The application developed will be hosted on the web and delivered as a Software As A Service (SAAS). The application will provide the following services

***End User: Patent search and IP analytics Firms***

Patent Search can be conducted using the following means (New features in **BOLD**)

* Keyword Search: typed in keywords can be used to search against every text field in the patent filing.
* Boolean Search: Users can put together very advanced patent searches using Boolean operators, wildcards, and specific fields in the search.
* **Metadata Search**: Patent filings can be searched using metadata such as classification codes, backward and forward citations, information about inventors, current and previous patent owners, and various dates. Each of these fields can be individually searched and grouped as desired.
* Filtering (Faceted Search): the result set returned can be further filtered by patent owner, jurisdiction, patent status, date ranges, and many other data fields. Each filter shows the quantity of each option, allowing the user to see the most relevant options and to simply click on the chosen selections. Current application provides faceted search based on country, date, technology, author and many others.
* **Semantic or natural language:** Since patent filings can use different terminology for the same technology, semantic search allows searching on the concepts within text, rather than specific keywords. This often enables finding "hidden patents" that are missed by using keywords.

Matheo Patent search uses European Patent Office’s (EPO) espacenet API to search for patents. Esspacenet’s API provides the following services

(European Patent Office) API : <https://developers.epo.org/>

*Published data*

Search (using EPO notations or free text) | Biblio | Abstract | Full-cycle | Fulltext | Description | Claims | Equivalents | Images | Image id

*Family*

Number | Biblio | Legal

*Register*

Search | Biblio |Events | Procedural-steps

*Classification*

Class | Media-name | Search | Output-format

*Number*

Output-format

**Use WIPO:** **To identify & create classifications**

While the EPO database may suffice for most searches the WIPO (world intellectual property organization of U.N.) Provides a superior classification of patents (as opposed to U.S. or Europe). Hence searching for patents should utilize the API provided by both of these organizations. WIPO provides a patent search web service called patentscope. The service can be accessed via their API URL. (<http://www.wipo.int/patentscope/en/data/#subscription>).

Use WIPO’s data files (as opposed to the US version which is inconsistent) to browse and search for IPC (International patent classification - For more details <http://www.wipo.int/classifications/ipc/en/faq/>.)

**Building search strings**

Searching for patents will often be fraught with irrelevant results. This is because the user does not know how to construct the search string. Application will provide means to construct the search string using the WIPO manual and carefully constructed keywords

**End User: Patent Office or Company Patent division**

Companies that need to maintain a patent office can use the application to create a Patent portfolio. Patent portfolios needs to be maintained and protected. The application provides the following features to achieve this *(IP Analytics*)

**IP Audit:** Audit to catalogue IP Assets and chronicle the patent filing activities. This will help identify areas in the companies IP portfolio that needs to be bolstered.

**Patent Landscaping:**  monitor and identify recent patent filing activities of competitors. Identify the emerging technology strategies of potential competitors to make an appropriate strategic response.

The application will also be able to do targeted search for

* **Novelty search** :  To determine if the potential invention is patentable based on the published prior art
* **Validity Search**: The purpose of the search is either to validate the enforceability of a patent’s claims or to invalidate one or more claims of a patent, respectively.
* **Infringement search**: Search seeks to confirm that a new product won’t infringe upon any in-force patents.
* **Clearance (freedom to operate) search:** searching for patents that you might infringe on.
* **State of the art search**
* **Patent landscape or collection search**

**System Functionality**

**Patent Databases**

Incorporate multiple databases for search. Some of them can be bought commercially while others can be used as a paid service. Commercial databases available are listed below

*Public Databases*

USPTO (for state of the art searches), ESPACENET, freepatentsonline, WIPO, foofle.com/patents

*Private Databases*

Delphion, micropatent