Scope and Charter

Project name: ResearchTube

Prepared by:

Document Owner(s)	Role
Pardeep Rathore	Project Manager, Developer
Marcus Tam	Technical Lead, Developer
Zhaoyang Zhong	Quality Assurance, Developer
Yue Wang	Client Liaison, Developer
Zhewen Zhang	Integration Lead, Developer

Document version control:

Version	Date	Comments
1.0	29th May 2020	Preliminary Document
2.0	13th August 2020	Final Document

Table of Contents

1.Identification

Name of project:

ResearchTube

Sponsor:

Name: Mahmoud Sakr

Title: Client

Supervisor:

Name: Scott Fazackerley

Title: Professor

Department: Computer science

Project Manager:

Name: Pardeep Rathore

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2. Project Purpose

Using artificial intelligence to create short videos from executive summaries of research publications. This is a live website that provides researchers from universities and industry with a chance to create their own summary videos. Moreover, this website also provides live high-quality scientific symposiums and meeting services.

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3. Project Objectives and Related Success Criteria

The goal for our team's project is to "design the interface for users to access their profiles and the home pages for the created videos". Once that has been completed, our new task will be to help aid the clients in developing the backend "video making interface" and also to help develop several artificial intelligence algorithms.

Our project will be a success if we are able to deploy a functioning website that essentially creates short videos from summaries of research publications using artificial intelligence. Stretch goals will include designing the platform which organizes "high quality virtual scientific symposiums, conferences and meetings."

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4. High-level Requirements

- Web Development Knowledge (ASP.NET, C#, HTML, CSS, JavaScript)
- Relational Database Management Tools using MySQL
- Backend Development with Python
- Experience with version control systems (GitHub, Git, continuous integration with TravisCI)
- Knowledge of artificial intelligence and NLPs.

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5. Assumptions and Constraints

Assumptions:

- The developers will be able to program in C#, HTML/CSS, JavaScript
- The developers will be able to utilize C# Unit testing
- The developers will complete the project within the correct time frame.
- Our estimations will be correct or correctable
- All stakeholders will be available at all times
- Developers won't run into any computer problems

Constraints:

- Developers are not all in the same time zone
- Developers may be away on vacation at some point during the summer
- Knowledge constraints - proficiency in artificial intelligence may bottleneck backend development
- Computing environment constraints
- Unit tests must be passed before merging into the master branch
- User must be connected to the internet

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6. High-level project description and boundaries

Description

- The final product will be a fully deployable live website that allows the user to generate high-quality videos from research publications using artificial intelligence.
- Documentation will be required for all of our work.

System Elements

- An interface to send executive summaries of research publications and obtain a short video from server software.
- The web application should allow users to create, edit and access their profiles and home page.
- Developers will create a video making interface.

Boundaries

- The project's final documentation will be needed on August 13th, and the code before this.
- Web-app running on computer or laptop must be able to return response in as quickly as possible.
- Server-call should not be taking too long to provide the result(use promises if delays).

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7. High-level risks

- Vacation(s)
- Developers drop out of the class.
- Developers get sick.
- Poor team synergy
- Over/underestimated complexities of tasks
- Poor team, and client communication
- Lack of technical skills
- The learning curve of C# and the associated tools of the project (TravisCI, GitHub, and Docker)
- The global pandemic COVID-19 may impact development time for certain stakeholders
- Summer-time and weather may impact developers from spending time working on the project

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8. Summary Budget

- Time: the team consists of five developers who will each be spending sixteen hours per week on the project.

- Money: there is a $0 cost associated with this project due to the provided materials from the client.

