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AUSTRALIA



CopyCat

A Cross-Language Plagiarism Detection Tool

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Statement

Date: 22/10/2018

This work has used the external APIs like **Yandex Translate API and Copyleaks' API** for delivering purposes in **CopyCat** as well as open source software frameworks such as **Spring framework, jwt library and jQuery/Ajax** to accomplish the final product. All other code has been wholly our group work unless otherwise referenced or acknowledged. The document has not been submitted for qualifications or assessment at any other academic institution.

Evaluation Sheet

Member Evaluator	A. Naushin	G. Borromeo	H. Ibro	H. Tran	J. Wang	L. Ramesh	P. Darshana	S. Jujhavarapu	Signature
Adeeba Naushin									
Gustavo Borromeo									
Helena Ibro									
Helene Tran									
Jin Wang									
Lakshmi Ramesh									
Prabhath Darshana									
Sai Jujhavarapu									

Project Management Plan

Plagiarism is the act of using another author's work without appropriate citation and passing it off as your own. It is a serious ethical offence that leaves the offender with penalties such as reduced grades, suspension or, in extreme cases, exclusion. It is unfortunately a recurrent problem in the academic environment. When the students' work is not inspected, the number of those which may be subject to plagiarism will certainly increase.

Overview

To avoid the problem mentioned above, the need for plagiarism detection tools have emerged. This project focuses on the planning, development and implementation of such a cross-language plagiarism detection tool. After documents having to be checked are uploaded, the software extracts data from the internet and checks for plagiarism via file to file comparison. The software has to be complete and efficient, but also user-friendly. Hence, adding many target languages other than the input text language has to be one of the available functionalities in order to have a more accurate result and to increase the reliability. This service is the main strength of CopyCat that differentiates us from the other plagiarism detection software. The software has also to allow users to have their own account and keep track of their uploaded documents. Moreover, for user-friendliness, the page result should highlight the expressions that can be found in another web page. Integrating these main functionalities in the software will be the main objective of the project.

Executive Summary

Over the course of the past three months, each member of Team Blue has participated in building of the cross-language plagiarism detection tool, CopyCat using their extensive knowledge on software development as well as project management skills and concepts learned from the subject. This project has provided an opportunity to practice the most integral parts associated with project management which includes developing project plan, implementation and risk management. Moreover, measurement and evaluation of project progress and performance was practiced through completion of a "Project Status Report".

A detailed description of how the project was implemented, what software has been used and how the state of project management throughout development has been included in this report.

Goal

The goal of CopyCat is to develop a successful cross-language plagiarism detection tool.

Objectives

The objectives of CopyCat are as follows:

- User management
- Document management
- Allow the user to provide a plain text file containing an article written in English
- Allow the user to select at least one target language other than English
- The tool will search the internet for similar articles writing in English or in the target language
- Display similarity percentage
- Highlight the similarities between the two files

Scope and Objectives

Project Scope

This project covers:

- User management
 - User creation
 - User login
- Text input for plagiarism check
 - Input text in the text area for plagiarism check
 - Select one additional language for translated plagiarism check
 - Check the result for both languages
- Text file (.txt only) input for plagiarism check
 - Attach a .txt file with text content in it to check for plagiarism
 - Select one additional language for translated plagiarism check
 - Check the result for both languages
- View the documents submitted by the user
- View user details

This project does not cover:

- Edit/Re-submit submitted documents
- View/Edit another user's documents
- User profile edit functionality
- Select more than one language for plagiarism check
- Resubmit functionality for failed documents

Success Criteria:

This project considered to be a success if the following functions are accomplished:

- **Account management**

Users should be able to create an account with a password, use this account to log in and log out. It also needs users to use this account to check the plagiarism.

- **Check the plagiarism**

Users should be able to upload a .txt file or some text to check whether it is plagiarised or not. The result should display the plagiarism percentage, where it comes from and which words or sentence has been kept same.

- **Language choices**

Users should be able to choose another language to check the plagiarism for the same content, the tool should translate it to the selected language and show the similarity report to the user.

- **Check the history of documents**

The user should be able to check the document history that has uploaded by them and see the plagiarism result for original language and chosen language for each document.

In addition, to satisfy the above description, the software must be both thoroughly tested and completed on time. These above items should achieve in this program and as a result, it reached all the expectations what the client requested. As for the test cases, they have no fault during the executions and it can show the highlight the similarities between the two files, and that is what we want.

Objectives

The main objective of this project is to provide cross-language plagiarism check functionality for different stakeholders primarily from academic settings. The project primarily targets for delivering this core objective and as a result implementing a system that accomplished an acceptable level of features which false under project scope.

Limitations

This project required to deliver within short-period of time with limited human resources. In addition to that, the team has faced significant learning curves in technology to gain the required skills to work on the project.

Stakeholders

In this part, all the stakeholders who intervene on the project has been identified. To that purpose, we divide stakeholders into two categories: internal and external stakeholders. Internal stakeholders are those who works within a project. External stakeholders are outside the project but can affect or may be affected by the project.

Internal Stakeholders

Project Sponsor

The project sponsor requests for a cross-language plagiarism detection tool and has the most control over this project. In this case, the project sponsor is the instructor. The instructor gives all the requirements for the project.

Project leader

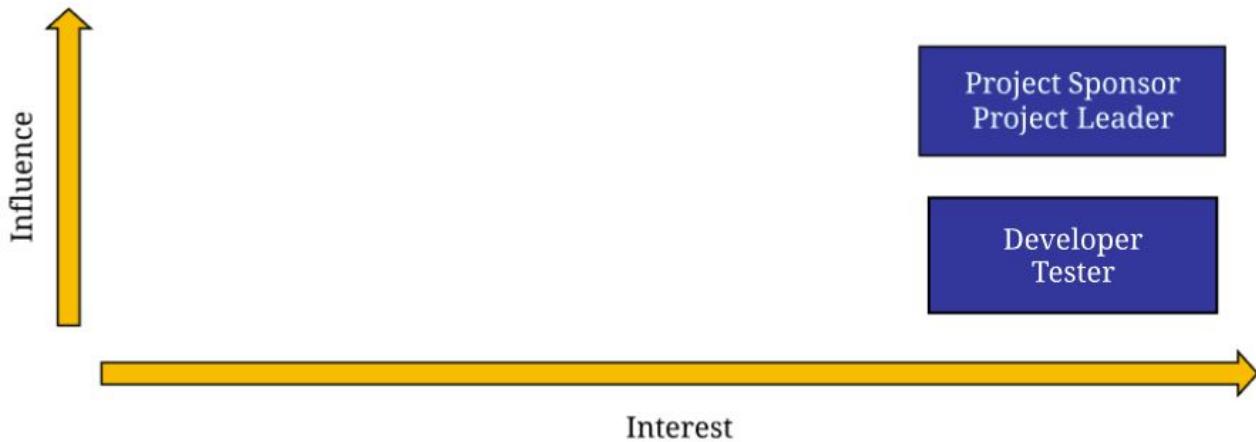
The project leader ensures development progress is able to meet deadlines and the project is successful. He is also responsible for keeping track of the project and the meeting records. If there are any issues regarding the project, the project leader must be informed whereby a suitable solution can be put in place.

Developer

A developer creates software applications as prescribed by the project sponsor. Developers have little control over changing features and it is in their interest to complete a project. The developers have the full control over selecting technical specification and tech stack. They are responsible for designing and development of the software. They also have to produce quality and maintainable code, and cover all the requirements within the agreed time frame of project delivery. Developers are responsible for testing their code and fixing bugs.

Tester

Testers are responsible for testing the system for quality management and they need to make sure all the functionalities of the system work correctly and meet all the acceptance criteria. Because of the small size of the team, developers are also the testers.



External stakeholders

Teachers

Teachers will have high interest in this tool as they are will interact directly with the system. They will be able to easily check students' work for plagiarism in any supported language with minimal effort and time. Throughout the development process, they will have minimal influence when compared to the project sponsor.

Students (submission)

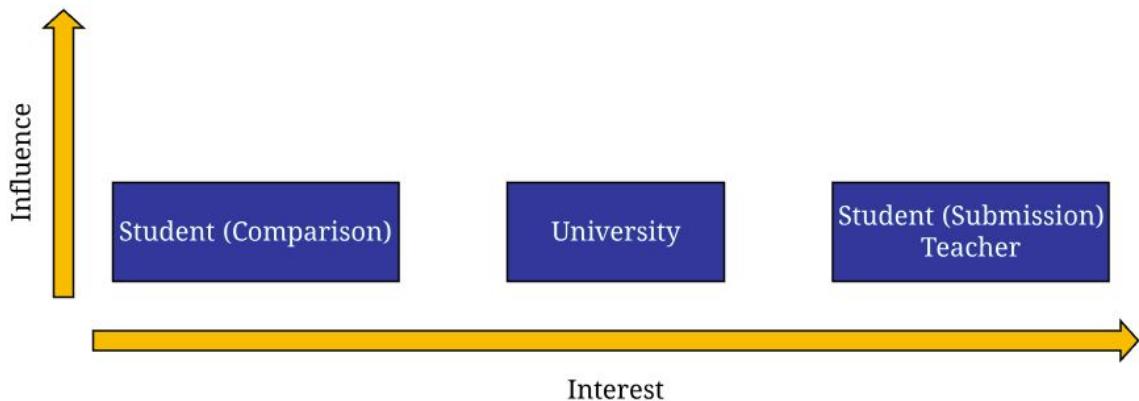
Students will be able to check their work against any similarities in others' work before submission. Any plagiarism matches will show the source, making it easy to acknowledge previous authors. Moreover, their work is submitted by their teacher and they will be directly affected by the result. Therefore, students will have high interest in this tool but little influence during development.

Students (comparison)

Students may also be considered as secondary users as their works are available in the website and can be compared against new reports.

The University

The University doesn't use directly the plagiarism but may be affected. Beside the fact that they allocate money on the software, if the results are not correct (especially if it gives a lower result than it should be) and the fraud is detected, the University will be responsible on that.



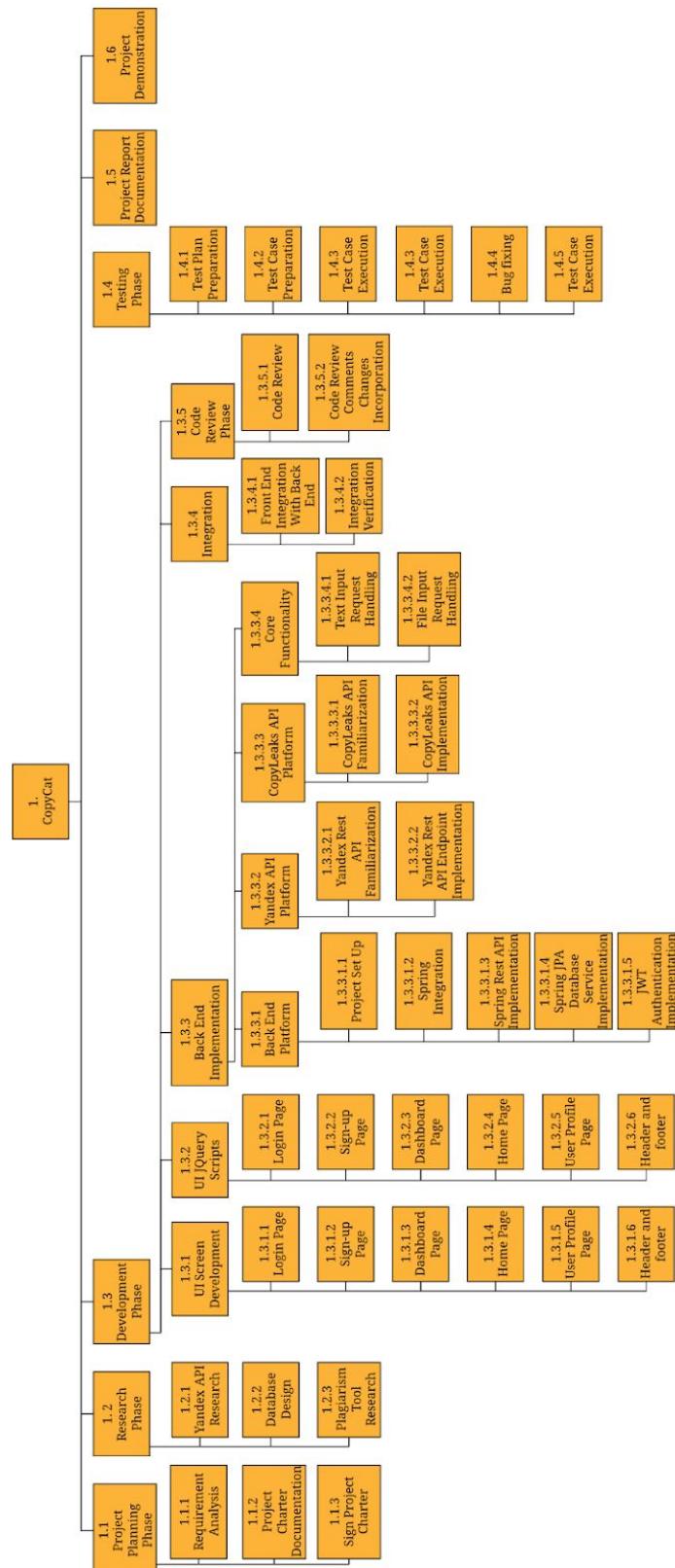
Assignment of Roles and Responsibilities

This section displays the roles of each team member along with their main responsibilities. The latter are not exclusive and all team members have aided with their knowledge in different areas of the project for it to be completed within the required deadline.

Member	Assigned role	Responsibilities
Adeeba Naushin	UI Developer	<ul style="list-style-type: none"> - Research - User Profile Page coding and testing - Project Documentation (Executive Summary, Project and activity planning, Progress and controlling)
Gustavo Borromeo	Team leader	<ul style="list-style-type: none"> - Research - Project Charter - Project Documentation
Helena Ibro	UI Developer and Designer	<ul style="list-style-type: none"> - Research - Name suggestions, logo design and UI wireframe design (color choice and appearance display) - Login Page coding and testing - Sign Up Page coding and testing

		<ul style="list-style-type: none"> - Project Documentation (Documentation outline, Assignment of roles and responsibilities, User Guide, Proofreading/ fixing and Presentation preparation)
Helene Tran	UI Developer	<ul style="list-style-type: none"> - Research - Logo and UI wireframe design - Documents Page coding and testing - UI jQuery Scripts and integration - Bug fixing - Project Documentation (Overview, Stakeholders, Analysis)
Jin Wang	Backend Developer	<ul style="list-style-type: none"> - Research - Meeting report holder - Project Documentation (Background research, Meeting reports, Glossary, References)
Lakshmi Ramesh	UI Developer	<ul style="list-style-type: none"> - Research - Database Design - Home page coding and testing (header footer template) - UI jQuery Scripts, integration and verification - Bug Fixing - Project Documentation (Project schedule, Effort Estimation, Test Documentation)
Prabhath Darshana	Backend Developer	<ul style="list-style-type: none"> - Research - Backend coding, implementation and integration - Bug fixing - Project Documentation (Scope and Objectives, Requirements and Specifications, Design, Implementation, Installation Guide, Source code)
Sai Jujhavarapu	Backend Developer	<ul style="list-style-type: none"> - Research - Project Documentation (Background research, Risk analysis and measures, Glossary)

Work Breakdown Structure



Project Schedule

ID	Task Name	Duration	Start	Finish
1	Project CopyCat	51.5 days	Mon 8/13/18	Tue 10/23/18
1.1	Analysis and Planning Phase	1.5 days	Mon 8/13/18	Tue 8/14/18
1.1.1	Requirement Analysis	1 day	Mon 8/13/18	Mon 8/13/18
1.1.2	Project charter documentation	0.5 days	Tue 8/14/18	Tue 8/14/18
1.1.3	Allocation of tasks	0.5 days	Tue 8/14/18	Tue 8/14/18
	◆ Analysis and Planning Complete	0 days	Tue 8/14/18	Tue 8/14/18
1.2	Research Phase	7 days	Tue 8/14/18	Thu 8/23/18
1.2.1	Yandex API Research	7 days	Tue 8/14/18	Thu 8/23/18
1.2.2	Database Design	4 days	Tue 8/14/18	Mon 8/20/18
1.2.3	UI Wireframes	5 days	Tue 8/14/18	Tue 8/21/18
1.2.4	Plagiarism tool research	4 days	Tue 8/14/18	Mon 8/20/18
	◆ Progress Report Presentation	0 days	Thu 8/23/18	Thu 8/23/18
1.3	Development Phase	32 days	Thu 8/23/18	Mon 10/8/18
1.3.1	UI Screens Development	2 days	Thu 8/23/18	Mon 8/27/18
1.3.1.1	Login Page	2 days	Thu 8/23/18	Mon 8/27/18
1.3.1.2	Sign Up Page	2 days	Thu 8/23/18	Mon 8/27/18
1.3.1.3	Documents Page	2 days	Thu 8/23/18	Mon 8/27/18
1.3.1.4	Home Page	1 day	Thu 8/23/18	Fri 8/24/18
1.3.1.5	User Profile Page	2 days	Thu 8/23/18	Mon 8/27/18
1.3.1.6	Header and Footer	1 day	Thu 8/23/18	Fri 8/24/18
1.3.2	UI jQuery Scripts	1 day	Mon 8/27/18	Tue 8/28/18
1.3.2.1	Login Page	0.5 days	Mon 8/27/18	Mon 8/27/18

