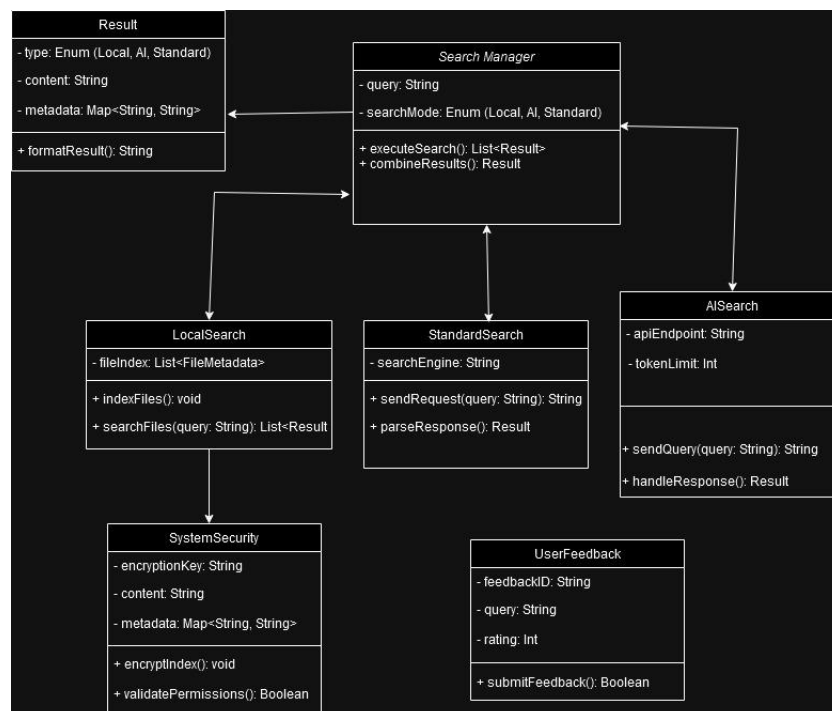# System Design Document

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I. Introduction

This document will provide a comprehensive overview of the Triceratops Browser's design. This document outlines the architecture, the class and object models, system interactions, and specific methods for implementing the system. It is created to guide developers and team members in understanding the system's structure and behavior before proceeding with the implementation phase. The purpose of this document is to ensure all components of the system are well-defined, and that the development process is efficient and clear.

Contents of the document:

- Overview of the system design process

- Refined Class Diagrams with pseudocode

- Statechart Diagrams that depict the states of objects in the system

- Sequence Diagrams that detail the flow of interactions between components

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II. Design-Level Class Diagrams