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9. Development Process

A customized version of the agile development process will be used throughout this project with the following segments:

1) Weekly progress meetings on Tuesdays
2) Weekly code reviews on Sundays
3) Retrospective of releases
4) Backlog planning sessions
5) Backlog prioritization, planning poker estimation used for prioritization
6) Release demo (under the assumption the client is available at the times)

Product Owner: Mahmoud Sakr
Product Manager: Pardeep Rathore
Developers: Pardeep Rathore, Marcus Tam, Zhaoyang Zhong, Yue Wang, Zhewen Zhang

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10. Development standards and tools

Development Standards:

- Team members begin implementing their tasks, as outlined by the generated tasks from Task Creation, ONE AT A TIME. Jira will be used for task management.
- Weekly code reviews will be conducted by each team member present to ensure produced code is meeting the outlined standards by the team, and client, as well as to catch any missed potential flaws.
- A linter will be used to ensure code from each team member has the same style guidelines.
- Commenting above a function to briefly outline what the function does, outlining the parameter types, as well as a brief description of how it's useful, is required to improve the readability of code.

- GitHub will be used for version control. A master branch will maintain the latest working version of the code. Feature branches associated with a particular Jira task will be checked out from this master branch. A code review will be done by all team members freely, and merging will be handled by the integration lead. Automated builds will run unit tests when branches with open pull-requests are pushed to. Merging will be blocked until build passes with no warnings from our configuration, and the integration lead approves the merge.

Testing:

- Developers will write the test cases of every function/method to check if the data is being passed correctly.
- We will be having two branches: Development and Master. All the new branches will be created from and merge into the development branch. Our quality assurance member will be checking all the data checks, broken javascript or html elements.
- After QA approval, we will be merging the development branch to master branch.

Deployment:

Our software will be used locally by the clients. To deploy particular builds of software for use internally, Travis will be used.

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11. Stakeholder list

Project Owner	Project Supervisor	Developers
Mahmoud Sakr	Scott Fazackerley	Pardeep Rathore Marcus Tam Zhaoyang Zhong Yue Wang Zhewen Zhang

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12. Problem Statement

Reading through numerous research articles is always a slow and laborious task; however, watching videos about those same research articles is more engaging and saves time. Automating this process on an easily accessible website not only streamlines the process of conversion but also allows content creators to proudly display their research article videos.

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13. Project Goals and Objectives

- Develop a convenient user interface to improve user experience.
- Improve the controllability of AI, such that the AI can satisfy users' detailed demands during creating the short video.
- Be able to connect and iterate the functionality of the website with the code and database.
- Allow customers to have high-quality live meetings and symposiums

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14. Project Requirements

Functional requirements:

- The web app must be able to upload and display videos.
- When video will be uploading a pop up will be showing up with a message "Uploading Video" and pop up will disappear after uploading

Non-functional requirements:

- The final deliverable for the project is August 13th, 2020 .
- The licenses of the libraries used must affect the current constraints of the project's licences.
- There is a budget of $0 to deliver this product.
- The developers will create test cases before actually writing the code for the program as per TDD techniques.

- The developers must learn HTML, CSS, JavaScript, C# programming language.
- The developers must understand how to access the data with C# and displaying the user interface on the screen.
- The developers must be comfortable with using CSS elements to make a responsive web app.
- The developers will use the NLPs to provide AI support to the web app.
- The developers will need to understand how to implement the NLPs.

Technical requirements:

- The program will be written in HTML, CSS, JavaScript, C# programming language.
- SQL Server will be used at backend.
- The video will be created by artificial intelligence algorithms and NLPs.

User Requirements:

- User creation(sign up/registration) with authentication and authorization.
- Display all the videos categorically on the home page.
- Users should be able to update his/her information.
- Subscription plan, and secure payment system.
- A user will upload the executive research summary, and receive the corresponding short video generated by AI.
- A user can choose the style and provide detailed requirements before creating the AI.

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15. Project Deliverables

Deliverable #1 - Requirements, Scope, and Charter
Due May 29, 2020
Deliverable #2 - Design Document

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16. Milestones

Week 4 - Design and testing
Week 7 - Deliver minimum value product

Week 13 - Final report and Project presentation

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17. Cost Estimates

There is no monetary cost associated with this project due to the provided materials coming from the client.