1.3.2.2	Sign Up Page	1 day	Mon 8/27/18	Tue 8/28/18
1.3.2.3	Documents Page	1 day	Mon 8/27/18	Tue 8/28/18
1.3.2.4	Home Page	1 day	Mon 8/27/18	Tue 8/28/18
1.3.2.5	User Profile Page	0.5 days	Mon 8/27/18	Mon 8/27/18
1.3.2.6	Header and Footer	1 day	Mon 8/27/18	Tue 8/28/18
◆ Front End Completed		0 days	Tue 8/28/18	Tue 8/28/18
1.3.3	Back End implementation	26 days	Thu 8/23/18	Fri 9/28/18
1.3.3.1	Back End Platform	12 days	Thu 8/23/18	Mon 9/10/18
1.3.3.1.1	Project Set Up	1 day	Thu 8/23/18	Fri 8/24/18
1.3.3.1.2	Spring integration	1 day	Fri 8/24/18	Mon 8/27/18
1.3.3.1.3	Spring Rest API Implementation	2 days	Mon 8/27/18	Wed 8/29/18
1.3.3.1.4	Spring JPA DB service Implementation	1 day	Wed 8/29/18	Thu 8/30/18
1.3.3.1.5	JWT Authentication Implementation	7 days	Thu 8/30/18	Mon 9/10/18
1.3.3.2	Yandex API Integration	2 days	Mon 9/10/18	Fri 9/14/18
1.3.3.2.1	Yandex Rest API familiarization	1 day	Mon 9/10/18	Tue 9/11/18
1.3.3.2.2	Yandex Rest API implementation	1 day	Thu 9/13/18	Fri 9/14/18
1.3.3.3	CopyLeaks API integration	2 days	Wed 9/12/18	Fri 9/14/18
1.3.3.3.1	CopyLeaks API familiarization	1 day	Wed 9/12/18	Thu 9/13/18
1.3.3.3.2	Copyleaks API Implementation	1 day	Thu 9/13/18	Fri 9/14/18
1.3.3.4	Core Functionality	10 days	Fri 9/14/18	Fri 9/28/18
1.3.3.4.1	Text Input request handling	5 days	Fri 9/14/18	Fri 9/21/18
1.3.3.4.2	File Input request handling	5 days	Fri 9/21/18	Fri 9/28/18
◆ Back End Completed		0 days	Fri 9/21/18	Fri 9/21/18
1.3.4	Integration	3 days	Fri 9/28/18	Wed 10/3/18

1.3.4.1	Front end integration with back end	2 days	Fri 9/28/18	Tue 10/2/18
1.3.4.2	Integration Verification	1 day	Tue 10/2/18	Wed 10/3/18
1.3.5	Code Review Phase	3 days	Wed 10/3/18	Mon 10/8/18
1.3.5.1	Code Review	1 day	Wed 10/3/18	Thu 10/4/18
1.3.5.2	Code Review Comments Changes incorporation	2 days	Thu 10/4/18	Mon 10/8/18
	◆ Application Development Completed	0 days	Mon 10/8/18	Mon 10/8/18
1.4	Testing phase	9.5 days	Thu 10/4/18	Wed 10/17/18
1.4.1	Test Plan Preparation	0.5 days	Thu 10/4/18	Thu 10/4/18
1.4.2	Test Case Preparation	1 day	Fri 10/5/18	Fri 10/5/18
1.4.3	Test Case Execution	2 days	Mon 10/8/18	Tue 10/9/18
1.4.4	Bug Fixing	5 days	Wed 10/10/18	Tue 10/16/18
1.4.5	Test Case Execution	1 day	Wed 10/17/18	Wed 10/17/18
	◆ Application Ready For Production Deployment	0 days	Wed 10/17/18	Wed 10/17/18
1.5	Project Report Documentation	3 days	Wed 10/17/18	Fri 10/19/18
	◆ Documentation Complete	0 days	Fri 10/19/18	Fri 10/19/18
1.6	Project Demonstration	0.5 days	Tue 10/23/18	Tue 10/23/18
	◆ End of Project	0 days	Tue 10/23/18	Tue 10/23/18

Background research

This section contains an intense literature review on previous researches done within the field of plagiarism detection. This was performed in order to assist the development of a cross-language plagiarism detection tool as well as analyse related technologies in the form of various tools and services already provided for this purpose.

Literature Review

1. J. Badge, J. Scott, (2009). Dealing with plagiarism in the digital age.

Authors survey the “effectiveness, use and implementation” of software in dealing with plagiarism. At the time of publishing, internet-based plagiarism detection was a new area of research. “The use of digital has opened up a plethora of useful and credible information for use by students. However, this has also exposed the risks of uncritical and unacknowledged use of other people’s work.” (J.Badge, J. Scott, 2009). This research is about the effectiveness of Turnitin, a plagiarism detection application. This software reduces the time the instructor spends by checking for any similar content provided by the student’s report submitted over the internet. A student is also able to upload their document for the system to compare with online sources. Plagiarism can be combated by alerting the student of similar works and suggesting referencing techniques such as in-line quotation and paraphrasing. When compared to other detection software, Turnitin appeared in the middle of the sample size in result accuracy.

2. C. Kent, N. Salim, (2009). Web Based Cross Language Plagiarism Detection

“Translation plagiarism is considered as translation of a sentence in the source language in the way that ends up using almost the exact same words as the original source used by the original author”. In this paper, the authors explore the process of cross language plagiarism detection. The first step of the process involves translating the input text to the target language. The second step is to filter “stop words” such as “a, an, the”. The third step is to stem prefixes and suffixes of words. The fourth step is to identify similar documents in a corpus. The fifth step is to compare any similar patterns. The final step is to create the result summary for the user to further analyse. The main issues in their research were incorrect paraphrasing when translating and having a large corpus of multilingual documents. The plagiarised content may have a better translation than the plagiarism detection software. The content may fail to be detected due to a false negative when being processed for plagiarism.

3. R. Pereira, (2010). Cross-Language Plagiarism Detection

This research explores automated cross language plagiarism detection. It contains 5 main phases: languages normalisation, retrieval of candidate documents, feature selection and classifier training, plagiarism analysis and result post-processing. The language normalisation process involves translating both the source document and suspicious document. This translation process is automated using a language guesser. The language guesser must achieve at least seventy percent similarity over ten passes to be deemed a successful guess. The documents are translated into a common language and broken down into similar segments to decrease processing effort. The smaller segments are compared and assigned features based on length and similarity. The original document segments are analysed compared against the most similar suspected segments based on cosine similarity and length. The final step is the output of processed document similarities in a text form.

4. M. Potthast, B. Stein, A. Barrón-Cedeño, P. Rosso, (2010). An Evaluation Framework for Plagiarism Detection

The authors of this research paper create an evaluation framework for plagiarism detection. Their plagiarism sample consists of the PAN-PC-10 corpus for efficiency over a web database. This would typically be a disadvantage as it is a decreased sample size, however the goal is to create an evaluation framework to test plagiarism detection accuracy. Their evaluation process involved retrieval performance and extraction accuracy. Highly efficient plagiarism detection is useless if the extraction accuracy is low. In the year 2010, evaluation methodology had “conceptual shortcomings and allowed only for limited comparability”. The research performed in this paper was able to provide a controlled evaluation framework to test performance of plagiarism detection tools on the PAN-PC-10 corpus.

Related Technologies

Turnitin

“Turnitin is a text-matching software that checks a student’s written work against electronic texts from the Internet, published works (such as journal articles and books), and assignments previously submitted to Turnitin by other students.” (turnitin.com, n.d.) A document is uploaded, scanned by the system and checked for text matches. Text matches show the source document and gives the user feedback on areas such as grammar, paraphrasing and referencing. This helps students demonstrate academic integrity in their work by teaching them how to use, generate and communicate information in an original, honest, and responsible manner. Advantages include ease of integration into existing platforms such as moodle, ability to add a personal database and an included submission portal for students. Disadvantages include an unknown subscription cost and dated user interface.

iThenticate

iThenticate is a product geared towards students and researchers by Turnitin. “iThenticate is the leading online plagiarism checker software used by top research universities and institutions, businesses, publishers, and government agencies.” Two forms of subscription, credit and annual, give the user flexibility in selecting the most economical solution. Students may prefer a credit based subscription which allows for scanning a limited amount of documents. An annual subscription allows for scanning an unlimited number of documents which is focused on academic institutions. The main focus of this product is to display potential plagiarised works. It lacks the submission portal provided by Turnitin.

UniCheck

Unicheck is an online plagiarism and content checker that detects similar content of documents and webpages. The software allows users to compare two documents or upload Word and PDF documents to compare against the Internet and internally stored documents. It also searches for similar content, even if it is reworded to avoid plagiarism detectors. The algorithm is customized for organizations and used by academia professionals, lawyers, and writers. Users can upload odt, .txt, .doc, .docx, .rtf, .pdf, and .html files to compare to the Internet (web pages indexed by Yahoo and Google). It also allows users to store documents internally for future comparison. After the check is completed, users receive plagiarism reports which highlight and link to any duplicate content detected by the algorithm. Advantages include a free service for searches under 200 words and a built-in web source viewer for highlighting matching text on external pages.

Project Management

This section will elaborate on different aspects of project management and how the project was planned from beginning to end with the help of Microsoft Project Professional.

Project and activity planning

Project Title: CopyCat

Date of Authorization: 09/08/2018

Project Start Date: 13/08/2018

Project Finish Date: 23/10/2018

Project Duration: 51.5 days

Approach

The following basic approaches need to be taken to complete the complete the project:

- Holding team meetings at least once every week
- Analysing the project requirements
- Agreeing upon the platforms to be used and approaches to be taken for implementing solution
- Dividing tasks fairly between team members
- Scheduling the tasks with respect to the proposed deadline
- Risk Management and Contingency Planning
- Implementing solution based on the plan and project requirements
- Conduct Testing

Human Resource and Role Allocation

To make the most effective use of the people involved with a project, roles and responsibilities have to be allocated fairly and depending on each team member's strength and weakness.

The roles required for the completion of this project were:

- Team Leader/ Project Manager
- Backend Developer
- UI Developer
- Tester
- Research

All team members were allocated in multiple roles according to their individual preferences for making the project journey more efficient.

Activity

The activities involved in the project were divided into 4 principal phases and resources were allocated accordingly:

- Project Planning Phase
- Research Phase
- Development Phase
- Testing Phase

Project Planning Phase

Activities Involved	Requirement Analysis, Project Charter Documentation, Sign Project Charter
Resources To be Used	All Team Members
Estimated Duration	1.5 Days
End Goal	Team Charter Signed, Project ready to be officially started

Research Phase

Activities Involved	Yandex API Research, Database Design, UI Wireframes, Plagiarism tool Research
Resources To be Used	Gustavo Borromeo, Helena Ibro, Helene Tran, Jin Wang, Lakshmi Ramesh, Prabhath Darshana, Sai Jujhavarapu
Estimated Duration	7 Days
End Goal	Initial Research Done, Platforms and tools to be used are agreed upon, Database and User Interface structures are designed.

Development Phase

Activities Involved	UI Screens Development, UI jQuery Scripts, Back End Implementation, Integration, Code Review Phase
Resources To Be Used	Adeeba Naushin, Helena Ibro, Helene Tran, Lakshmi Ramesh, Prabhath Darshana

Estimated Duration	32 Days
End Goal	Initial project has been developed, Project ready for test phase and bug fixing

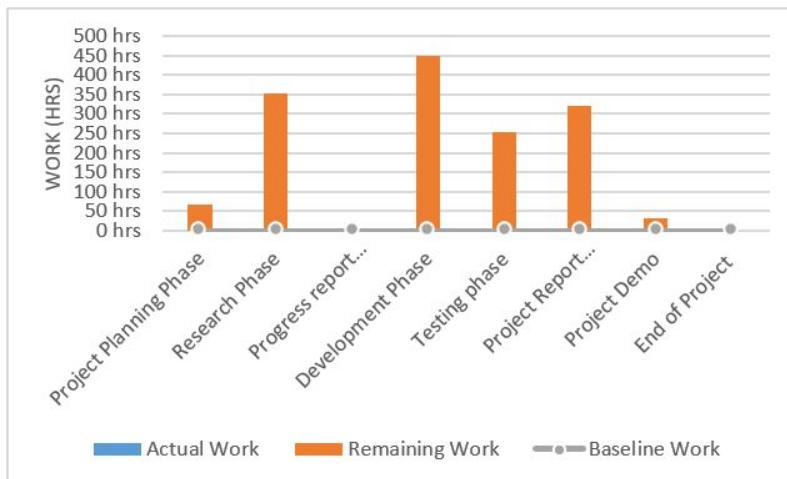
Testing Phase

Activities Involved	Test Plan Preparation, Test Case Preparation, Test Case Execution, Bug Fixing
Resources To Be Used	Adeeba Naushin, Helena Ibro, Helene Tran, Lakshmi Ramesh, Prabhath Darshana
Estimated Duration	9.5 Days
End Goal	Project up and running

Project Delivery

Activities Involved	Project Report Documentation, Presentation for Project Demonstration
Resources to Be Used	All Team Members
Estimated Duration	5.5 Days
End Goal	End of Project

Work Statistics



Progress and controlling

Gantt Chart

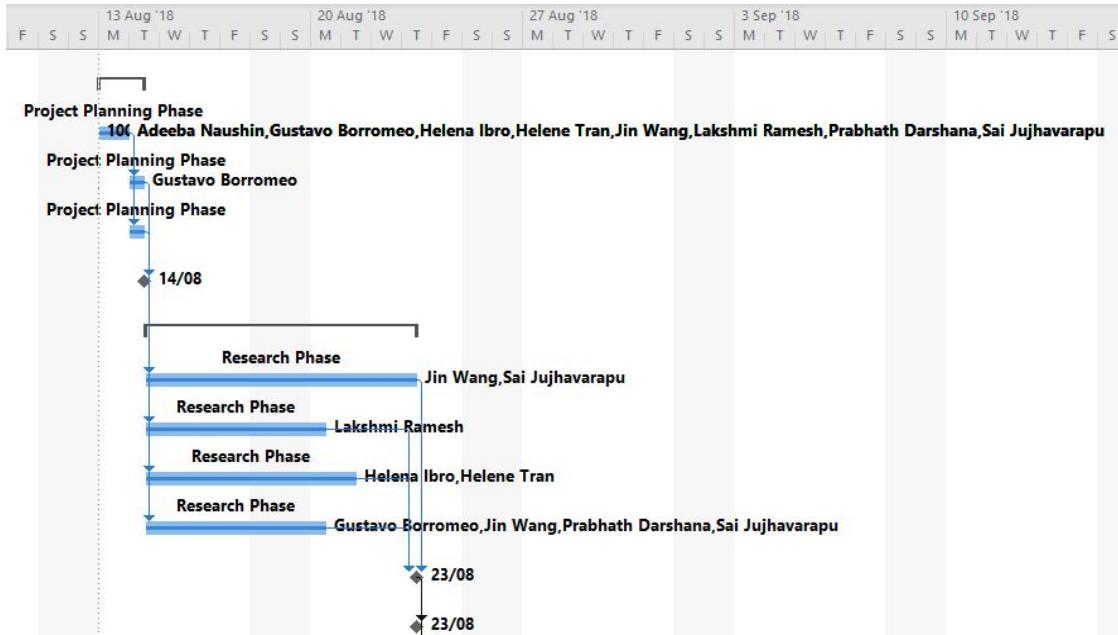
The following Gantt charts depict the project schedule along with the dependency relationships between activities and current schedule status.

