

# HCMI Software Requirements

# Version History

Version	Implemented By	Revision Date	Description of Change
1.0	OICR	April 27th, 2018	Initial Version
1.1	OICR	May 9th, 2018	Updated installation instructions
1.2	OICR	Sept 20, 2018	Added System Configuration requirements
1.3	OICR	July 14th, 2023	Updated Architecture, revised Requirements

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# Introduction

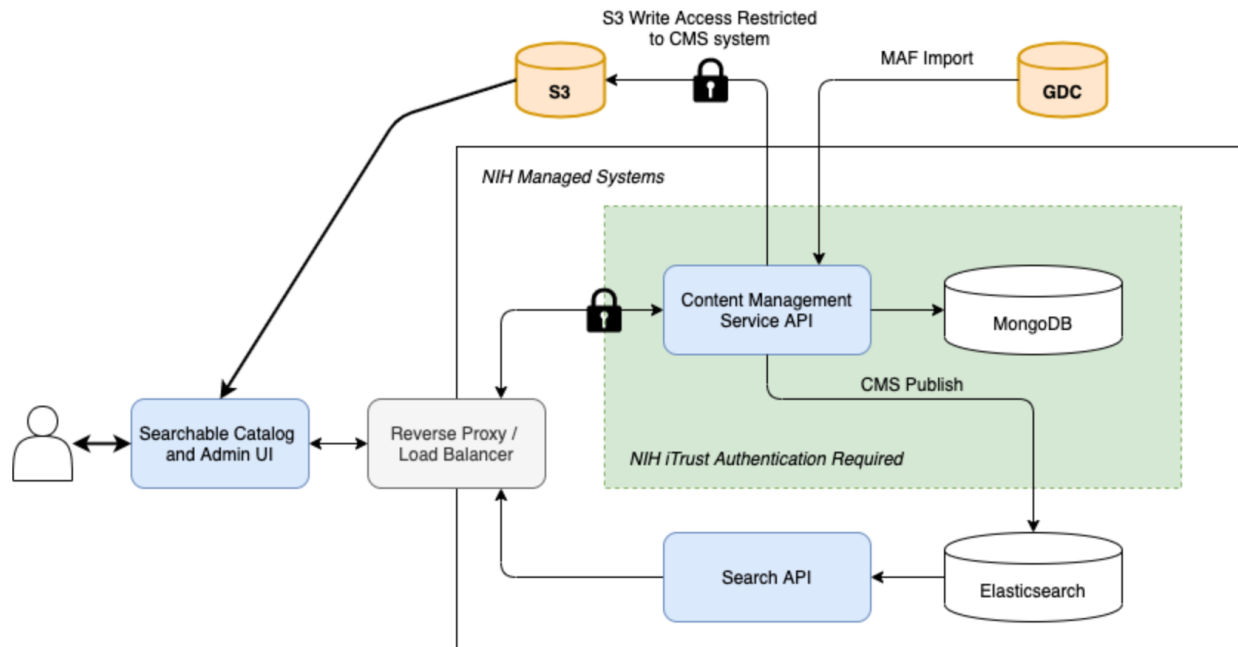
The Human Cancer Model Initiative (HCMI) Searchable Catalog provides a web based interface that allows the biomedical research community to search for and inspect next-generation tumor models that have been made available to the community by the Office of Cancer Genomics (OCG).

The HCMI Software Requirements document is intended to provide stakeholders and technical teams with an overview of the software required to deploy the project.

# Architecture Overview

The system is composed of two major software components:

- A public-facing Catalog UI providing users with the ability to search and view models
- An access-controlled content management system (CMS) to manage data available in the Catalog



**Figure 1: HCMI System Architecture Diagram** - The latest microservice architecture is decomposed naturally along the problem domain. Services in blue handle their respective areas of the problem domain.

More details about the architecture of the system can be found in the HCMI Software Architecture document.

# Software Requirements

## Overview

The HCMI Searchable Catalog runs on the [Node.js](#) JavaScript runtime. The Searchable Catalog and Admin UI are [React](#) applications, while the CMS Service and Search API are [Express.js](#) applications. The Catalog leverages MongoDB for storage, Elasticsearch for search, and AWS S3 for image storage.

As part of the regular maintenance for HCMI, the software dependencies of HCMI must be kept up to date as a safeguard against security vulnerabilities. Certain upgrades introduce breaking changes or incompatibilities between dependencies, so special attention should be paid when installing the required software to run HCMI.

Software dependencies within each microservice are version controlled using [Yarn](#), so as long as the correct versions of Node.js, MongoDB, and Elasticsearch are installed the application should be able to run without issue.

## Breakdown

Requirement	Version
Node.js	16
MongoDB	4.4.16
Elasticsearch	7.7.6

**Figure 2: HCMI Software Requirements** - The latest versions of software dependencies required to run the HCMI application.