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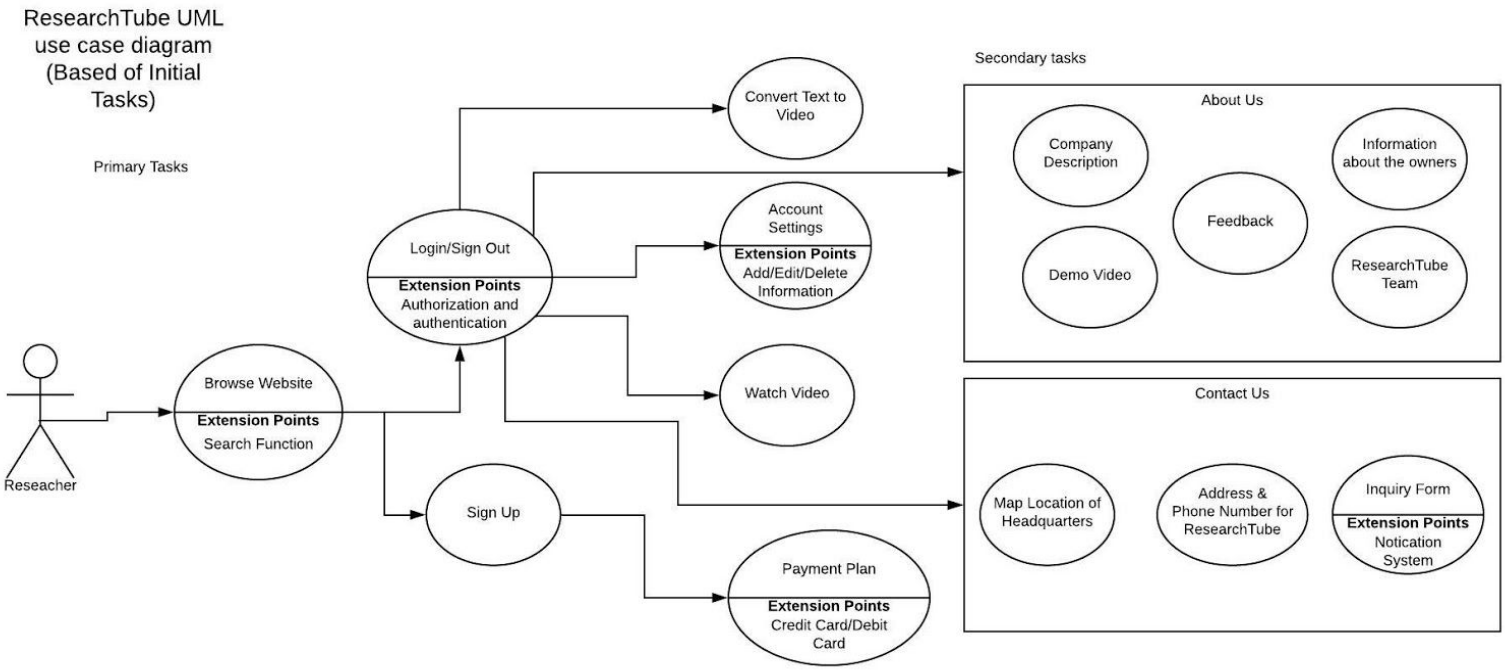
18. UML Use Case Diagram



19. Work Breakdown Structure

	Estimated Hours and Assignment				
1.0 Planning and Requirement Analysis	**Pardeep**	**Marcus**	**Zhewen**	**Zhong**	**Yue**
1.1 Scrum Meetings	3.25	3.25	3.25	3.25	3.25
1.1.1 Stand up meetings(.25 hours/day)	1.25	1.25	1.25	1.25	1.25
1.1.2 Bi-weekly Meetings	2	2	2	2	2
1.2 Project scheduling	2.5	X	X	X	X
1.2.1 Tasks Creation	2	X	X	X	X
1.2.2 Tasks allocation	.50	X	X	X	X
1.3 Requirements Analysis	4	4	4	4	4
1.3.1 Review project outline	1	1	1	1	1
1.3.2 Client meeting(Bi-weekly)	3	3	3	3	3
Weekly Average of Hours Assigned Per Team Member (13 weeks)	**9.75**	**7.25**	**7.25**	**7.25**	**7.25**
Total Number of Hours (13 Weeks)	**126.75**	**94.25**	**94.25**	**94.25**	**94.25**
2.0 Learning	**Pardeep**	**Marcus**	**Zhewen**	**Zhong**	**Yue**
2.1 The developers will need to understand how to use api to interact with the webapp/microservices	6	6	6	6	6