GANTT CHART PART 1

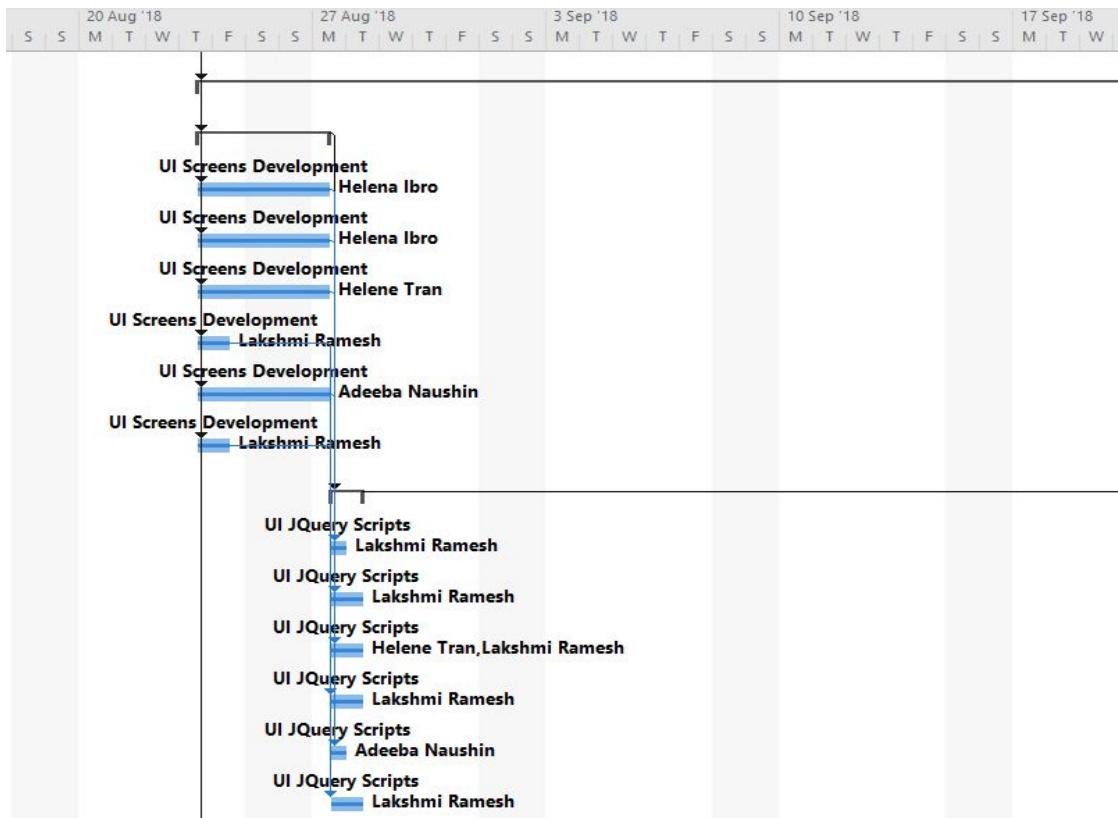
	Task Mode	Task Name	Duration	Start	Finish	Predecessor	Resource Names
1	Normal	Project CopyCat	51.5 days	Mon 13/08/18	Tue 23/10/18		
2	Normal	Analysis and Planning Phase	1.5 days	Mon 13/08/18	Tue 14/08/18		
3	Normal	Requirement Analysis	1 day	Mon 13/08/18	Mon 13/08/18		Adeeba Naushin ,Gustavo Borromeo,Helene Ibro,Helene Tran,Jin Wang,Lakshmi Ramesh,Prabhath Darshana,Sai Jujhavarapu
4	Normal	Project charter documentation	0.5 days	Tue 14/08/18	Tue 14/08/18	3	Gustavo Borromeo
5	Normal	Allocation of tasks	0.5 days	Tue 14/08/18	Tue 14/08/18	3	Adeeba Naushin ,Gustavo Borromeo,Helene Ibro,Helene Tran,Jin Wang,Lakshmi Ramesh,Prabhath Darshana,Sai Jujhavarapu
6	Normal	Analysis and Planning Complete	0 days	Tue 14/08/18	Tue 14/08/18	5	
7	Normal	Research Phase	7 days	Tue 14/08/18	Thu 23/08/18		
8	Normal	Yandex API Research	1 day	Tue 14/08/18	Thu 23/08/18	4	Jin Wang,Sai Jujhavarapu
9	Normal	Database Design	4 days	Tue 14/08/18	Mon 20/08/18	4	Lakshmi Ramesh
10	Normal	UI Wireframes	5 days	Tue 14/08/18	Tue 21/08/18	4	Helene Ibro,Helene Tran
11	Normal	Plagiarism tool research	4 days	Tue 14/08/18	Mon 20/08/18	4	Gustavo Borromeo,Jin Wang,Prabhath Darshana,Sai Jujhavarapu
12	Normal	Progress report presentation	0 days	Thu 23/08/18	Thu 23/08/18	8,9,10,11	Gustavo Borromeo
13	Normal	Development Phase	32 days	Thu 23/08/18	Mon 8/10/18	12	Gustavo Borromeo
14	Normal	UI Screens Development	2 days	Thu 23/08/18	Mon 27/08/18	12	
15	Normal	Login Page	2 days	Thu 23/08/18	Mon 27/08/18	12	Helene Ibro
16	Normal	Sign Up Page	2 days	Thu 23/08/18	Mon 27/08/18	12	Helene Ibro
17	Normal	Dashboard Page	2 days	Thu 23/08/18	Mon 27/08/18	12	Helene Tran
18	Normal	Home Page	1 day	Thu 23/08/18	Fri 24/08/18	12	Lakshmi Ramesh
19	Normal	User Profile Page	2 days	Thu 23/08/18	Mon 27/08/18	12	Adeeba Naushin
20	Normal	Header and Footer	1 day	Thu 23/08/18	Fri 24/08/18	12	Lakshmi Ramesh
21	Normal	UI JQuery Scripts	1 day	Mon 27/08/18	Tue 28/08/18	14	
22	Normal	Login Page	0.5 days	Mon 27/08/18	Mon 27/08/18	15	Lakshmi Ramesh
23	Normal	Sign Up Page	1 day	Mon 27/08/18	Tue 28/08/18	16	Lakshmi Ramesh
24	Normal	Dashboard Page	1 day	Mon 27/08/18	Tue 28/08/18	17	Helene Tran,Lakshmi Ramesh
25	Normal	Home Page	1 day	Mon 27/08/18	Tue 28/08/18	18	Lakshmi Ramesh
26	Normal	User Profile Page	0.5 days	Mon 27/08/18	Mon 27/08/18	19	Adeeba Naushin
27	Normal	Header and Footer	1 day	Mon 27/08/18	Tue 28/08/18	20	Lakshmi Ramesh
28	Normal	Front End Ready	0 days	Mon 27/08/18	Mon 27/08/18	14	
29	Normal	Back End Implementation	26 days	Thu 23/08/18	Fri 28/09/18	12	
30	Normal	Back End Platform	12 days	Thu 23/08/18	Mon 10/09/18	12	
31	Normal	Project Set Up	1 day	Thu 23/08/18	Fri 24/08/18	12	Prabhath Darshana
32	Normal	Spring Integration	1 day	Fri 24/08/18	Mon 27/08/18	31	Prabhath Darshana
33	Normal	Spring Rest API Implementation	2 days	Mon 27/08/18	Wed 29/08/18	32	Prabhath Darshana
34	Normal	Spring JPA Database service Implementation	1 day	Wed 29/08/18	Thu 30/08/18	33	Prabhath Darshana
35	Normal	JWT Authentication	7 days	Thu 30/08/18	Mon 10/09/18	34	Prabhath Darshana
36	Normal	Yandex API Integration	2 days	Mon 10/09/18	Wed 12/09/18	35	
37	Normal	Yandex Rest API familiarization	1 day	Mon 10/09/18	Tue 11/09/18	35	Prabhath Darshana
38	Normal	Yandex Rest API Endpoint	1 day	Tue 11/09/18	Wed 12/09/18	37	Prabhath Darshana
39	Normal	CopyLeaks API Integration	2 days	Wed 12/09/18	Fri 14/09/18	38	
40	Normal	CopyLeaks API familiarization	1 day	Wed 12/09/18	Thu 13/09/18	38	Prabhath Darshana
41	Normal	CopyLeaks API Implementation	1 day	Thu 13/09/18	Fri 14/09/18	40	Prabhath Darshana
42	Normal	Core Functionality	10 days	Fri 14/09/18	Fri 28/09/18	41	
43	Normal	Text Input request hand	5 days	Fri 14/09/18	Fri 21/09/18	41	Prabhath Darshana
44	Normal	File Input request hand	5 days	Fri 21/09/18	Fri 28/09/18	43	Prabhath Darshana
45	Normal	Back End Ready	0 days	Fri 28/09/18	Fri 28/09/18	29	
46	Normal	Integration	3 days	Fri 28/09/18	Wed 3/10/18	21,44	
47	Normal	Front end integration with back end	2 days	Fri 28/09/18	Tue 2/10/18	21,44	Helene Tran,Lakshmi Ramesh,Prabhath Darshana
48	Normal	Integration Verification	1 day	Tue 2/10/18	Wed 3/10/18	47	Lakshmi Ramesh,Prabhath Darshana
49	Normal	Code Review Phase	3 days	Wed 3/10/18	Mon 8/10/18	48	
50	Normal	Code Review	1 day	Wed 3/10/18	Thu 4/10/18	48	Lakshmi Ramesh,Prabhath Darshana
51	Normal	Code Review Comments Changes incorporation	2 days	Thu 4/10/18	Mon 8/10/18	50	Lakshmi Ramesh,Prabhath Darshana
52	Normal	Application Development Completed	0 days	Mon 8/10/18	Mon 8/10/18	51	
53	Normal	Testing phase	9.5 days	Thu 4/10/18	Wed 17/10/18	50	
54	Normal	Test Plan Preparation	0.5 days	Thu 4/10/18	Thu 4/10/18	50	Lakshmi Ramesh
55	Normal	Test Case Preparation	1 day	Fri 5/10/18	Fri 5/10/18	54	Adeeba Naushin ,Helene Ibro,Helene Tran,Lakshmi Ramesh
56	Normal	Test Case Execution	2 days	Mon 8/10/18	Tue 9/10/18	55	Adeeba Naushin ,Helene Ibro,Helene Tran,Lakshmi Ramesh
57	Normal	Bug Fixing	5 days	Wed 10/10/18	Tue 16/10/18	56	Helene Tran,Lakshmi Ramesh,Prabhath Darshana
58	Normal	Test Case Execution	1 day	Wed 17/10/18	Wed 17/10/18	57	Adeeba Naushin ,Helene Ibro,Helene Tran,Lakshmi Ramesh
59	Normal	Application Ready for Production Deployment	0 days	Wed 17/10/18	Wed 17/10/18	58	
60	Normal	Project Report Documentation	3 days	Wed 17/10/18	Fri 19/10/18	57	Adeeba Naushin ,Gustavo Borromeo,Helene Ibro,Helene Tran,Jin Wang,Lakshmi Ramesh,Prabhath Darshana,Sai Jujhavarapu
61	Normal	Documentation Complete	0 days	Tue 16/10/18	Tue 16/10/18	57	
62	Normal	Project Demo	0.5 days	Tue 23/10/18	Tue 23/10/18	60	Adeeba Naushin ,Gustavo Borromeo,Helene Ibro,Helene Tran,Jin Wang,Lakshmi Ramesh,Prabhath Darshana,Sai Jujhavarapu
63	Normal	End of Project	0 days	Tue 23/10/18	Tue 23/10/18	62	

TRACKING GANTT

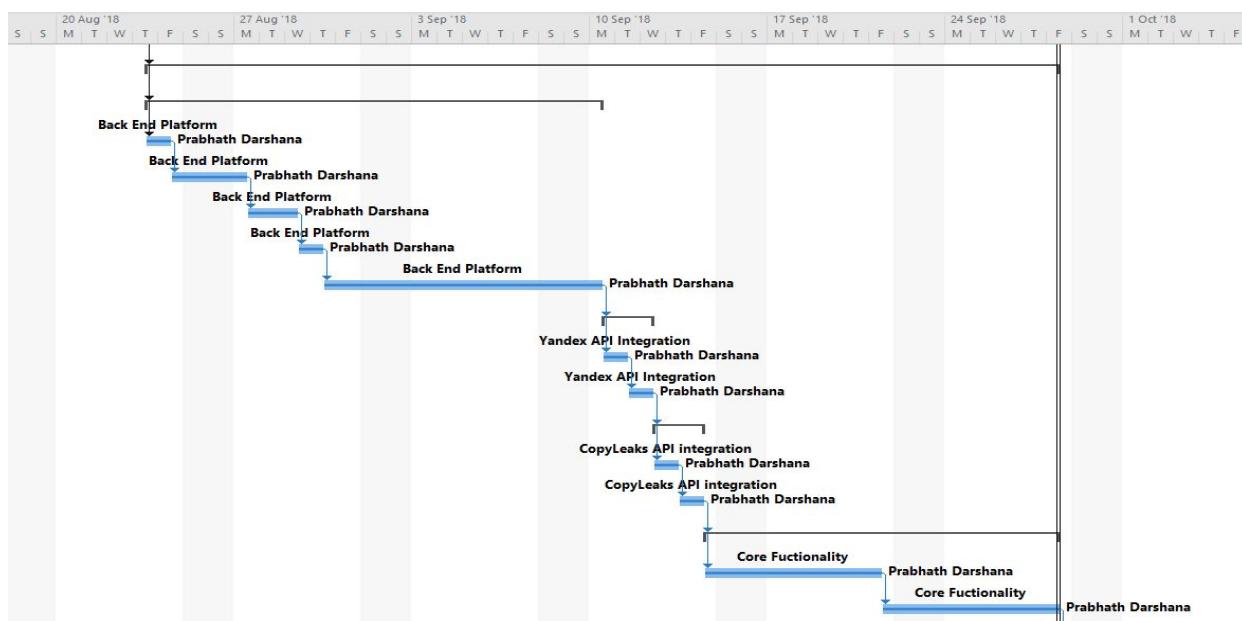
GANTT CHART PART 2



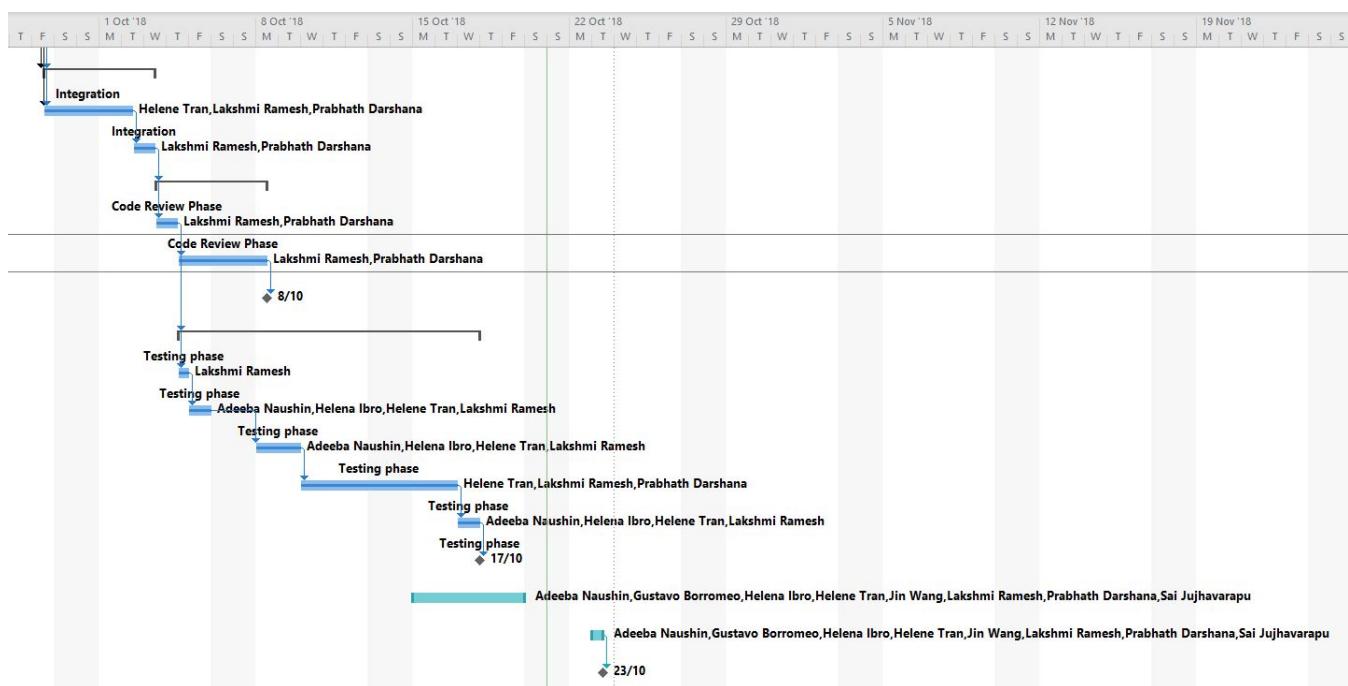
GANTT CHART PART 3



GANTT CHART PART 4



GANTT CHART PART 5



Effort estimation

Tasks	Estimated Effort	Assignee
Project Planning Phase	1.5 days	
Requirement Analysis	1 day	Adeeba Naushin Xeena, Gustavo Borromeo, Helena Ibro, Helene Tran, Jin Wang, Lakshmi Ramesh, Prabhath Darshana, Sai Jujhavarapu
Project charter documentation	0.5 days	Gustavo Borromeo
Sign project charter	0.5 days	
Research Phase	7 days	
Yandex API Research	7 days	Jin Wang, Sai Jujhavarapu
Database Design	4 days	Lakshmi Ramesh
UI Wireframes	5 days	Helena Ibro, Helene Tran
Plagiarism tool research	4 days	Gustavo Borromeo, Jin Wang, Prabhath Darshana, Sai Jujhavarapu
Progress report presentation	0 days	Gustavo Borromeo
Development Phase	32 days	
UI Screens Development	2 days	
Login Page	2 days	Helena Ibro
Sign Up Page	2 days	Helena Ibro
Documents Page	2 days	Helene Tran
Home Page	1 day	Lakshmi Ramesh
User Profile Page	2 days	Adeeba Naushin Xeena
Header and Footer	1 day	Lakshmi Ramesh

UI jQuery Scripts	1 day	
Login Page	0.5 days	Lakshmi Ramesh
Sign Up Page	1 day	Lakshmi Ramesh
Documents Page	1 day	Helene Tran, Lakshmi Ramesh
Home Page	1 day	Lakshmi Ramesh
User Profile Page	0.5 days	Helene Tran
Header and Footer	1 day	Lakshmi Ramesh
Back End implementation	26 days	
Back End Platform	12 days	
Project Set Up	1 day	Prabhath Darshana
Spring integration	1 day	Prabhath Darshana
Spring Rest API Implementation	2 days	Prabhath Darshana
Spring JPA Database Service Implementation	1 day	Prabhath Darshana
JWT Authentication Implementation	7 days	Prabhath Darshana
Yandex API Integration	2 days	
Yandex Rest API familiarization	1 day	Prabhath Darshana
Yandex Rest API Endpoint Implementation	1 day	Prabhath Darshana
CopyLeaks API Integration	2 days	
CopyLeaks API Familiarization	1 day	Prabhath Darshana

Copyleaks API Implementation	1 day	Prabhath Darshana
Core Functionality	10 days	
Text Input request handling	5 days	Prabhath Darshana
File Input request handling	5 days	Prabhath Darshana
Integration	3 days	
Front-End integration with Back-End	2 days	Helene Tran, Lakshmi Ramesh, Prabhath Darshana
Integration Verification	1 day	Lakshmi Ramesh, Prabhath Darshana
Code Review Phase	3 days	
Code Review	1 day	Lakshmi Ramesh, Prabhath Darshana
Code Review Comments Changes incorporation	2 days	Lakshmi Ramesh, Prabhath Darshana
Testing phase	9.5 days	
Test Plan Preparation	0.5 days	Lakshmi Ramesh
Test Case Preparation	1 day	Adeeba Naushin Xeena, Helena Ibro, Helene Tran, Lakshmi Ramesh
Test Case Execution	2 days	Adeeba Naushin Xeena, Helena Ibro, Helene Tran, Lakshmi Ramesh
Bug Fixing	5 days	Helene Tran, Lakshmi Ramesh, Prabhath Darshana
Test Case Execution	1 day	Adeeba Naushin Xeena, Helena Ibro, Helene Tran, Lakshmi Ramesh
Project Report Documentation	5 days	Adeeba Naushin Xeena, Gustavo Borromeo, Helena Ibro, Helene Tran, Jin Wang, Lakshmi Ramesh, Prabhath Darshana, Sai Jujhavarapu

Risk Management

Risk management helps the organization understand the potential problems that occur in a project and how they may impact a project's success. The main objective of risk management is to identify the issues before its occurring in the project so that we can plan risk management activities and solve that issue throughout the project. Risk component is the probability of the risk impact to the project.

The Risk Management Process is the following:

1. Identifying risks
2. Performing risk analysis
3. Planning risk management
4. Planning risk responses

Identification

- Searches for potential risks which can have impact on project success
- Tries to identify the type of risk and which department does it impact

Risk analysis

- Identified risks are evaluated and determine the probability of that risk happening and the consequence of its impact on project and on organization
- The risk analysis is done by a qualitative analysis, where risks are categorized into three levels, low, medium or high.

High Risk - immediate response required.

Moderate Risk - Management should give some attention.

