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Software Engineering

Milestone 3: Planning

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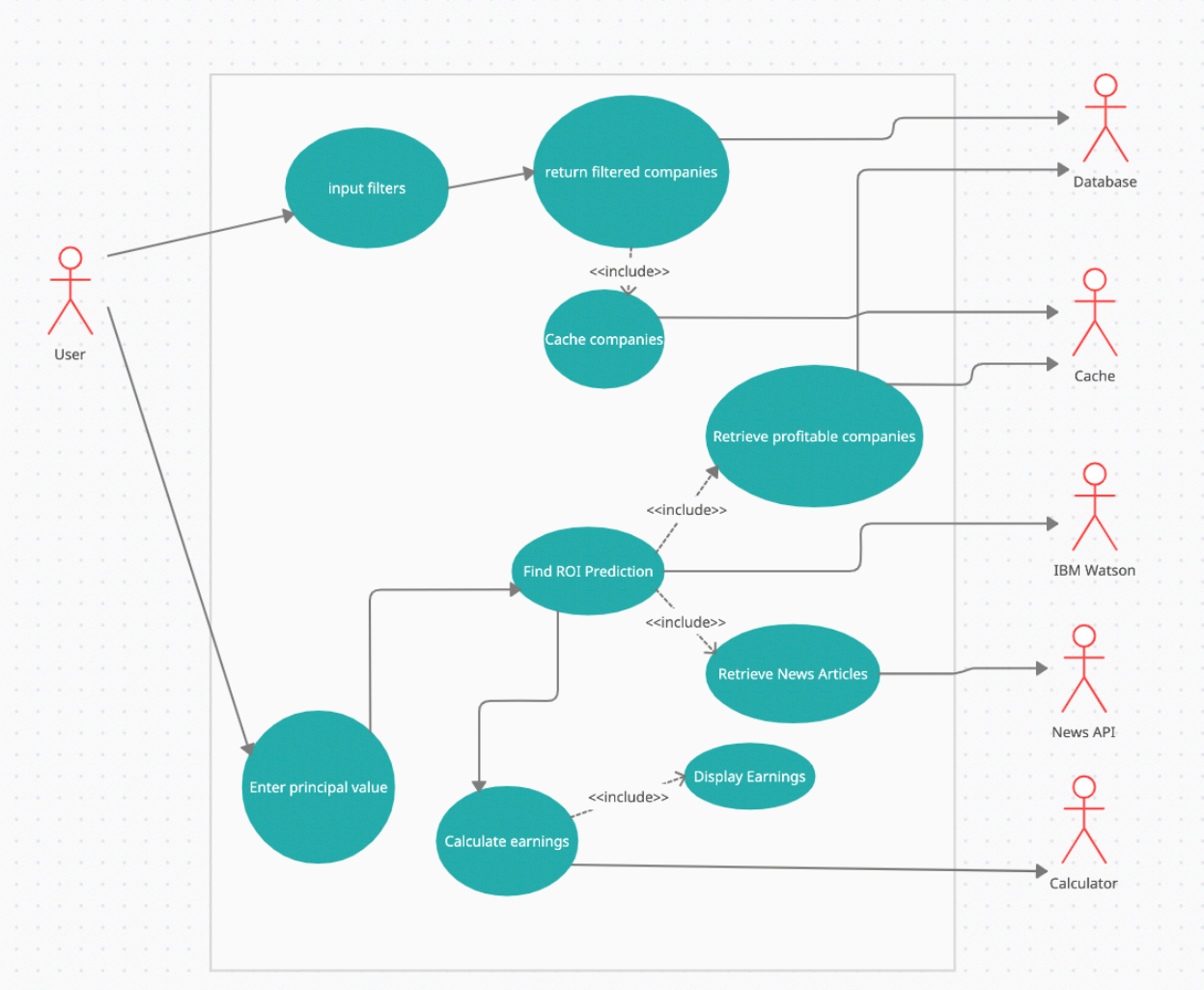
Planning

I. Use case modeling

Clients of our website will be able to grasp the market sentiment of a specific company or a set of companies. Later, they may use the inferences and the stock-calculator to decide whether a stock is worth investing into.