1. Class Diagram

Pseudocode:

```
class SearchManager
    String searchTerm
    List searchResults
    executeSearch() returns List<Result>
    combineResults() returns Result
```

```
class Result
    Int typeSearch
    String resultID
    String resultData
    formatResult() returns resultData
```

```
class AISearch inherits SearchManager
    String apiEndpoint
    Int tokenLimit
    sendQuery(query : string)
    handleResponse() returns Result
```
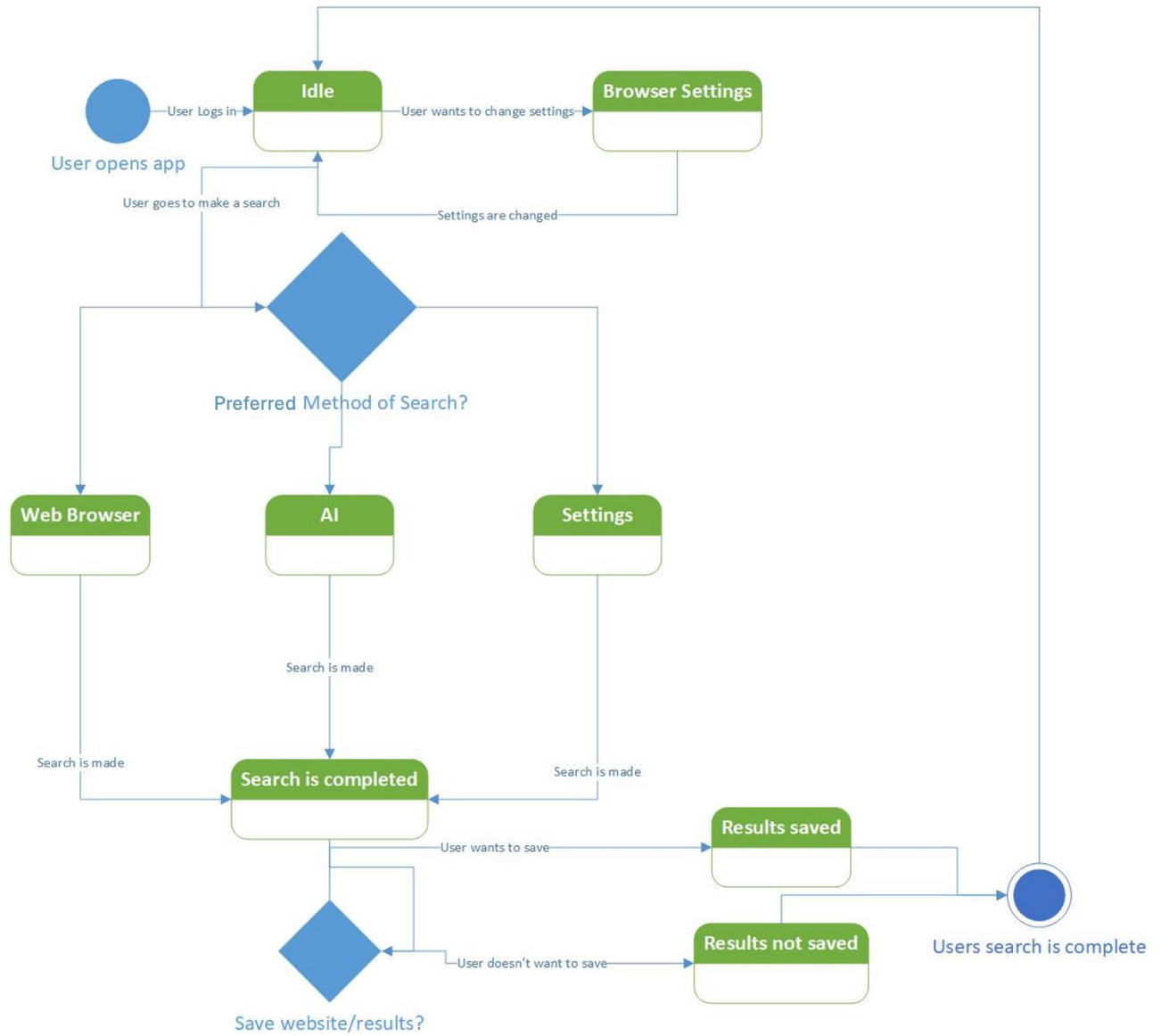
```
class StandardSearch inherits SearchManager
    String searchEngine
    sendRequest(query : string)
    parseResponse() returns Result
```

```
class LocalSearch inherits SearchManager
    List fileIndex from fileMetaData
    indexFiles() returns void
    searchFiles(query : string) returns List<Result>
```

```
class systemSecurity inherits LocalSearch
    String encryptionKey
    encryptIndex() returns void
    validatePermissions() returns Boolean
```
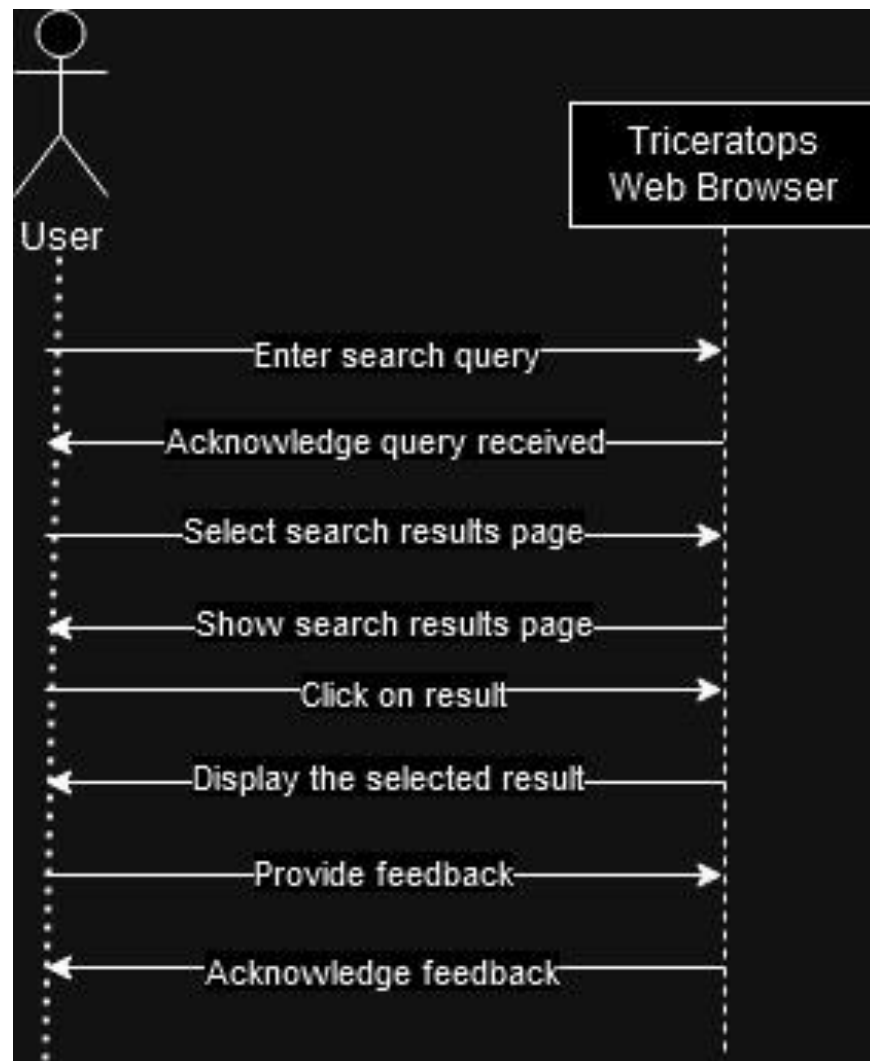
```
class UserFeedback
    String feedbackID
    submitFeedback() returns Boolean
```

III. Statechart Diagram

IV. Sequence Diagram

V. Conclusion

This System Design Document demonstrates how the Triceratops browser app works. The purpose of this document was to ensure that all team members understand how our application functions and what has been done to make it work. This is essential if changes ever need to be made.