Low Risk - Can be solved in the regular check-ups.

		Consequences		
		MINOR	MODERATE	MAJOR
likelihood	LOW	Low risk	Low risk	Moderate risk
	MEDIUM	Low risk	Moderate risk	High risk
	HIGH	Moderate risk	High risk	High risk

Planning risk management

- The main objective of the risk management is to remove or to reduce risks
- Risk management produces a plan or control recommendations to avoid risks
- Usually starts with dealing high priority risks first and, then moving down to less priority risks

Risk responses

After planning risk management, responses are applied.

- Avoiding by bypassing the risk
- Transferring the risk of an organization to third party
- Reducing the risk by taking necessary actions
- Having contingency plan to deal with the risk if it occurs
- Accepting the risk impact on the project if there are no ways to eradicate it or avoid it

The following table gives an overview of the risks that may occur in our project:

Id	Risk name	Conse- quence	Likeli- hood	Impact Level	Risk response	Who is concerned?
1	The team members skills are not sufficient to complete the project.	Moderate	Medium	Moderate risk	If all members with lacking skills: technical analysis and literature review. If at least one member is skilled: allocate time to train the others.	Project manager, developers
2	The time estimation was unrealistic.	Minor	High	Moderate risk	Incremental development and evaluation during the weekly meeting	All internal stakeholders
3	Too much amount of work in a short time.	Minor	Medium	Low risk	Keep track of all the work and weekly meeting. Redistribution of work if necessary	All internal stakeholders
4	A member gives up the project.	Moderate	Medium	Moderate risk	If possible, find someone to replace (new student that come to the subject). Otherwise, one meeting discussing about the work that the member had to do and split it between members	All internal stakeholders

5	Unnecessary features added and requirements not met. (Gold plating)	Major	High	High risk	Priority given to meet the requirements of the project. If everything is finished, propose additional features to the project	All internal stakeholders
6	The client changes the requirement.	Major	Medium	High risk	Incremental development	All internal stakeholders
7	The final product is not user-friendly.	Major	Medium	High risk	Wireframe and how to use the software during a meeting with the instructor	All internal stakeholders

Meeting records

The team met for the first time on Friday the 10th of August 2018 to get to know each other and discuss about the assigned project. It was agreed on a weekly meeting time every Monday from 4:30PM-5:30PM and if necessary sometimes the meeting would start from 3:30PM. For the detailed meeting reports, please refer to the appendix of this document under the section “Meeting reports”.

The degree of success of the project

- The project meets the scope as agreed and able to deliver within the agreed time frame.
- All success criteria were met by the time of project delivery as:
 - Account Management
 - Check for plagiarism
 - Language choice
 - Check the history or documents

Change Management

Projects are susceptible to have changes during the initiation and planning phases. These changes can be made with ease while the scope statement of work, project charter and work breakdown structure have yet to be finalized, but not after. If there are any changes that have to be made due to unforeseen reasons on account of unidentified risks or external/internal factors, then these changes have to be approved by all or the majority of the stakeholders along with the project sponsor. During the initial phases the only changes made were mostly regarding the logo, the name and the UI design. After the project charter was signed by all parties, no additional change requests were made to CopyCat and it was finished as planned.

Requirements Specifications

Functional Requirements

The objectives of the cross-language plagiarism detection are as follows:

- User management
- Document management
- Allow the user to experience smooth navigation across all parts of the tool
- Allow the user to provide a plain text file containing an article written in English
- Allow the user to select at least one target language other than English
- The tool will search the internet for similar articles writing in English or in the target language
- Display similarity percentage
- Highlight the similarities between the two files
- Provide links to plagiarized documents / articles / websites

Data Requirements

- User credentials are required for document security in a database
- Credentials required to access APIs (CopyLeaks, Yandex)

Reliability Requirements

- The tool must function as expected under any reasonable circumstance
- The tool must give close to accurate results on plagiarized document every time
- The tool must be able to process each paper, within 5 seconds and produce results

Access Requirements

- Correct email-id which is provided at the time of signing up
- Correct password for email-id provided
- Valid tokens for access of the Yandex API
- Valid keys for the access of the Copyleaks API

Privacy Requirements

- User credentials should be confidential while logging in to a system and also while accessing the APIs
- Tool should require to store and retrieve documents to their respective user
- Each user should have unique valid tokens and keys for APIs

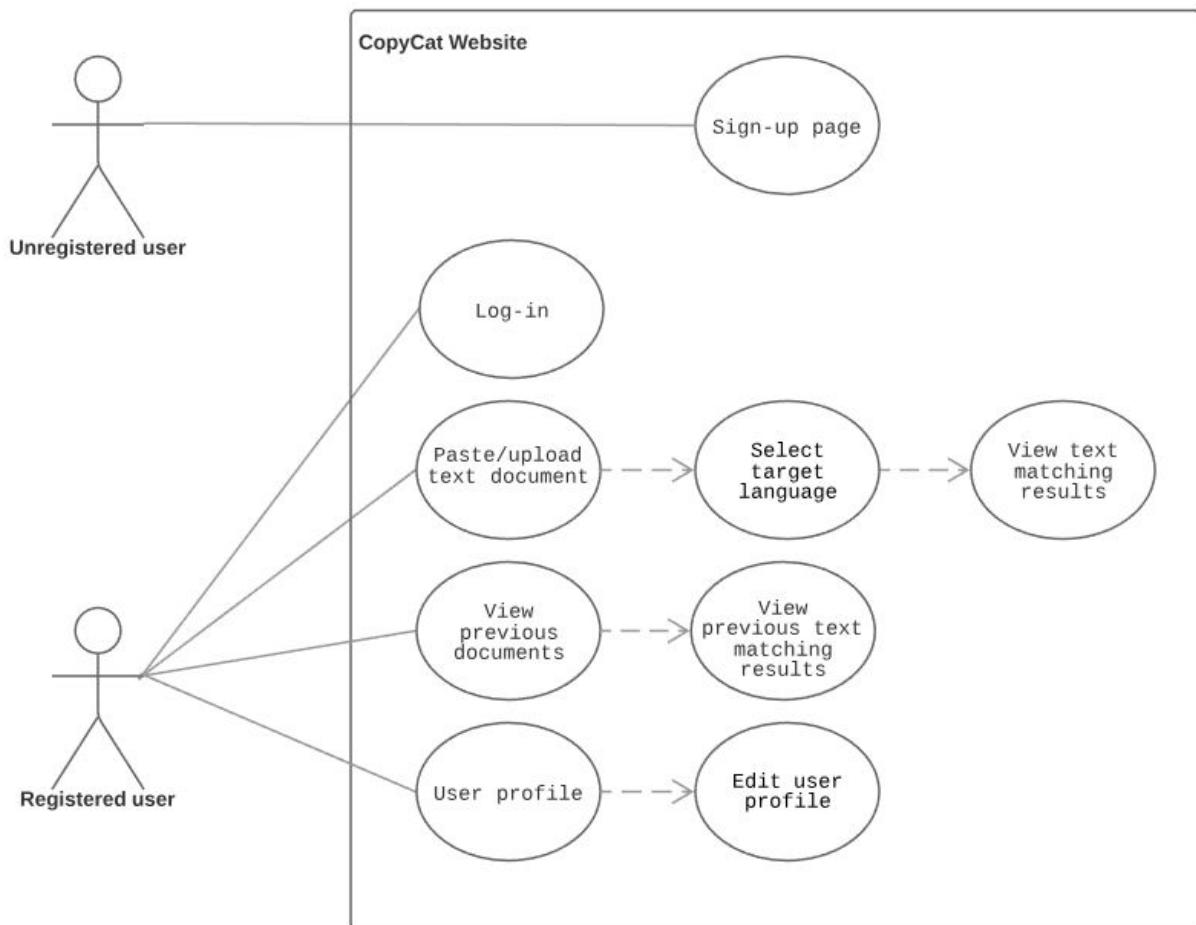
Usability Requirements

- The tool must have easy to understand layout, and should be more aesthetically appealing in a way that attracts all age groups
- The tool must choose the appropriate font and size of the characters in order to make sure everyone understands them
- The tool must show the results and highlight the problem areas more clearly
- The tool must give error pop-ups as required

Analysis

The core of this project is to develop a cross-language text-matching software targeted at students and educational institutes. To that purpose, an account is bound to each user, so that they can log in, upload files or copy-paste text, and keep track of their documents. Afterwards, a result page has to be shown where all the plagiarised content has to be highlighted and linked to the source page. An additional feature is to give the possibility to add a target language other than the input text language.

Use case diagram

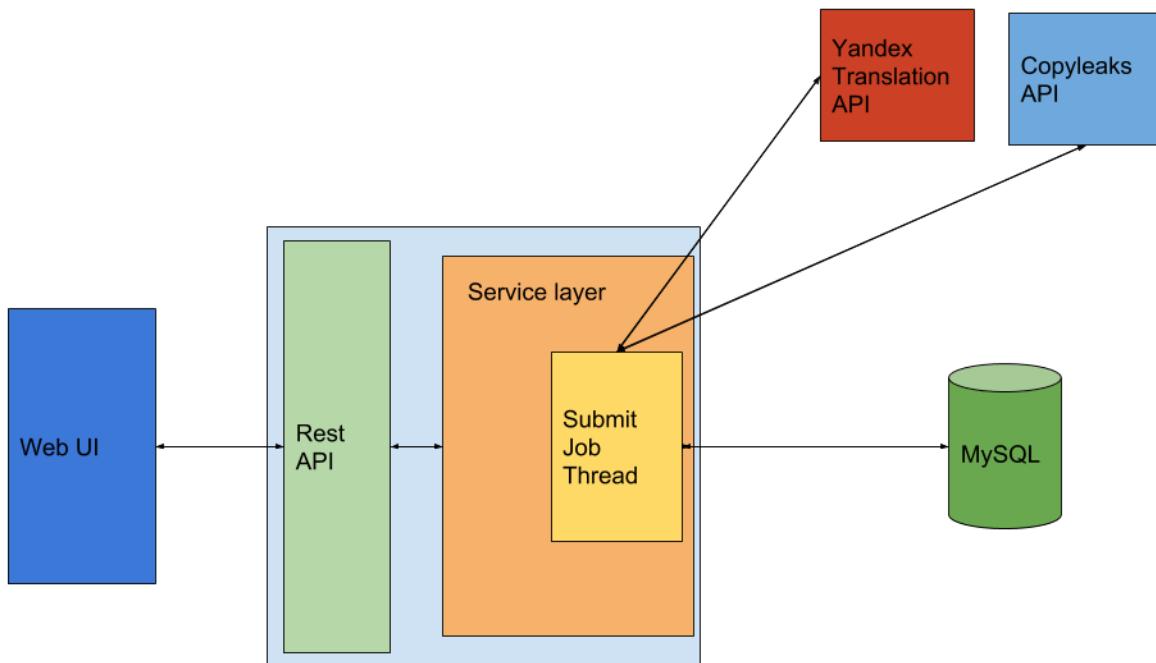


Use case description

- The system allows a user to sign up through a web page using their name, email and password to become a registered user.
- A registered user is able to log into their account.
- A registered user is able to upload a text file or paste into a text box, select a language to search for plagiarism and then view matching text.
- A registered user is able to view their previously processed documents alongside matching results.
- A registered user is able to view their profile and edit their details.

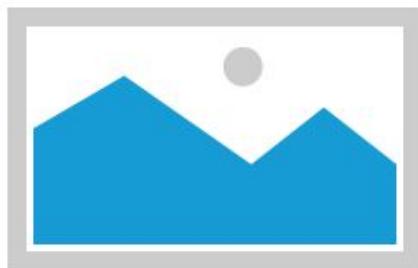
Design

Architecture diagram



UI Wireframes

Signup Page



Logo

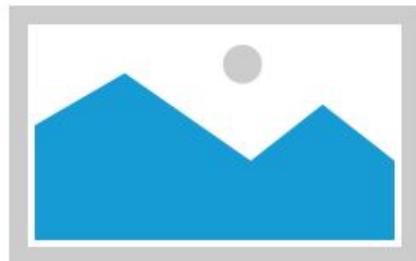
Sign Up

First name
Last name
Email
Password
Confirm Password

[Sign Up](#)

[Already a member?](#)

Login Page



Logo

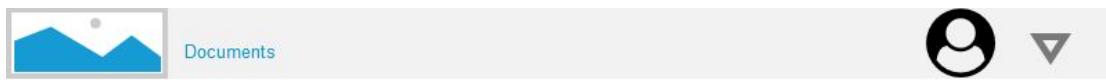
Member Login

Username
Password

[Login](#)

[Create new account ->](#)

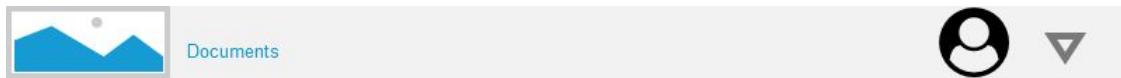
Home Page



Cross Language Plagiarism Detection Tool

A form for pasting text. It includes a large text area labeled "Copy Text" with a vertical scrollbar, two small icons (an upward arrow and a circular arrow), a dropdown menu labeled "Select Target Language" with a dropdown arrow, and a "Check" button.

Documents Page



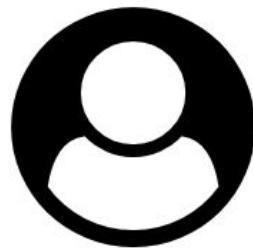
My Documents



User Profile



Documents



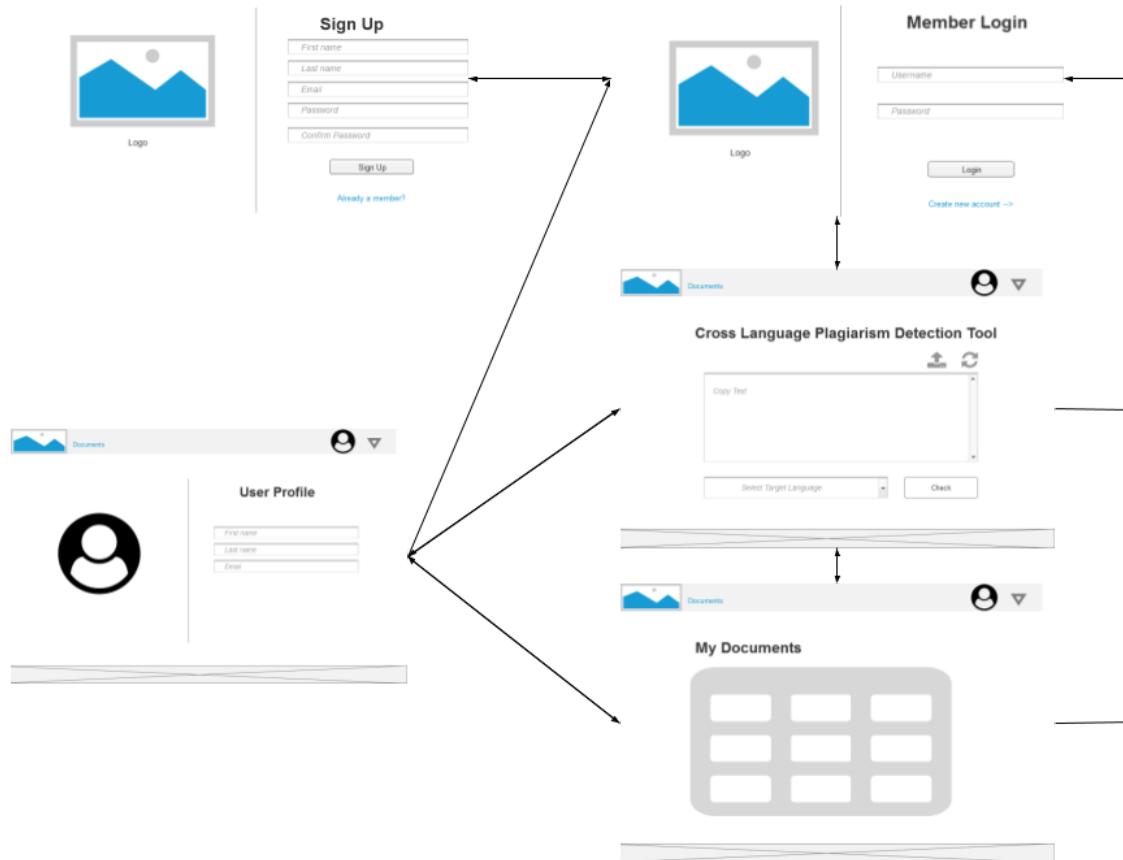
User Profile

First name

Last name

Email

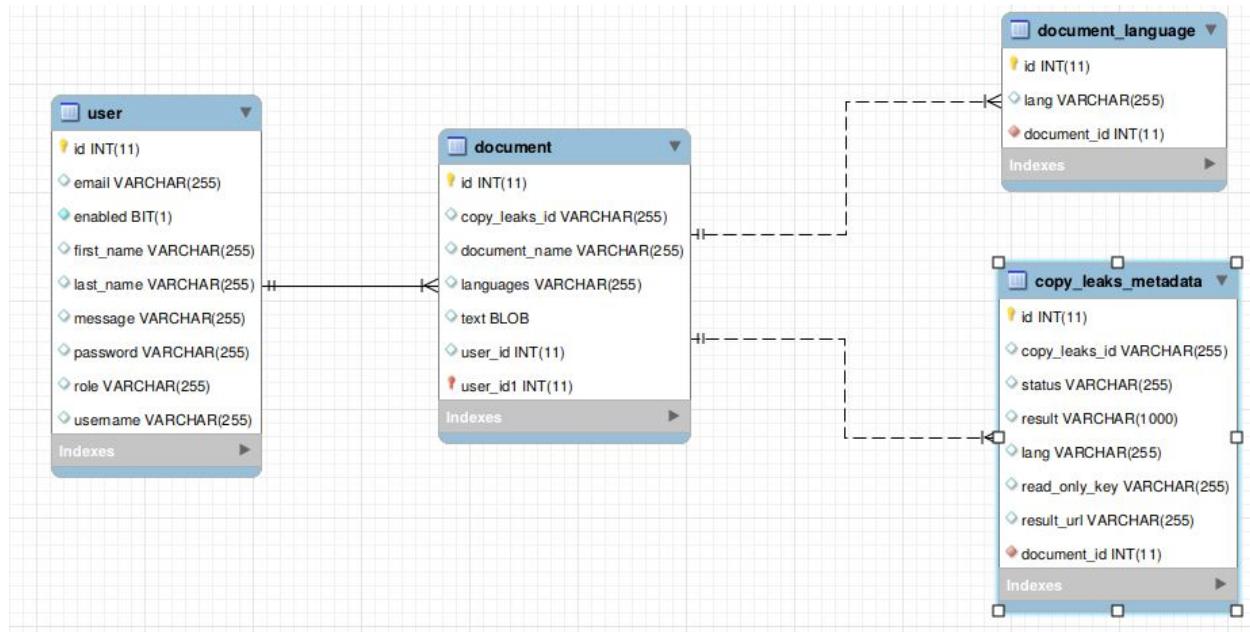
User Flow Diagram



Description

From the sign up page, the user is able to sign-up and proceed to the member log-in page. Upon logging in, the user is brought to the homepage where they can navigate to view their profile details, view previously scanned documents and upload a new document to be scanned for plagiarism.

