br><br>7. <System Goal> [technical] Provide interface to collect and store required metadata about file (who, what/why, when, etc.). | | |

| | | | | |
|---|---|---|---|---|
| | | 8. <System Goal> [technical] Provide interface to allow user to see status of previously uploaded files. Interface includes table view showing files and status, with 'Delete button'.<br><br>5. <System Goal> [technical] Provide username/password login form. | | |
| Server/Middle Tier Developer(s) | 1. Personal skill development.<br><br>2. Contribute to implementing a sophisticated system.<br><br>3. Relationships and networking. | 1. Participate in team meetings.<br><br>2. Take notes and communicate information with the team.<br><br>3. Provide support.<br><br>4. Participate in documentation.<br><br>5. Implement the business logic of the system. | Node.JS, JavaScript, Trello, Draw.io or other diagramming tool, G (Google) Suite | High |

| | | | | |
|---|---|---|---|---|
| | | 6. <System Goal> [technical] "Validate" uploaded files, recording validation status for each one. (KML validation (XML schema validation) - incorporate a validating XML parser.)<br><br>7. <System Goal> [technical] Expose clean REST web APIs for basic fetching by 3rd party application. REST API to query for list of available KML files (and their statuses), REST API to pull full KML file, and REST API to delete KML file (retain stored metadata, adding new metadata about date/time/user for file deletion operation) - | | |

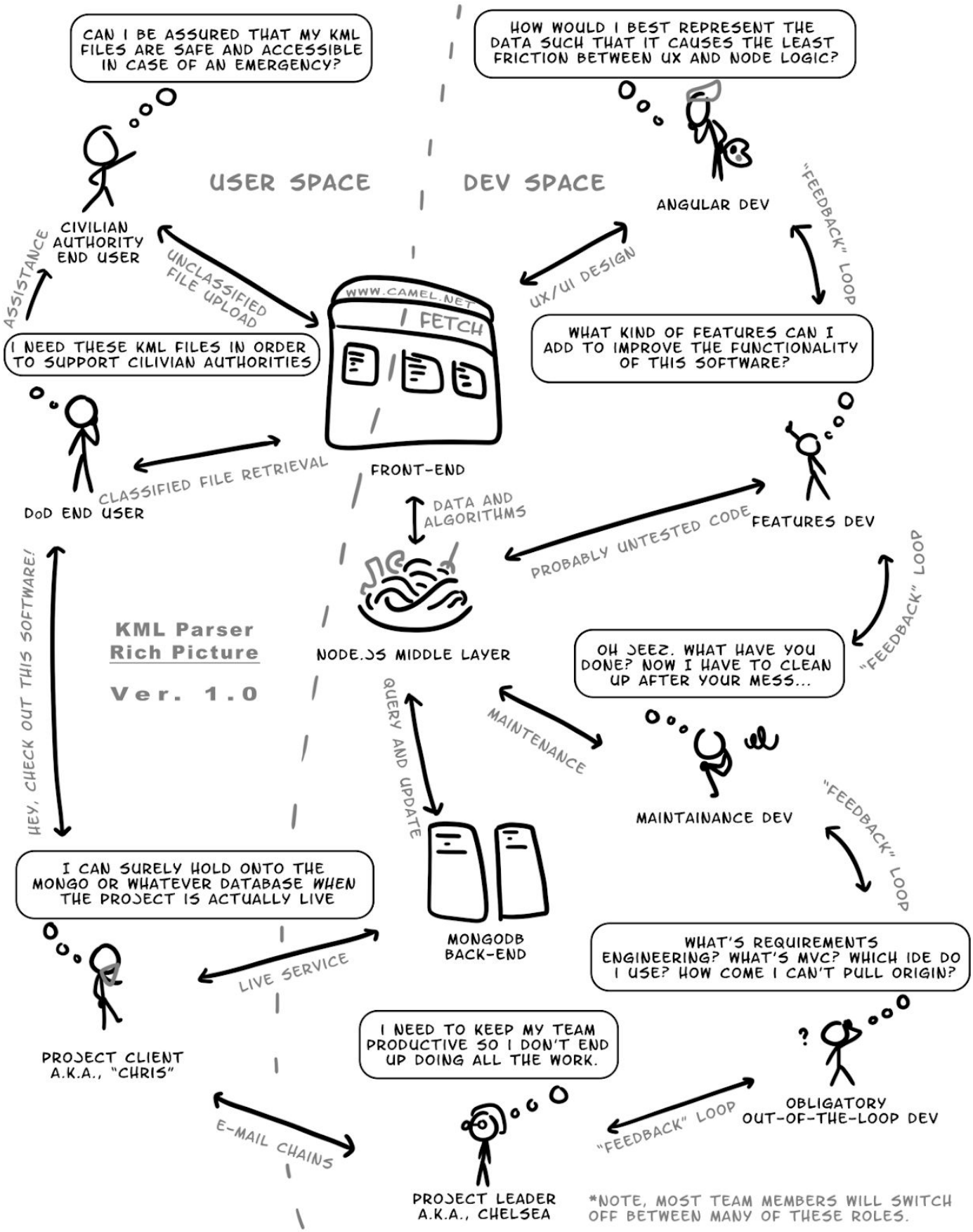
| | | | | |
|---|---|---|---|---|
| | | same functionality as the 'Delete' button from the UI.<br><br>8. <System Goal> [technical] Implement username/password validation. Possibly hash passwords. | | |
| Backend/DB Developer(s) | 1. Personal skill development.<br><br>2. Contribute to implementing a sophisticated system.<br><br>3. Relationships and networking. | 1. Participate in team meetings.<br><br>2. Take notes and communicate information with the team.<br><br>3. Provide support.<br><br>4. Participate in documentation.<br><br>6. <System Goal> [technical] Store KML file along with required metadata about the file (who, what/why, when, etc.). | MongoDB - NoSQL Database, Trello, Draw.io or other diagramming tool, G (Google) Suite | High |

| | | | | |
|---|---|---|---|---|
| | | 7. <System Goal> [technical] Record validation status for each file.<br><br>8. <System Goal> Information sent by providers are updated on the application in a timely manner.<br><br>9. <System Goal> [technical] Handle file deletion which updates the stored metadata about the file. | | |
| Consultant(s)/ Advisor(s)/Mentor(s) | 1. Keep the project on task.<br><br>2. Keep the system goal clear.<br><br>3. Ensure that students are learning software engineering principles and processes. | 1. Empower the team to work effectively.<br><br>2. Provide guidance to the team whether that be technical or involving system goals.<br><br>3. Provide project requirements.<br><br>4. Set deadlines. | Knowledge of software engineering principles. | Medium |

| | | | | |
|---|---|---|---|---|
| | | 5. Influence greater cooperation among team members.<br><br>6. Look over team's work and provide feedback. | | |
| Classified File Retrievers: DoD Agency | 1. Retrieve GIS files from an unclassified network on a classified one in order to engage their own mission systems to provide machinery, manpower, or other resources in support of civilian authorities. | | Ability to extract files from the system. | Medium |
| Unclassified GIS File Provider: Civilian Authorities | 1. Provide files that the DoD needs to engage their resources at the classified level. | | Ability to upload files in a valid format and fill out forms. | Medium |
| Emergency Services | 1. Contribute to the overall well-being of civilians. | 1. Provide, inform, report emergency information. | | Medium |

# Goal Model

# System Vision - Rich Picture



# Usage Model: Use Cases

# Detailed Requirements

# Appendix - Additional Information

## System Process Model