2.2 The developers must learn MVC architecture	6	6	6	6	6
2.3 The developers should be familiar with basic object oriented concepts	1	1	1	1	1
2.4 The developers must know how to access the data and displays the data/content on the screen	4	4	4	4	4
2.5 Basics of artificial intelligence algorithms	14	14	14	14	14
2.6 Learning implementation of NLPs to support the web app features	16	16	16	16	16
2.7 Team meetings(Cumulative)	9	9	9	9	9
Weekly Average of Hours Assigned Per Team Member (13 weeks)	**6.2**	**6.2**	**6.2**	**6.2**	**6.2**
Total Number of Hours (13 Weeks)	**56**	**56**	**56**	**56**	**56**

3.0 Design	**Pardeep**	**Marcus**	**Zhewen**	**Zhong**	**Yue**
3.1 Database design	16	16	10	10	10
3.2 Create ER diagram	6	6	4	4	4
3.2 System Design/Architecture	15	15	10	10	10
3.3 High Fidelity Prototyping	10	10	10	10	10
Weekly Average of Hours Assigned Per Team Member (3 weeks)	**15.6**	**15.6**	**11.3**	**11.3**	**11.3**
Total Number of Hours	**47**	**47**	**34**	**34**	**34**
4.0 User Interface					
4.1 Home to display all the videos categorically	15	12	12	12	12

4.2 Pop-up messages for feedback	2	2	2	2	2
4.3 Placeholders for user guidance	.50	.50	X	X	X
4.4 Responsive design	12	12	12	12	12
4.5 Debugging(During bug fixing)	5	5	5	5	5
4.6 Documentation	10	10	10	10	10
Weekly Average of Hours Assigned Per Team Member (9 weeks)	**4.9**	**4.6**	**4.5**	**4.5**	**4.5**
Total Number of Hours	**44.50**	**41.50**	**41**	**41**	**41**
5.0 Testing					
5.1 Unit testing	5	5	5	5	5
5.2 Coverage testing	X	X	1	1	1
5.3 Usability testing	X	X	2	2	2
5.4 Regression Testing	X	X	X	2	2
5.5 Performance testing	6	6	6	6	6
Weekly Average of Hours Assigned Per Team Member (9 weeks)	**1.2**	**1.2**	**1.6**	**1.8**	**1.8**
Total Number of Hours	**11**	**11**	**14**	**16**	**16**
6.0 Deployment					
6.1 Deploy master branch to production and testing site	5	5	X	X	X
6.2 Deploy webapp on IIS server and Docker	8	8	X	X	X
6.2 Final Documentation	2	8	6	6	6
Weekly Average of Hours Assigned Per Team Member (4 weeks)	**3.75**	**5.25**	**1.5**	**1.5**	**1.5**
Total Number of Hours	**15**	**21**	**6**	**6**	**6**
Total Number of Hours for Project	**300.25**	**270.75**	**245.25**	**247.25**	**247.25**

Total Cumulative Hours for Project: 1315.75

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20. Agreement:

Developers will not share idea, resources, and the code for any purpose related to this project, and developers will use reasonable efforts to protect the Confidential Information from disclosure to third parties.

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21. Approvals

_____	_____	_____
Project Owner	Signature	Date
_____	_____	_____
Project Sponsor	Signature	Date
_____	_____	_____
Project Manager	Signature	Date
_____	_____	_____
Technical Lead	Signature	Date
_____	_____	_____
Integration Lead	Signature	Date
_____	_____	_____
Client Liaison	Signature	Date
_____	_____	_____
Quality Assurance	Signature	Date