Database Design



Implementation

Overview

This project is developed using Java programming language with help of Spring framework. The project has two main components:

- Java REST API backend which handles requests for user management, translation and plagiarism check
- Web UI based on HTML5 and jQuery/Ajax technologies to function backend rest calls

Technical Specification

Version Control

- Git

Integrated Development Environment (IDE)

- IntelliJ IDE

Backend Specification

- Programming Language: Java 10
- Dependency Management: Gradle 4.9
- Database: MySQL 5.6

- Frameworks
 - Spring Framework
 - Spring boot
 - Spring JPA
 - Spring Rest
 - Spring MVC
 - Json web token (jwt) framework

UI Specification

- HTML
- Javascript frameworks: JQuery and Ajax

Third Party API Integration

- Plagiarism Check API: CopyLeaks API
- Translator API: Yandex Translation API

References

Coding References

- <https://spring.io/guides>
- <https://www.callicoder.com/spring-boot-file-upload-download-rest-api-example/>
- <https://www.youtube.com/watch?v=-HYrUs1ZCLI>

API References

- <https://tech.yandex.com/translate/>
- <https://api.copyleaks.com/documentation>

Installation Guide

System Requirements

- Java 10+
- MySQL 5.6+
- Gradle 4.9+

Configuration

Application settings can be modified in application.properties file if necessary.

```
server.port = 8080

spring.jpa.hibernate.ddl-auto=update
spring.datasource.url=jdbc:mysql://localhost:3306/teamblue
spring.datasource.username=teamblue
spring.datasource.password=test123

logging.level.root=DEBUG
logging.level.org.springframework.web=DEBUG
logging.level.org.hibernate=ERROR

spring.servlet.multipart.enabled=true
spring.servlet.multipart.file-size-threshold=2KB
spring.servlet.multipart.max-file-size=200MB
spring.servlet.multipart.max-request-size=215MB
file.upload-dir=./uploads

translator.apikey=trnsl.1.1.20180825T111028Z.90b38aa17941b979.5d7446dd6e68768bd64e2107bb1dbda242031900
translator.url=https://translate.yandex.net/api/v1.5/tr.json

copyleaks.email=ht185@uowmail.edu.au
copyleaks.key=8c2dea49-a6d1-407f-ab75-99a67a06f487
copyleaks.url=https://api.copyleaks.com/v1
```

Get the project cloned

```
git clone git@github.com:uowteamblue/teamblue.git
```

Setup database

```
CREATE DATABASE teamblue;
CREATE USER 'teamblue'@'localhost' IDENTIFIED BY 'test123';
GRANT ALL PRIVILEGES ON teabblue.* TO 'teamblue'@'localhost';
FLUSH PRIVILEGES;
```

Build project

```
./gradlew build
```

Run

```
./gradlew bootRun
```

Server up and running

<http://localhost:8080/index.html>

Test Documentation

Test plan

Introduction

This test plan describes the testing approach and overall framework that will drive the testing of the CopyCat Plagiarism check application.

Test Strategy

The testing will be driven by the test cases prepared. The entire application has been divided into different components and individual test cases are prepared for each of these components. The test cases are prepared based on the requirements gathered during the initial requirements gathering phase. The test cases will be checking for functional correctness and requirements matching. The back end and front end were developed separately and then integrated later on. During the development phase the back end was tested using Postman to simulate the front end rest API calls. Postman is an API development environment used for testing web services. Once both the front end and back end implementation is completed the front end will be integrated with the back end and a round of integration testing is performed to ensure smooth working of the components.

Testing Approach

Black Box Testing is the software testing method used for testing the application. All the test cases are prepared based on a black box testing approach. The internal structure/design/implementation of the item being tested is not known to the testers. This method attempts to find errors in the following categories:

- Incorrect or missing functions
- Interface errors
- Errors in data structures or external database access
- Behavior or performance errors
- Initialization and termination errors

Black Box Testing method is applicable to the following levels of software testing:

- Integration Testing
- System Testing

Execution Strategy

Entry and Exit Criteria

1. Entry Criteria for start of execution phase: The activities listed in the prerequisites section of the test case is 100% complete.
2. Exit Criteria: All test cases are executed and there is a 95% pass rate with no critical or high priority issue in open status.

Test Cycles

1. There will be two cycles for functional testing.
2. Each cycle will execute all the test cases.
3. The objective of the first cycle is to ensure that all the requirements are met and to identify any blocking, critical defects, and most of the high defects.
4. In case of any blocking issues testers can use some work-around in order to get to all the scripts.
5. The objective of the second cycle is to retest the application to ensure that all issues identified in the first phase was fixed and to ensure that the fixes did result in more issues.

Validation and Defect Management

1. The defects will be mentioned as comments on the test cases execution excel.
2. Testers can perform additional testing in case they find gaps in the test cases, additional issues found while testing should be documented and reported to the technical team.
3. It is the responsibility of the testers to open the defects and inform from the technical team of the issues found.
4. During the second round of testing tester should ensure that all the defects found in round 1 has been fixed and also do a validation to ensure that the fix has not resulted in new issues.

Test Principles

- Testing will be focused on meeting the business objectives, requirements and quality.
- All resources performing the testing activities will follow a common and consistent procedures.
- Testing processes will be well defined and documented.
- All testers will have the testing environment and data which, will emulate a production environment as much as possible.
- Testing will be a repeatable, quantifiable, and measurable activity.
- For each testing phase there will be well defined goals and objectives.

Item Pass/Fail Criteria

- A test case is said to be a PASS if the actual result obtained after executing all the steps detailed in the test case is the same as the expected result given for that test case.
- A test case is said to be a FAIL if there is any variation of the actual result from the expected result. Even if the variation is a minor one it will be considered as a failed test case.

Test Deliverables

- Test Plan
- Functional Test Cases

- Defects
- Test Reports

Test Environment

- The application will be set up and each of the testers individual systems
- Each system will have the server setup, database setup and application running

Features to be Tested

- The entire application is to be tested to ensure that all the requirements are met.

Schedule

- Testing will commence once the development phase is completed.

Testing phase	Estimated Effort	Assigned to
Test Plan Preparation	0.5 day	Lakshmi Ramesh
Test Case Preparation	1 day	Adeeba Naushin Xeena, Helena Ibro, Helene Tran, Lakshmi Ramesh
Test Case Execution	2 days	Adeeba Naushin Xeena, Helena Ibro, Helene Tran, Lakshmi Ramesh
Bug Fixing	5 days	Helene Tran, Lakshmi Ramesh, Prabhath Darshana
Test Case Execution	1 day	Adeeba Naushin Xeena, Helena Ibro, Helene Tran, Lakshmi Ramesh

Responsibilities

Technical Team

- It is the responsibility of the technical team to perform a round of testing to ensure that their components are working as expected.
- They should not be waiting on the testing team to uncover all the issues. The developers need to ensure all issues report in their respective components are fixed by them and retested by the testers.
- The technical team should ensure that during issue fixes they don't cause any more issues to arise.

Testers

- It is the responsibility of the testers to execute all the test cases. In case of any blockers, the testers can do some work around to execute the test cases.
- The testers should ensure that all issues uncovered are documented and reported to the technical team for fixing.

Test cases

CopyCat Test Case					
Test Case ID	1	Test Case Title	Login page		
Created by	Helena Ibro	Tested by	Helena Ibro		
Date tested	8.10.2018	Test Case Description	Testing the different scenarios that might happen in the login page		
Nr.	Step detail	Expected Results	Actual Results	Comments	Status
1	Uncorrect email, uncorrect password	Error saying that the credentials are not correct	Invalid credentials!		
2	Uncorrect email, correct password	Error saying that the credentials are not correct	Invalid credentials!		
3	Correct email, uncorrect password	Error saying that the credentials are not correct	Invalid credentials!		
4	Correct email, correct password	Should login successfully and be redirected to the homepage	Open homepage		
5	Empty email, empty password	Error messages in every field saying that email and password respectively are required	Email error: Valid email is required ex@abc.xyz; Password error: Password is required		
6	Correct email, empty password	Error in the password field	Password error: Password is		
7	Empty email, correct password	Error in the email field	Email error: Valid email is required ex@abc.xyz		
8	Press "Forgot Password?"	Green message underneath member login saying an email was send to reset password.	Nothing.		
9	Press "Create your Account"	Should redirect to the Sign UP	Member Sign Up page is opened		



CopyCat Test Case

Test Case ID	2	Test Case Title	Sign Up page		
Created by	Helena Ibro	Tested by	Helena Ibro		
Date tested	08.10.2018	Test Case Description	Testing the different scenarios that might happen in the signup page		
<hr/>					
Nr.	Step detail	Expected Results	Actual Results	Comments	Status
1	Press Sign Up button	Required fields get a red circle with a "!" inside to indicate they are mandatory	First name, last name, birthday, email and password are required.		
2	Complete only first name and press Sign Up	Error on the remaining mandatory fields	last name, birthday, email and password are required.		
3	Complete only first and last name	Error on the remaining mandatory fields	birthday, email and password are required.		
4	Complete only first and last name and birthday	Error on the remaining mandatory fields	email and password are required.		
5	Complete only first and last name, birthday and a valid email	Error on the remaining mandatory fields	password is required		
6	Complete all fields expect confirm password	Error that the passwords do not match	Passwords do not match		
7	Complete all fields with unvalid email and not matching passwords	Error in email field and passwords do not match	Error in email field: Valid email is required; Error on confirm password field: Passwords do not match		
8	Complete all fields with unvalid email and matching passwords	Error in email field	Error in email field: Valid email is required		
9	Complete all fields with a valid email and not matching passwords	Error in confirm password filed	Error on confirm password field: Passwords do not match		
10	Complete all fields correctly	Should redirect us to the Login	Opens Login page		
11	Press "Already a member? Login"	Should redirect us to the Login	Stays on the Sign Up page		



CopyCat Test Case

Test Case ID	3	Test Case Title	Top Navigation		
Created by	Lakshmi Ramesh	Tested by	Lakshmi Ramesh		
Date tested	10/10/2018	Test Case Description	Testing component's in the top navigation		
Nr.	Prerequisites	Nr.	Test Data Requirement		
1	System is up and running	1			
Nr.	Step detail	Expected Results	Actual Results	Comments	Status
1	Log in to the application with the correct credentials	Redirects to the home page.	Redirected to the home page.		
2	Click on the documents link in top navigation	Page will be redirected to the documents page	Redirected to the documents page.		
3	Click on Copy Cat logo on top navigation	Page will be redirected to the home page	Redirected to the home page.		

 **CopyCat Test Case**

Test Case ID	4	Test Case Title	Top Navigation		
Created by	Lakshmi Ramesh	Tested by	Lakshmi Ramesh		
Date tested	10/10/2018	Test Case Description	Testing component's in the top navigation		
Nr.	Prerequisites	Nr.	Test Data Requirement		
1	System is up and running	1			
Nr.	Step detail	Expected Results	Actual Results	Comments	Status
1	Log in to the application with the correct credentials	Redirects to the home page.	Redirected to the home page.		
2	Click on the dropdown menu link in top navigation	Drop down menu will be displayed, showing links to my profile page and sign out link	Drop down menu is displayed, showing links to my profile page and sign out link		
3	Click on My profile link	Page will be redirected to the My profile page.	Page is redirected to the My profile page.		
4	Click on Sign out	User logs out of the system and is redirected to the login page	User logs out of the system and is redirected to the login page		

 **CopyCat Test Case**

Test Case ID	5	Test Case Title	Home Page		
Created by	Lakshmi Ramesh	Tested by	Lakshmi Ramesh		
Date tested	10/10/2018	Test Case Description	Testing components in the home page		
Nr.	Prerequisites	Nr.	Test Data Requirement		
1	System is up and running	1			
Nr.	Step detail	Expected Results	Actual Results	Comments	Status
1	Log in to the application with the correct credentials	Redirects to the home page.	Redirected to the home page.		
2	Copy paste the text to be checked into the text editor and click on Check Plagiarism button.	Error message to select target language will be displayed.	Error message to select target language was displayed.		
3	Select target language and then click on Check Plagiarism button.	Request is submitted and page will be redirected to the documents page.	Request is submitted and page was redirected to the documents page.		

 **CopyCat Test Case**

Test Case ID	6	Test Case Title	Home Page		
Created by	Lakshmi Ramesh	Tested by	Lakshmi Ramesh		
Date tested	10/10/2018	Test Case Description	Testing components in the home page		
Nr.	Prerequisites	Nr.	Test Data Requirement		
1	System is up and running	1			
Nr.	Step detail	Expected Results	Actual Results	Comments	Status
1	Log in to the application with the correct credentials	Redirects to the home page.	Redirected to the home page.		
2	Click on the upload link and upload document other than a text document and click on Check Plagiarism button.	Error message should be displayed to upload only text document.	Error message should be displayed to upload only text document.		

CopyCat Test Case					
Test Case ID	7	Test Case Title	Home Page		
Created by	Lakshmi Ramesh	Tested by	Lakshmi Ramesh		
Date tested	10/10/2018	Test Case Description	Testing components in the home page		
Nr.	Prerequisites	Nr.	Test Data Requirement		
1	System is up and running	1			
Nr.	Step detail		Expected Results	Actual Results	Comments
1	Log in to the application with the correct credentials		Redirects to the home page.	Redirected to the home page.	
2	Click on the upload link and upload a text document and click on Check Plagiarism button.		Error message to select target language will be displayed.	Error message to select target language was displayed.	
3	Select target language and then click on Check Plagiarism button.		Request is submitted and page will be redirected to the documents page.	Request is submitted and page was redirected to the documents page.	

CopyCat Test Case					
Test Case ID	8	Test Case Title	Home Page		
Created by	Lakshmi Ramesh	Tested by	Lakshmi Ramesh		
Date tested	10/10/2018	Test Case Description	Testing components in the home page		
Nr.	Prerequisites	Nr.	Test Data Requirement		
1	System is up and running	1			
Nr.	Step detail		Expected Results	Actual Results	Comments
1	Log in to the application with the correct credentials		Redirects to the home page.	Redirected to the home page.	
2	Select a target language and click on Check Plagiarism button.		Error message should be displayed to add text or to upload text document.	Error message was displayed to add text or to upload text document.	



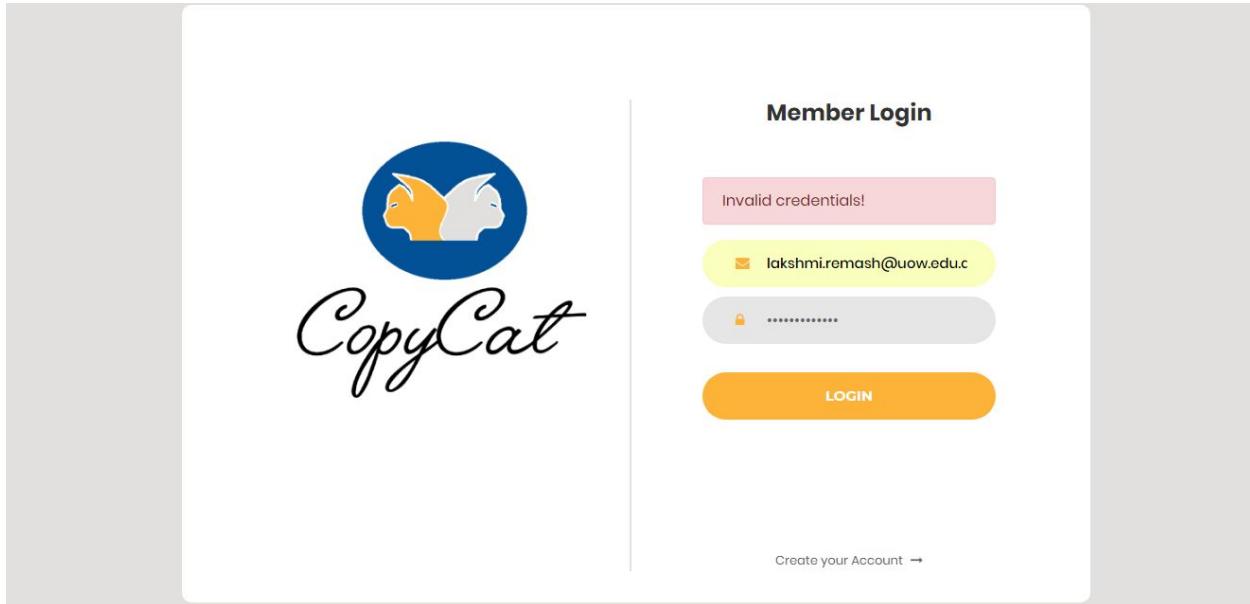
CopyCat Test Case

Test Case ID	9	Test Case Title	My Document page				
Created by	Helene Tran	Tested by	Helene Tran				
Date tested	8.10.2018	Test Case Description	Testing the different scenarios that might happen in the Document page				
Nr.	Prerequisites	Nr.	Test Data Requirement				
1	System is up and running	1					
2	User is signed in using valid E-mail address and password	2					
Nr.	Step detail		Expected Results		Actual Results	Comments	Status
1	List of all uploaded documents		Id, document name, and links of the two langages are all displayed		All of these information displayed		
2	Page displayed after adding a new document		A new row appears at the end of the list with the name of the new document		Last document displayed at the bottom of the list		
3	From dashboard page, clicking the CopyCat icon		Return to the Plagiarism page		Plagiarism page opened		
4	From dashboard page, clicking the Document button		Stay in the page		The home page is opened		
5	From dashboard page, clicking the arrow on the right top corner		Give the list of options (My Profile and Sign Out)		List of options opened		
6	After clicking the arrow in the right top corner, clicking My Profile		Go to My Profile page		My Profile page opened		
8	After clicking the arrow in the right top corner, clicking Sign Out		Go to the Login Page		Login page opened		
9	If the text box is used, document name		The document name is in the following format : doc_first5characters		The document name is in the right format		
10	If the upload file button is used, document name		The document name is the name of the document		The document name is displayed		
11	The text of the first link		The text is the language of the document or text		The text of the first link is correct		
12	The text of the second link		The text is the target language chosen by the user		The text of the second link is correct		
13	The first link		Go to Copyleaks Page results with the original text		The Copyleaks Page results with the original text		
14	The second link		Go to Copyleaks Page results with the text translated in the target language		The Copyleaks Page results with the text translated in the target language		

Test Case ID	10	Test Case Title	User Profile Page				
Created by	Adeeba Naushin Keena	Tested by	Adeeba Naushin Keena				
Date tested	08.10.2018	Test Case Description	Testing different scenarios in the User Profile page				
Nr.	Prerequisites	Nr.	Test Data Requirement				
1	System is up and running	1					
2	User is signed in using valid E-mail address and password	2					
Nr.	Step detail		Expected Results		Actual Results	Comments	Status
1	User clicks on the tab "My Profile" from the dropdown menu at the top right corner of the homepage		User is redirected to "User Profile" page		Opens "User Profile" page containing user information provided while signing up		
2	User clicks on the CopyCat logo at the top left corner of the page		User is redirected to Home page		Opens Home page		
3	User clicks on the tab "Documents" at the top left corner of the page		User is redirected to Dashboard page		Opens Dashboard page		
4	User clicks on "Sign Out" from the dropdown menu at the top right corner of the page		User is redirected to "Sign in" page		Logs out user and opens Log in page		

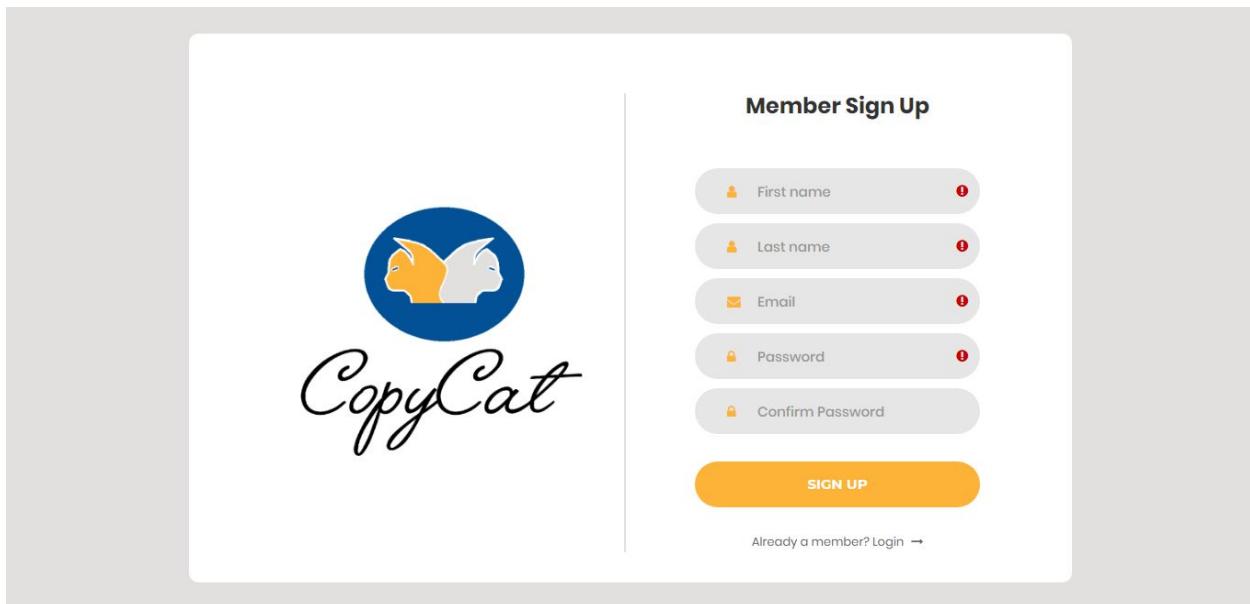
Test Case Execution Sample Screenshots

TEST CASE ID 1: LOGIN PAGE



The screenshot shows the CopyCat Member Login page. On the left, there is a logo featuring two stylized cat heads (one yellow, one white) inside a blue circle, with the word "CopyCat" written in a cursive font below it. The right side contains a form titled "Member Login". At the top of the form, a red error message box displays "Invalid credentials!". Below the message are two input fields: an email field containing "lakshmi.remash@uow.edu.c" and a password field containing "*****". A large orange "LOGIN" button is positioned below the inputs. At the bottom of the form, there is a link "Create your Account →".

TEST CASE ID 2: SIGN UP PAGE



The screenshot shows the CopyCat Member Sign Up page. On the left, there is a logo featuring two stylized cat heads (one yellow, one white) inside a blue circle, with the word "CopyCat" written in a cursive font below it. The right side contains a form titled "Member Sign Up". It includes five input fields: "First name" (with a red error dot), "Last name" (with a red error dot), "Email" (with a red error dot), "Password" (with a red error dot), and "Confirm Password" (with a red error dot). A large orange "SIGN UP" button is positioned below the inputs. At the bottom of the form, there is a link "Already a member? Login →".



CopyCat

Member Sign Up

Lakshmi

Last name

Email

Password

Confirm Password

SIGN UP

Already a member? Login →



CopyCat

Member Sign Up

Lakshmi

Remash

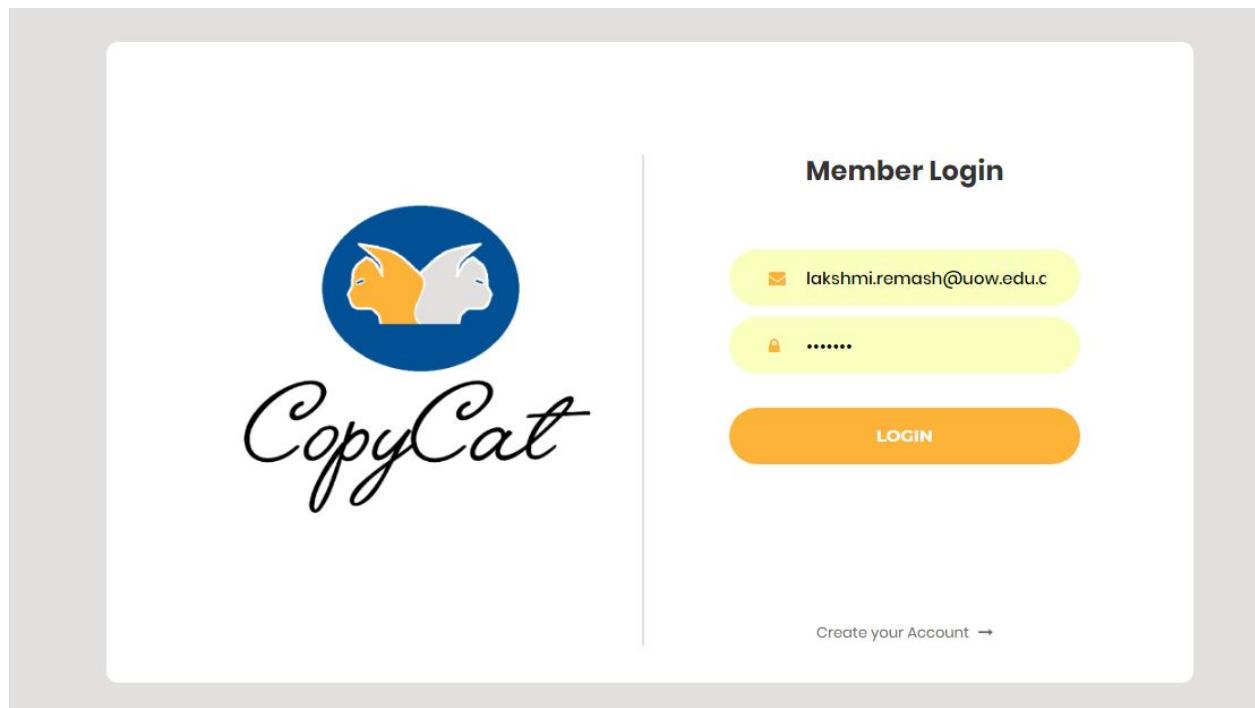
dskfjalsfkjsdkf

Password

Confirm Password

SIGN UP

Already a member? Login →



TEST CASE ID 7: HOME PAGE

The image displays the home page of the "Cross Language Plagiarism Detection Tool". At the top, there is a dark blue header bar with the "CopyCat" logo on the left, a "Documents" link in the center, and a user profile icon with a dropdown arrow on the right. Below the header, the title "Cross Language Plagiarism Detection Tool" is centered in a large, orange font. To the right of the title are two buttons: "Upload Document" with a file icon and a circular refresh icon. Below the title is a large text input field with the placeholder "Copy paste the text here". At the bottom of the page, there is a navigation bar with a "Select target language" dropdown menu and an orange "Check Plagiarism" button. The footer of the page features a dark blue bar with the text "@Copyright" in white.



@Copyright

TEST CASE ID 8: HOME PAGE



Cross Language Plagiarism Detection Tool

Upload Document

Copy paste the text here

English

Check Plagiarism

Please enter a text or upload a file to check Plagiarism.

@Copyright

Test Case Execution - Cycle 1 Results

CopyCat Test Case						
Test Case ID	1	Test Case Title	Login page			
Created by	Helena Ibro	Tested by	Helena Ibro			
Date tested	8.10.2018	Test Case Description	Testing the different scenarios that might happen in the login page			
Nr.	Step detail	Expected Results	Actual Results	Comments	Pass	Fail
1	Uncorrect email, uncorrect password	Error saying that the credentials are not correct	Invalid credentials!	it should be: Invalid credentials!	Pass	
2	Uncorrect email, correct password	Error saying that the credentials are not correct	Invalid credentials!		Pass	
3	Correct email, uncorrect password	Error saying that the credentials are not correct	Invalid credentials!		Pass	
4	Correct email, correct password	Should login succesfully and be redirected to the homepage	Opens homepage		Pass	
5	Empty email, empty password	Error messages in every field saying that email and password respectively are required	Email error: Valid email is required ex@abc.xyz; Password error: Password is required		Pass	
6	Correct email, empty password	Error in the password field	Password error: Password is		Pass	
7	Empty email, correct password	Error in the email field	Email error: Valid email is required ex@abc.xyz		Pass	
8	Press "Forgot Password?"	Green message underneath member login saying an email was send to reset password.	Nothing.	Needs to be added!		Fail
9	Press "Create your Account"	Should redirect to the Sign UP page	Member Sign Up page is opened		Pass	



CopyCat Test Case

Test Case ID	2	Test Case Title	Sign Up page			
Created by	Helena Ibro	Tested by	Helena Ibro			
Date tested	08.10.2018	Test Case Description	Testing the different scenarios that might happen in the signup page			
Nr.	Step detail	Expected Results	Actual Results	Comments	Pass	Fail
1	Press Sign Up button	Required fields get a red circle with a "!" inside to indicate they are mandatory	First name, last name, birthday, email and password are required.		Pass	
2	Complete only first name and press Sign Up	Error on the remaining mandatory fields	last name, birthday, email and password are required.		Pass	
3	Complete only first and last name	Error on the remaining mandatory fields	birthday, email and password are required.		Pass	
4	Complete only first and last name and birthday	Error on the remaining mandatory fields	email and password are required.		Pass	
5	Complete only first and last name, birthday and a valid email	Error on the remaining mandatory fields	password is required		Pass	
6	Complete all fields expect confirm password	Error that the passwords do not match	Passwords do not match		Pass	
7	Complete all fields with invalid email and not matching passwords	Error in email field and passwords do not match	Error in email field: Valid email is required; Error on confirm password field: Passwords do not match		Pass	
8	Complete all fields with invalid email and matching passwords	Error in email field	Error in email field: Valid email is required		Pass	
9	Complete all fields with a valid email and not matching passwords	Error in confirm password field	Error on confirm password field: Passwords do not match		Pass	
10	Complete all fields correctly	Should redirect us to the Login page	Opens Login page		Pass	
11	Press "Already a member? Login"	Should redirect us to the Login page	Stays on the Sign Up page			Fail



CopyCat Test Case

Test Case ID	3	Test Case Title	Top Navigation			
Created by	Lakshmi Ramesh	Tested by	Lakshmi Ramesh			
Date tested	10/10/2018	Test Case Description	Testing component's in the top navigation			
Nr.	Prerequisites	Nr.	Test Data Requirement			
1	System is up and running	1				
Nr.	Step detail	Expected Results	Actual Results	Comments	Pass	Fail
1	Log in to the application with the correct credentials	Redirects to the home page.	Redirected to the home page.		Pass	
2	Click on the documents link in top navigation	Page will be redirected to the documents page	Redirected to the documents page.		Pass	
3	Click on Copy Cat logo on top navigation	Page will be redirected to the home page	Redirected to the home page.		Pass	



CopyCat Test Case

Test Case ID	4	Test Case Title	Top Navigation			
Created by	Lakshmi Ramesh	Tested by	Lakshmi Ramesh			
Date tested	10/10/2018	Test Case Description	Testing component's in the top navigation			
Nr.	Prerequisites	Nr.	Test Data Requirement			
1	System is up and running	1				
Nr.	Step detail	Expected Results	Actual Results	Comments	Pass	Fail
1	Log in to the application with the correct credentials	Redirects to the home page.	Redirected to the home page.			
2	Click on the drop down menu link in top navigation	Drop down menu will be displayed, showing links to my profile page and sign out link	Drop down menu is displayed, showing links to my profile page and sign out link			
3	Click on My profile link	Page will be redirected to the My profile page.	Page is redirected to the My profile page.			
4	Click on Sign out	User logs out of the system and is redirected to the login page	User logs out of the system and is redirected to the login page			



CopyCat Test Case

Test Case ID	5	Test Case Title	Home Page			
Created by	Lakshmi Ramesh	Tested by	Lakshmi Ramesh			
Date tested	10/10/2018	Test Case Description	Testing components in the home page			
Nr.	Prerequisites	Nr.	Test Data Requirement			
1	System is up and running	1				
Nr.	Step detail	Expected Results	Actual Results	Comments	Pass	Fail
1	Log in to the application with the correct credentials	Redirects to the home page.	Redirected to the home page.			
2	Copy paste the text to be checked into the text editor and click on Check Plagiarism button.	Error message to select target language will be displayed.	Error message to select target language was displayed.			
3	Select target language and then click on Check Plagiarism button.	Request is submitted and page will be redirected to the documents page.	Request is submitted and page was redirected to the documents page.			



CopyCat Test Case

Test Case ID	6	Test Case Title	Home Page			
Created by	Lakshmi Ramesh	Tested by	Lakshmi Ramesh			
Date tested	10/10/2018	Test Case Description	Testing components in the home page			
Nr.	Prerequisites	Nr.	Test Data Requirement			
1	System is up and running	1				
Nr.	Step detail	Expected Results	Actual Results	Comments	Pass	Fail
1	Log in to the application with the correct credentials	Redirects to the home page.	Redirected to the home page.			
2	Click on the upload link and upload document other than a text document and click on Check Plagiarism button.	Error message should be displayed to upload only text document.	Error message should be displayed to upload only text document.			



CopyCat Test Case

Test Case ID	7	Test Case Title	Home Page				
Created by	Lakshmi Ramesh	Tested by	Lakshmi Ramesh				
Date tested	10/10/2018	Test Case Description	Testing components in the home page				
Nr.	Prerequisites	Nr.	Test Data Requirement				
1	System is up and running	1					
Nr.	Step detail		Expected Results	Actual Results	Comments	Pass	Fail
1	Log in to the application with the correct credentials		Redirects to the home page.	Redirected to the home page.			
2	Click on the upload link and upload a text document and click on Check Plagiarism button.		Error message to select target language will be displayed.	Error message to select target language was displayed.			
3	Select target language and then click on Check Plagiarism button.		Request is submitted and page will be redirected to the documents page.	Request is submitted and page was redirected to the documents page.			



CopyCat Test Case

Test Case ID	8	Test Case Title	Home Page				
Created by	Lakshmi Ramesh	Tested by	Lakshmi Ramesh				
Date tested	10/10/2018	Test Case Description	Testing components in the home page				
Nr.	Prerequisites	Nr.	Test Data Requirement				
1	System is up and running	1					
Nr.	Step detail		Expected Results	Actual Results	Comments	Pass	Fail
1	Log in to the application with the correct credentials		Redirects to the home page.	Redirected to the home page.			
2	Select a target language and click on Check Plagiarism button.		Error message should be displayed to add text or to upload text document.	Error message was displayed to add text or to upload text document.			

CopyCat Test Case							
Test Case ID	9	Test Case Title	My Document page				
Created by	Helene Tran	Tested by	Helene Tran				
Date tested	8.10.2018	Test Case Description	Testing the different scenarios that might happen in the Document page				
Nr.	Prerequisites	Nr.	Test Data Requirement				
1	System is up and running	1					
2	User is signed in using valid E-mail address and password	2					
Nr.	Step detail	Expected Results		Actual Results	Comments	Pass	Fail
1	List of all uploaded documents	Id, document name, and links of the two langages are all displayed		All of these information displayed			
2	Page displayed after adding a new document	A new row appears at the end of the list with the name of the new document		Last document displayed at the bottom of the list			
3	From dashboard page, clicking the CopyCat icon	Return to the Plagiarism page		Plagiarism page opened			
4	From dashboard page, clicking the Document button	Stay in the page		The home page is opened			
5	From dashboard page, clicking the arrow on the right top corner	Give the list of options (My Profile and Sign Out)		List of options opened			
6	After clicking the arrow in the right top corner, clicking My Profile	Go to My Profile page		My Profile page opened			
8	After clicking the arrow in the right top corner, clicking Sign Out	Go to the Login Page		Login page opened			
9	If the text box is used, document name	The document name is in the following format : doc_first5characters		The document name is in the right format			
10	If the upload file button is used, document name	The document name is the name of the document		The document name is displayed			
11	The text of the first link	The text is the language of the document or text		The text of the first link is correct			
12	The text of the second link	The text is the target language chosen by the user		The text of the second link is correct			
13	The first link	Go to Copyleaks Page results with the original text		Copyleaks Page results with the original text			
14	The second link	Go to Copyleaks Page results with the text translated in the target language		Copyleaks Page results with the text translated in the target language			

CopyCat Test Case							
Test Case ID	10	Test Case Title	User Profile Page				
Created by	Adeeba Naushin Xeena	Tested by	Adeeba Naushin Xeena				
Date tested	08.10.2018	Test Case Description	Testing different scenarios in the User Profile page				
Nr.	Prerequisites	Nr.	Test Data Requirement				
1	System is up and running	1					
2	User is signed in using valid E-mail address and password	2					
Nr.	Step detail	Expected Results		Actual Results	Comments	Pass	Fail
1	User clicks on the tab "My Profile" from the dropdown menu at the top right corner of the homepage	User is redirected to "User Profile" page		Opens "User Profile" page containing user information provided while signing up	The page does not show any information if user is not logged in		
2	User clicks on the CopyCat logo at the top left corner of the page	User is redirected to Home page		Opens Home page			
3	User clicks on the tab "Documents" at the top left corner of the page	User is redirected to Dashboard page		Opens Dashboard page			
4	User clicks on "Sign Out" from the dropdown menu at the top right corner of the page	User is redirected to "Sign in" page		Logs out user and opens Log in page			

Test Case Execution - Cycle 2 Results

CopyCat Test Case						
Test Case ID	1	Test Case Title	Login page			
Created by	Helena Ibro	Tested by	Helena Ibro			
Date tested	8.10.2018	Test Case Description	Testing the different scenarios that might happen in the login page			
Nr.	Step detail	Expected Results	Actual Results	Comments	Pass	Fail
1	Uncorrect email, uncorrect password	Error saying that the credentials are not correct	Invalid credentials!			
2	Uncorrect email, correct password	Error saying that the credentials are not correct	Invalid credentials!			
3	Correct email, uncorrect password	Error saying that the credentials are not correct	Invalid credentials!			
4	Correct email, correct password	Should login successfully and be redirected to the homepage	Opens homepage			
5	Empty email, empty password	Error messages in every field saying that email and password respectively	Email error: Valid email is required ex@abc.xyz; Password error:			
6	Correct email, empty password	Error in the password field	Password error: Password is			
7	Empty email, correct password	Error in the email field	Email error: Valid email is required ex@abc.xyz			
8	Press "Forgot Password?"	Green message underneath member login saying an email was send to reset password.	Nothing.			
9	Press "Create your Account"	Should redirect to the Sign UP page	Member Sign Up page is opened			

CopyCat Test Case						
Test Case ID	2	Test Case Title	Sign Up page			
Created by	Helena Ibro	Tested by	Helena Ibro			
Date tested	08.10.2018	Test Case Description	Testing the different scenarios that might happen in the signup page			
Nr.	Step detail	Expected Results	Actual Results	Comments	Pass	Fail
1	Press Sign Up button	Required fields get a red circle with a "!" inside to indicate they are mandatory	First name, last name, birthday, email and password are required.			
2	Complete only first name and press Sign Up	Error on the remaining mandatory fields	last name, birthday, email and password are required.			
3	Complete only first and last name	Error on the remaining mandatory fields	birthday, email and password are required.			
4	Complete only first and last name and birthday	Error on the remaining mandatory fields	email and password are required.			
5	Complete only first and last name, birthday and a valid email	Error on the remaining mandatory fields	password is required			
6	Complete all fields expect confirm password	Error that the passwords do not match	Passwords do not match			
7	Complete all fields with invalid email and not matching passwords	Error in email field and passwords do not match	Error in email field: Valid email is required; Error on confirm password field: Passwords do not match			
8	Complete all fields with invalid email and matching passwords	Error in email field	Error in email field: Valid email is required			
9	Complete all fields with a valid email and not matching passwords	Error in confirm password filed	Error on confirm password field: Passwords do not match			
10	Complete all fields correctly	Should redirect us to the Login page	Opens Login page			
11	Press "Already a member? Login"	Should redirect us to the Login page	Stays on the Sign Up page			

CopyCat Test Case						
Test Case ID	3	Test Case Title	Top Navigation			
Created by	Lakshmi Ramesh	Tested by	Lakshmi Ramesh			
Date tested	10/10/2018	Test Case Description	Testing component's in the top navigation			
Nr.	Prerequisites	Nr.	Test Data Requirement			
1	System is up and running	1				
Nr.	Step detail	Expected Results	Actual Results	Comments	Pass	Fail
1	Log in to the application with the correct credentials	Redirects to the home page.	Redirected to the home page.			
2	Click on the documents link in top navigation	Page will be redirected to the documents page	Redirected to the documents page.			
3	Click on Copy Cat logo on top navigation	Page will be redirected to the home page	Redirected to the home page.			

CopyCat Test Case						
Test Case ID	4	Test Case Title	Top Navigation			
Created by	Lakshmi Ramesh	Tested by	Lakshmi Ramesh			
Date tested	10/10/2018	Test Case Description	Testing component's in the top navigation			
Nr.	Prerequisites	Nr.	Test Data Requirement			
1	System is up and running	1				
Nr.	Step detail	Expected Results	Actual Results	Comments	Pass	Fail
1	Log in to the application with the correct credentials	Redirects to the home page.	Redirected to the home page.			
2	Click on the drop down menu link in top navigation	Drop down menu will be displayed, showing links to my profile page and sign out link	Drop down menu is displayed, showing links to my profile page and sign out link			
3	Click on My profile link	Page will be redirected to the My profile page.	Page is redirected to the My profile page.			
4	Click on Sign out	User logs out of the system and is redirected to the login page	User logs out of the system and is redirected to the login page			

CopyCat Test Case					
Test Case ID	5	Test Case Title	Home Page		
Created by	Lakshmi Ramesh	Tested by	Lakshmi Ramesh		
Date tested	10/10/2018	Test Case Description	Testing components in the home page		
Nr.	Prerequisites	Nr.	Test Data Requirement		
1	System is up and running	1			
Nr.	Step detail	Expected Results	Actual Results	Comments	Pass
1	Log in to the application with the correct credentials	Redirects to the home page.	Redirected to the home page.		
2	Copy paste the text to be checked into the text editor and click on Check Plagiarism button.	Error message to select target language will be displayed.	Error message to select target language was displayed.		
3	Select target language and then click on Check Plagiarism button.	Request is submitted and page will be redirected to the documents page.	Request is submitted and page was redirected to the documents page.		

CopyCat Test Case					
Test Case ID	6	Test Case Title	Home Page		
Created by	Lakshmi Ramesh	Tested by	Lakshmi Ramesh		
Date tested	10/10/2018	Test Case Description	Testing components in the home page		
Nr.	Prerequisites	Nr.	Test Data Requirement		
1	System is up and running	1			
Nr.	Step detail	Expected Results	Actual Results	Comments	Pass
1	Log in to the application with the correct credentials	Redirects to the home page.	Redirected to the home page.		
2	Click on the upload link and upload document other than a text document and click on Check Plagiarism button.	Error message should be displayed to upload only text document.	Error message should be displayed to upload only text document.		

CopyCat Test Case					
Test Case ID	7	Test Case Title	Home Page		
Created by	Lakshmi Ramesh	Tested by	Lakshmi Ramesh		
Date tested	10/10/2018	Test Case Description	Testing components in the home page		
Nr.	Prerequisites	Nr.	Test Data Requirement		
1	System is up and running	1			
Nr.	Step detail	Expected Results	Actual Results	Comments	Pass
1	Log in to the application with the correct credentials	Redirects to the home page.	Redirected to the home page.		
2	Click on the upload link and upload a text document and click on Check Plagiarism button.	Error message to select target language will be displayed.	Error message to select target language was displayed.		
3	Select target language and then click on Check Plagiarism button.	Request is submitted and page will be redirected to the documents page.	Request is submitted and page was redirected to the documents page.		

Test Case ID		8	Test Case Title		Home Page					
Created by		Lakshmi Ramesh	Tested by		Lakshmi Ramesh					
Date tested		10/10/2018	Test Case Description		Testing components in the home page					
Nr.	Prerequisites		Nr.	Test Data Requirement						
1	System is up and running		1							
Nr.	Step detail		Expected Results		Actual Results	Comments	Pass	Fail		
1	Log in to the application with the correct credentials		Redirects to the home page.		Redirected to the home page.					
2	Select a target language and click on Check Plagiarism button.		Error message should be displayed to add text or to upload text document.		Error message was displayed to add text or to upload text document.					

Test Case ID		9	Test Case Title		My Document page					
Created by		Helene Tran	Tested by		Helene Tran					
Date tested		8.10.2018	Test Case Description		Testing the different scenarios that might happen in the Document page					
Nr.	Prerequisites		Nr.	Test Data Requirement						
1	System is up and running		1							
2	User is signed in using valid E-mail address and password		2							
Nr.	Step detail		Expected Results		Actual Results	Comments	Pass	Fail		
1	List of all uploaded documents		Id, document name, and links of the two languages are all displayed		All of these information displayed					
2	Page displayed after adding a new document		A new row appears at the end of the list with the name of the new document		Last document displayed at the bottom of the list					
3	From dashboard page, clicking the CopyCat icon		Return to the Plagiarism page		Plagiarism page opened					
4	From dashboard page, clicking the Document button		Stay in the page		The home page is opened					
5	From dashboard page, clicking the arrow on the right top corner		Give the list of options (My Profile and Sign Out)		List of options opened					
6	After clicking the arrow in the right top corner, clicking My Profile		Go to My Profile page		My Profile page opened					
8	After clicking the arrow in the right top corner, clicking Sign Out		Go to the Login Page		Login page opened					
9	If the text box is used, document name		The document name is in the following format : doc_first5characters		The document name is in the right format					
10	If the upload file button is used, document name		The document name is the name of the document		The document name is displayed					
11	The text of the first link		The text is the language of the document or text		The text of the first link is correct					
12	The text of the second link		The text is the target language chosen by the user		The text of the second link is correct					
13	The first link		Go to Copyleaks Page results with the original text		The Copyleaks Page results with the original text					
14	The second link		Go to Copyleaks Page results with the text translated in the target language		The Copyleaks Page results with the text translated in the target language					



CopyCat Test Case

Test Case ID	10	Test Case Title	User Profile Page			
Created by	Adeeba Naushin Xeena	Tested by	Adeeba Naushin Xeena			
Date tested	08.10.2018	Test Case Description	Testing different scenarios in the User Profile page			
Nr. Prerequisites Nr. Test Data Requirement						
1	System is up and running	1				
2	User is signed in using valid E-mail address and password	2				
Nr.	Step detail	Expected Results	Actual Results	Comments	Pass	Fail
1	User clicks on the tab "My Profile" from the dropdown menu at the top right corner of the homepage	User is redirected to "User Profile" page	Opens "User Profile" page containing user information provided while signing up	The page does not show any information if user is not logged in		
2	User clicks on the CopyCat logo at the top left corner of the page	User is redirected to Home page	Opens Home page			
3	User clicks on the tab "Documents" at the top left corner of the page	User is redirected to Dashboard page	Opens Dashboard page			
4	User clicks on "Sign Out" from the dropdown menu at the top right corner of the page	User is redirected to "Sign in" page	Logs out user and opens Log in page			

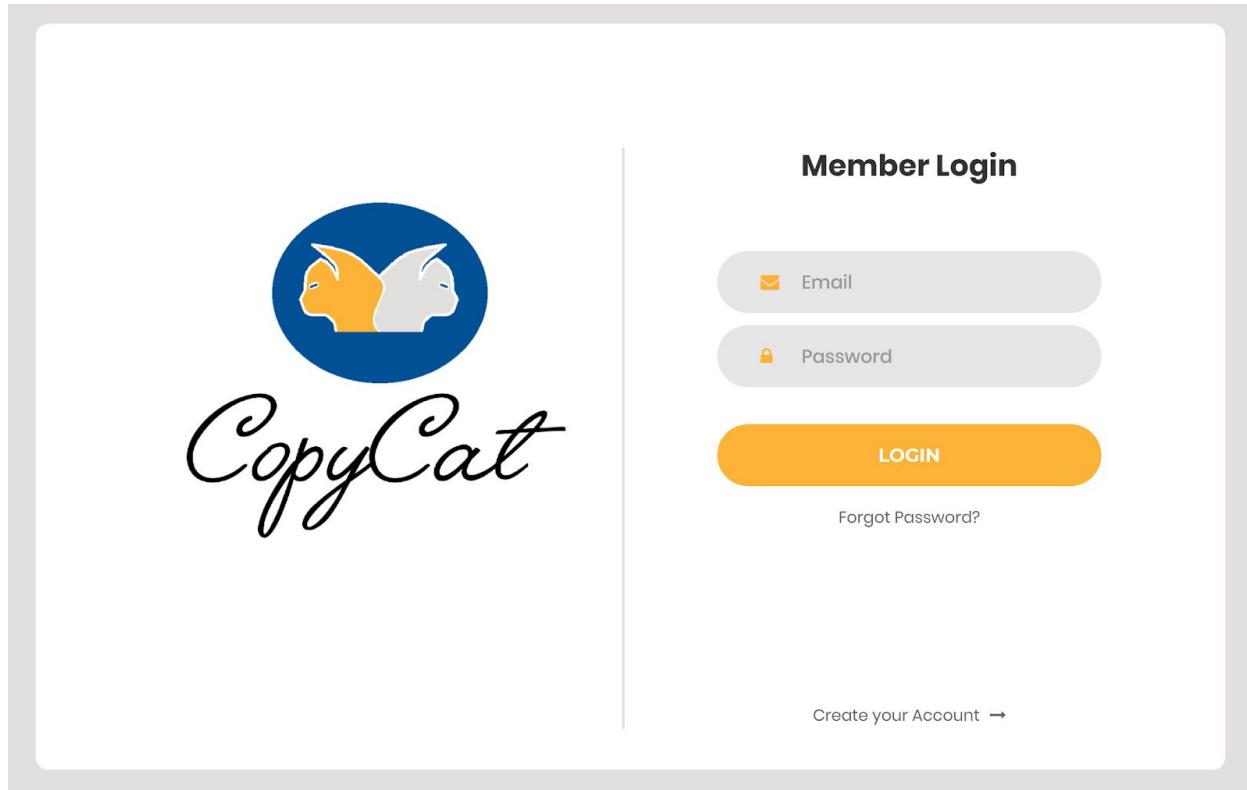
Known Issues

Issues uncovered during testing that are still open. These defects will be fixed during Change Request implementation.

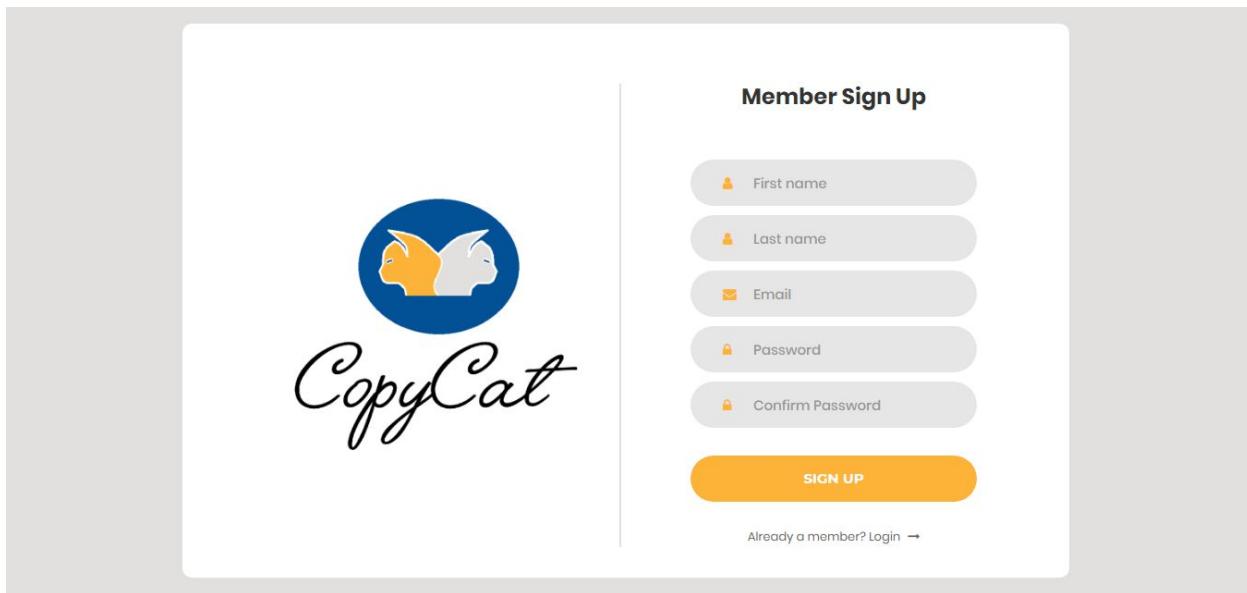
Existing Issues
If the user's quota for Copy Leaks has been used then the application will not work.
Clicking on the back button within the application causes the functionality to break due to script loading issues.
A user cannot use the same email ID for signing up.
Profile picture is not displayed even. Only a placeholder image is displayed.

User Guide

The following part will demonstrate how CopyCat can be used. When opened, the software opens up to the login page as shown below:



If the user does not already have a member account, they can create one by pressing “Create your Account” that will redirect them to the Sign Up page:



Here, the user enters his details. In the end he clicks the “SIGN UP” button that will take him again to the login page. After entering their email and password, the software will open on its main page.

A screenshot of the main interface of the 'Cross Language Plagiarism Detection Tool'. The top navigation bar is dark blue with the 'CopyCat' logo on the left, a 'Documents' link in the center, and a user profile icon with a dropdown arrow on the right. The main content area has a white background. At the top, the text 'Cross Language Plagiarism Detection Tool' is displayed in orange. Below this is a large text input field with the placeholder 'Copy paste the text here'. To the right of the input field are two buttons: 'Upload Document' with a file icon and a circular progress bar icon. At the bottom of the input field, there is a 'Select target language' dropdown menu and a yellow 'Check Plagiarism' button. A watermark '©Copyright' is visible at the bottom right of the page.

The first button, the “Upload Document” is used to upload .txt files that the user will want to check. If no specific text is to be uploaded, he can use the text box in the middle of the page for text to be copy pasted in and checked. This text box can be cleared by pressing the two circle arrows. Before the “Check Plagiarism” button is pressed, a language for the text to be translated must be selected from the combo box next to it. The home page also consists of the “Documents” tab, which gives access to all the previous texts checked for plagiarism. It is also the page where the software directs the user after the button to check plagiarism is pressed:

The screenshot shows the 'My Documents' section of the CopyCat software. At the top, there is a navigation bar with the 'CopyCat' logo, a 'Documents' link, and a user profile icon. Below the navigation bar, the title 'My Documents' is displayed in orange. A table lists three documents with columns for 'Id', 'Document name', and language options ('en' and 'fr' or 'la').

Id	Document name	
177	doc_The m	en fr
181	doc_The m	en fr
185	sample5.txt	en la

At the bottom right of the main content area, there is a copyright notice: '©Copyright'.

The table in the middle consists of the submitted texts and the languages they were translated into. If one of the languages is pressed, the software opens the result page:

The screenshot shows the CopyCat software interface. At the top, there's a header with 'Uploaded text' and a timestamp '12 days ago'. To the right, there are statistics: 'Suspected Words 87%' with '62 Words Copied', a 'Share' button, and a pie chart showing word similarity distribution: Identical (85%), Similar (0%), and Related-Meaning (2%). Below this, the 'Scan Properties' section displays 'Number of Words in Document: 71' and 'Results Found: 6'. A main text area contains a yellow-highlighted paragraph about robots' NLU goals. At the bottom left, it says 'Powered by COPYLEAKS'. On the right side, there's a 'Results' panel showing search results for 'Evangelos Papakitsos' from 'ijain.org'. The results list his profile information and a link to his ResearchGate profile.

In the right upper corner of the software, the arrow gives the user the options to access their profile or log out of the software:

This screenshot shows the 'User Profile' section of the CopyCat software. It features a large circular placeholder for a profile picture. To the right, there are input fields for 'First Name', 'Last Name', and 'Email', each with a corresponding redacted text box. At the bottom right of the profile area, there's a small 'Edit' icon. The background has a dark blue header bar with the 'CopyCat' logo and 'Documents' tab. At the very bottom, there's a footer bar with the text '@Copyright'.

Appendices

Glossary

Term	Definition
Ajax (Asynchronous JavaScript And XML)	With AJAX Web Applications can send and retrieve data from server Asynchronously, without interfering to display and the behaviour of the page
API (Application Programming Interface)	A function by using predefined resources to help developers access without using source code
Corpus	A collection of written texts
Git	A distribution revision control software
Gradle	A project automation build tool based on the concepts of Apache Ant and Apache Maven
HTML (Hypertext Markup Language)	A standard language used for creating web pages and web applications
IDE (Integrated Development Environment)	Software which consolidates basic tools and libraries for developer.
IntelliJ	IDE which supports Java
Java	A widely used computer programming language
JavaScript	A high-level, interpreted programming language
JPA (Java Persistence API)	Java Application specification used for accessing, managing the data between java objects, classes and databases
jQuery	JavaScript library used to simplify the client-side scripting of HTML
JSON (JavaScript Object Notation)	An open-standard file format that uses human-readable text to transmit data objects consisting of attribute–value pairs and array data types
JWT	An open standard based on JSON for creating access tokens that declare some declarations

MVC (Model - View - Controller)	A software architecture pattern that divides a software system into three basic parts: model, view, and controller
MySQL	A open-source relational database Management application.
PDF (Portable Document Format)	A file format for presenting documents in a way that is independent of the application, hardware, or operating system
Rest	Representational State Transfer, aims to facilitate the transfer of information between different software/programs on the network
Spring Boot	A new framework for simplifying the initial setup and the development process of the new Spring application
UI (User Interface)	A software to communicate with each other between the user and the hardware
.doc	A type of common file name for computer files
.docx	A common file format that is smaller than the space occupied by doc files
.odt	A ZIP-compressed XML-based file format for spreadsheets, charts, presentations and word processing documents
.txt	A text file with an extension that contains very little formatting information

Source Code

Source code for this project available under following GitHub page.

<https://github.com/uowteamblue/teamblue>

Meeting reports

Date	Friday 10/8/18																																				
Participants:	Gustavo Borromeo Prabhath Darshana Jin Wang Helene Tran Sai Jujhavarapu Helena Ibro Lakshmi Ramesh																																				
Unable to attend:	Adeeba Naushin Xeena																																				
Agenda:	Discuss project requirements, strategy and extra features. Assign roles. Weekly meeting schedule.																																				
Discussion:	<p>Assigned roles (first column):</p> <table border="1"> <thead> <tr> <th>Member name</th> <th>preferred role 1</th> <th>preferred role 2</th> <th>preferred role 3</th> </tr> </thead> <tbody> <tr> <td>Gustavo Borromeo</td> <td>Team Lead/Project M</td> <td>Research</td> <td>Tester</td> </tr> <tr> <td>Prabhath Darshana</td> <td>Backend Developer</td> <td>UI Developer</td> <td>Tester</td> </tr> <tr> <td>Jin Wang</td> <td>Backend Developer</td> <td>UI Developer</td> <td>Tester</td> </tr> <tr> <td>Helene Tran</td> <td>UI Developer</td> <td>Tester</td> <td>Backend Dev</td> </tr> <tr> <td>sai jujhavarapu</td> <td>Research</td> <td>Tester</td> <td>Backend Dev</td> </tr> <tr> <td>Helena Ibro</td> <td>Tester</td> <td>Research</td> <td>UI Developer</td> </tr> <tr> <td>Lakshmi Ramesh</td> <td>Backend Developer</td> <td>UI Developer</td> <td>Tester</td> </tr> <tr> <td>Adeeba Naushin Xeena</td> <td>UI Developer</td> <td>Research</td> <td>Tester</td> </tr> </tbody> </table> <p>https://docs.google.com/spreadsheets/d/1bjJ06oYPytMJb-EF4T6l1fEyrr8G0lKmhWInx9kJB_Q/edit#gid=1470952140</p> <p>Agreed on a weekly meeting time every Monday from 4:30PM-5:30PM.</p> <p>Requirements discussion:</p> <ul style="list-style-type: none"> User management (keep track of users, who log in using username/password). Document management (store and keep track of documents and link them to users). Allow the user to provide a plain text file containing an article written in English. Allow the user to select at least one target language other than English. The tool will search the Internet for similar articles writing in English or in the target language. Report the degree of similarity in terms of percentage. Highlight the similarities between the two files. 	Member name	preferred role 1	preferred role 2	preferred role 3	Gustavo Borromeo	Team Lead/Project M	Research	Tester	Prabhath Darshana	Backend Developer	UI Developer	Tester	Jin Wang	Backend Developer	UI Developer	Tester	Helene Tran	UI Developer	Tester	Backend Dev	sai jujhavarapu	Research	Tester	Backend Dev	Helena Ibro	Tester	Research	UI Developer	Lakshmi Ramesh	Backend Developer	UI Developer	Tester	Adeeba Naushin Xeena	UI Developer	Research	Tester
Member name	preferred role 1	preferred role 2	preferred role 3																																		
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sai jujhavarapu	Research	Tester	Backend Dev																																		
Helena Ibro	Tester	Research	UI Developer																																		
Lakshmi Ramesh	Backend Developer	UI Developer	Tester																																		
Adeeba Naushin Xeena	UI Developer	Research	Tester																																		
Next meeting:	Monday 13/08/2018 4:30-5:30 PM																																				

Date	Monday 13/06/2018 4:30-5:30 PM
Participants:	Gustavo Borromeo Prabhath Darshana Jin Wang Helene Tran Sai Jujhavarapu Helena Ibro Lakshmi Ramesh
Unable to attend:	Adeeba Naushin Xeena
Agenda:	Research progress check General discussion
Discussion:	Additional features: Example page Product name brainstorming CheckMe NoCopy CopyCat Translation API top options: Yandex translation API Microsoft Translation API Chosen translation API: Yandex translation API Possible Plagiarism API: Plagiarism API
Next meeting:	Monday 20/08/18 3:30-5:30 PM

Date	Monday 20/08/18 3:30-5:30 PM
Participants:	Prabhath Darshana Jin Wang Helene Tran Sai Jujhavarapu Helena Ibro Lakshmi Ramesh Gustavo Borromeo Adeeba Naushin Xeena
Unable to attend:	
Agenda:	Progress check General discussion
Discussion:	<p>Roles</p> <p>Helena, Helene, Lakshmi – UI Design and Wireframes Prabhath, Sai – backend stuff Jin – API set up Bugsy – Research and management</p> <p>Notes:</p> <p>Prabhath Darshana explains how the backend and how github works Comments in code</p>
Next meeting:	Monday 27/08/18 3:30-5:30 PM

Date	Monday 27/08/18 3:30-5:30 PM
Participants:	Prabhath Darshana Jin Wang Helene Tran Sai Jujhavarapu Helena Ibro Lakshmi Ramesh Gustavo Borromeo Adeeba Naushin Xeena
Unable to attend:	
Agenda:	Progress check General discussion
Discussion:	<p>Backend is almost complete</p> <ul style="list-style-type: none"> - Implement copyleaks api - Link back end to front end <p>Link to front end:</p> <ul style="list-style-type: none"> - AngularJS, Javascript or <u>JQuery</u> - AngularJS has a lot of libraries but is difficult - Bootstrap - JQuery for callback function <p>UI is to do</p> <ul style="list-style-type: none"> - Visual studio to make an HTML wireframe <p>Contact API owners</p> <ul style="list-style-type: none"> - Request permission to use API
Next meeting:	Monday 3/9/18 4:30-5:30 PM

Date	Monday 3/9/18 4:30-5:30 PM
Participants:	Prabhath Darshana Jin Wang Helene Tran Sai Jujhavarapu Helena Ibro Lakshmi Ramesh Gustavo Borromeo Adeeba Naushin Xeena
Unable to attend:	
Agenda:	Progress check General discussion
Discussion:	<p>Backend is almost complete</p> <ul style="list-style-type: none"> - Implement copyleaks api - Link back end to front end <p>Link to front end:</p> <ul style="list-style-type: none"> - AngularJS, Javascript or <u>JQuery</u> - AngularJS has a lot of libraries but is difficult to learn - Bootstrap - JQuery for callback function <p>UI is to do</p> <ul style="list-style-type: none"> - Visual studio to make an HTML wireframe <p>Contact API owners</p> <ul style="list-style-type: none"> - Request permission to use API
Next meeting:	Monday 10/08/18 3:30-5:30 PM

Date	Monday 10/9/18 4:30-5:30 PM
Participants:	Prabhath Darshana Jin Wang Helene Tran Sai Jujhavarapu Helena Ibro Lakshmi Ramesh Gustavo Borromeo Adeeba Naushin Xeena
Unable to attend:	
Agenda:	Progress check Select API for linking front end to back end
Discussion:	UI is being developed login UI is based on a template from Colorlib.com JQuery for call back function between back end and front end
Next meeting:	Monday 17/09/18 3:30-5:30 PM

Date	Monday 17/9/18 3:30-5:30 PM
Participants:	Prabhath Darshana Jin Wang Helene Tran Sai Jujhavarapu Helena Ibro Lakshmi Ramesh Gustavo Borromeo Adeeba Naushin Xeena
Unable to attend:	
Agenda:	Progress check
Discussion:	Back end Near completion APIs implemented JQuery to link front and back end Front end (UI screens completed) <i>Sign up page – implement service call for communicating with back-end</i> <i>Log in</i> <i>Home page</i> <i>Result</i> <i>Documents</i> <i>My profile</i> <i>Edit profile</i>
Next meeting:	Monday 24/9/18 4:30-5:30 PM

Date	Monday 24/9/18 3:30-5:30 PM
Participants:	Prabhath Darshana Jin Wang Helene Tran Sai Jujhavarapu Helena Ibro Lakshmi Ramesh Adeeba Naushin Xeena
Unable to attend:	Gustavo Borromeo
Agenda:	Progress check
Discussion:	Complete back-end Plan to complete work by Friday Test cases Plan to meet for integration later this week
Next meeting:	Monday 8/10/18 4:30-5:30 PM

Date	Monday 8/10/18 4:30-5:30 PM
Participants:	Prabhath Darshana Jin Wang Helene Tran Sai Jujhavarapu Helena Ibro Lakshmi Ramesh Gustavo Borromeo Adeeba Naushin Xeena
Unable to attend:	
Agenda:	Progress check
Discussion:	Complete back-end Plan to complete work by Friday Test cases Plan to meet for integration later this week
Next meeting:	Monday 15/10/18 4:30-5:30 PM

Date	Monday 15/10/18 4:30-5:30 PM
Participants:	Prabhath Darshana Jin Wang Helene Tran Sai Jujhavarapu Helena Ibro Lakshmi Ramesh
Unable to attend:	Adeeba Naushin Xeena Gustavo Borromeo
Agenda:	Progress check
Discussion:	Finish the test cases and make sure that there is no bug during the program execution Plan to show the final result in the lab on Thursday Plan to complete the report on Saturday
Next meeting:	Saturday 20/10/18

Date	Saturday 20/10/18 10:00 AM-7:00 PM
Participants:	Prabhath Darshana Jin Wang Helene Tran Sai Jujhavarapu Helena Ibro Lakshmi Ramesh Gustavo Borromeo
Unable to attend:	Adeeba Naushin Xeena
Agenda:	Progress check
Discussion:	Finish most part of final report Plan to finish all the work during the next meeting
Next meeting:	Sunday 21/10/18

Date	Sunday 21/10/18 10:00 AM-7:00 PM
Participants:	Prabhath Darshana Jin Wang Helene Tran Sai Jujhavarapu Helena Ibro Lakshmi Ramesh Gustavo Borromeo Adeeba Naushin Xeena
Unable to attend:	
Agenda:	Report check
Discussion:	Finish all the information for the report Check whether there is something lost for the assignment

Project Charter

1 Introduction

1.1 Purpose of Project Charter

The plagiarism detection project charter documents and tracks the necessary information required by decision maker(s) to approve the project. The project charter should include the needs, scope, justification, and resource commitment as well as the project's sponsor(s) decision to proceed or not to proceed with the project. It is created during the Initiating Phase of the project.

The intended audience of the plagiarism detection project charter is the project sponsor.

2 Project And Product Overview

The cross-language plagiarism detection tool searches the internet for possible plagiarized work after the user uploads a text document written in English. The tool will also translate the document to a second user selected language and search for plagiarized content. The tool will be finalised on the 22th of October, 2018.

3 Scope

3.1 Objectives And Requirements

The objectives of the cross-language plagiarism detection are as follows:

- User management.
- Document management.
- Allow the user to provide a plain text file containing an article written in English.
- Allow the user to select at least one target language other than English.

The tool will search the internet for similar articles writing in English or in the target language.

- Display similarity percentage.
- Highlight the similarities between the two files.

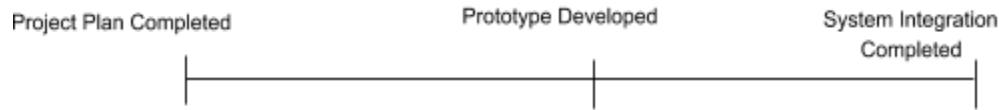
3.2 Major Deliverables

The following table presents the major deliverables that the project's product, service or result must meet in order for the project objectives to be satisfied.

Major Deliverable	Deliverable Description
Plagiarism detection	Allows the user to upload a document and searches the internet for any matches and labels text appropriately.

4 Duration

4.1 Timeline



4.2 Executive Milestones

The table below lists the high-level Executive Milestones of the project and their estimated completion timeframe.

Executive Milestones	Estimated Completion Timeframe
Project plan complete	3 days
End of development	21 days
End of project	7 days

5 Risks

5.1 Risks

Risk	Mitigation
Project delay	Allow for padding at the end of the project
Failure of segment completion	Redundant tasking
Software bugs	Develop an intricate testing process

6 Project Organization

6.1 Roles and Responsibilities

Name	Project Role	Contact Information
Prabhath Darshana	Platform design and Development	
Jin Wang	API Research/ Integration	
Helene Tran	UI Wireframes and UI Design and development/ Testing	
Sai Jujhavarapu	API Research/ Integration	

Helena Ibro	UI Wireframes and UI Design and development/ Testing	
Lakshmi Ramesh	Database Design/ UI platform design and development/ Testing	
Adeeba Naushin Xeena	Research/ Testing	
Gustavo Borromeo	Project Manager and Documentation	

6.2 Stakeholders

Name	Project Role	Project Responsibilities
Ashley Maher	Sponsor	

7 Project Charter Approval

The undersigned acknowledge they have reviewed the project charter and authorize and fund the cross-language plagiarism detection project. Changes to this project charter will be coordinated with and approved by the undersigned or their designated representatives.

Signature: _____ Date: _____

Print Name: _____

Title: _____

Role: _____

Signature: _____ Date: _____

Print Name: _____

Title: _____

Role: _____

Signature: _____ Date: _____

Print Name: _____

Title: _____

Role: _____

Signature: _____ Date: _____

Print Name: _____

Title: _____

Role: _____

Signature: _____ Date: _____

Print Name: _____

Title: _____

Role: _____

Signature: _____ Date: _____

Print Name: _____

Title: _____

Role: _____

Signature: _____ Date: _____

Print Name: _____

Title: _____

Role: _____

Signature: _____ Date: _____

Print Name: _____

Title: _____

Role: _____

Signature: _____ Date: _____

Print Name: _____

Title: _____

Role: _____

References

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