II. Use case templates

Financial Sentiment

Author (s): Andrii Lunin

USE CASE NAME:	Calculate the Sentiment	**USE CASE TYPE**
PRIMARY BUSINESS ACTOR:	User	
OTHER PARTICIPATING ACTORS:	• System, IBM Watson, Cache	
OTHER INTERESTED STAKEHOLDERS:	• None	
SHORT DESCRIPTION:	The client makes use of the core functional of the website to get a grasp of the market sentiment based in a specific field.	
PRE-CONDITION:	The site must be accessed and loaded up to the company search page	
TRIGGER:	The use must select criteria and click `calculate`	
TYPICAL COURSE OF EVENTS:	**Actor Action**	**System Response**
	Request filter criteria	
		Provide filters
	Select Filters	
		Returns a cluster of companies based off the filters.
	Approve Companies	
		Hello message to Waston API
		Search relevant news
		Rank article sentiment
		Display the sentiment and future predictions.
ALTERNATE COURSES:	This use case is optional and doesn't need to occur as it is a handy tool for the user	
CONCLUSION:	The user has selected a cluster based on the company field of expertise	
POST-CONDITION:	The site stays in the list of filtered companies and is ready for further filters or ready to be navigated away	
IMPLEMENTATION CONSTRAINTS AND SPECIFICATIONS:	-	
ASSUMPTIONS:	The cluster user is searching for is available.	

Financial Sentiment

Author (s): Muhammad Aziz

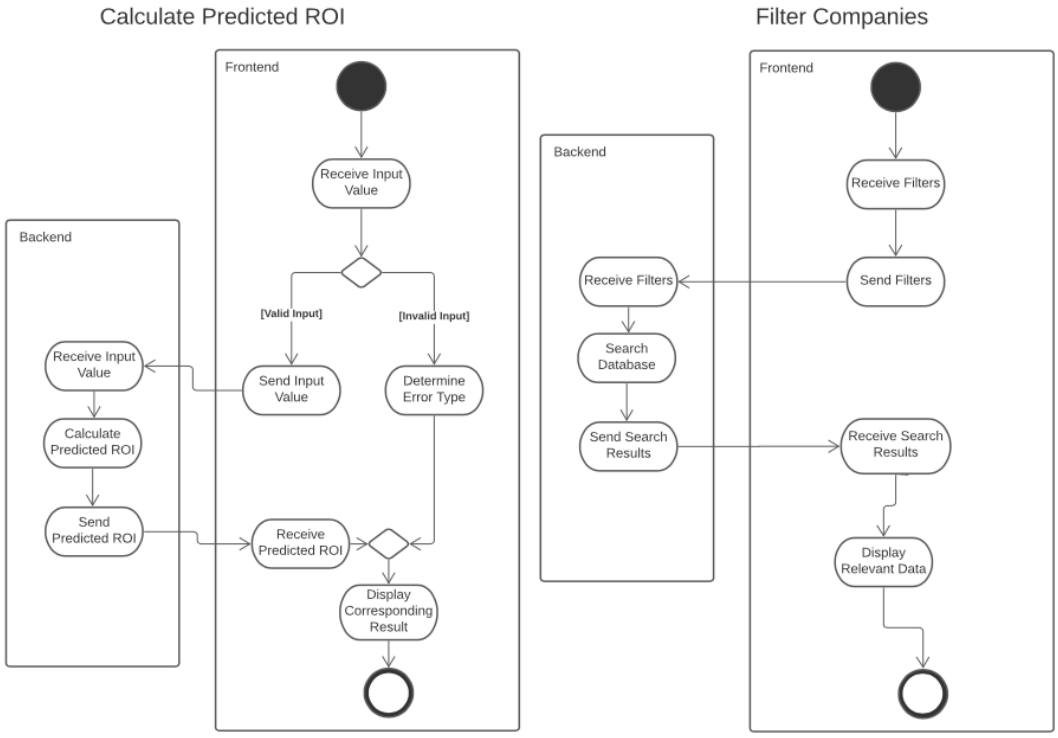
USE CASE NAME:	Filter Companies	**USE CASE TYPE**
USE CASE ID:	1	**Business Requirements:** ☑
PRIORITY:	Normal	
PRIMARY BUSINESS ACTOR:	User	
OTHER PARTICIPATING ACTORS:	• System	
OTHER INTERESTED STAKEHOLDERS:	• None	
SHORT DESCRIPTION:	The user is able to filter companies in the s&p 500 based off specific criteria	
PRE-CONDITION:	The site must be accessed and loaded up to the company search page	
TRIGGER:	The use must select criteria and click "filter" to begin search	
TYPICAL COURSE OF EVENTS:	**Actor Action**	**System Response**
	Request filter criteria	
		Provide filters
	Select Filters	
		Returns a cluster of companies based off the filters.
ALTERNATE COURSES:	This use case is optional and doesn't need to occur as it is a handy tool for the user	
CONCLUSION:	The user has selected a cluster based on the company field of expertise	
POST-CONDITION:	The site stays in the list of filtered companies and is ready for further filters or ready to be navigated away	
BUSINESS RULES:	-	
IMPLEMENTATION CONSTRAINTS AND SPECIFICATIONS:	-	
ASSUMPTIONS:	The cluster user is searching for is available.	

Financial Sentiment

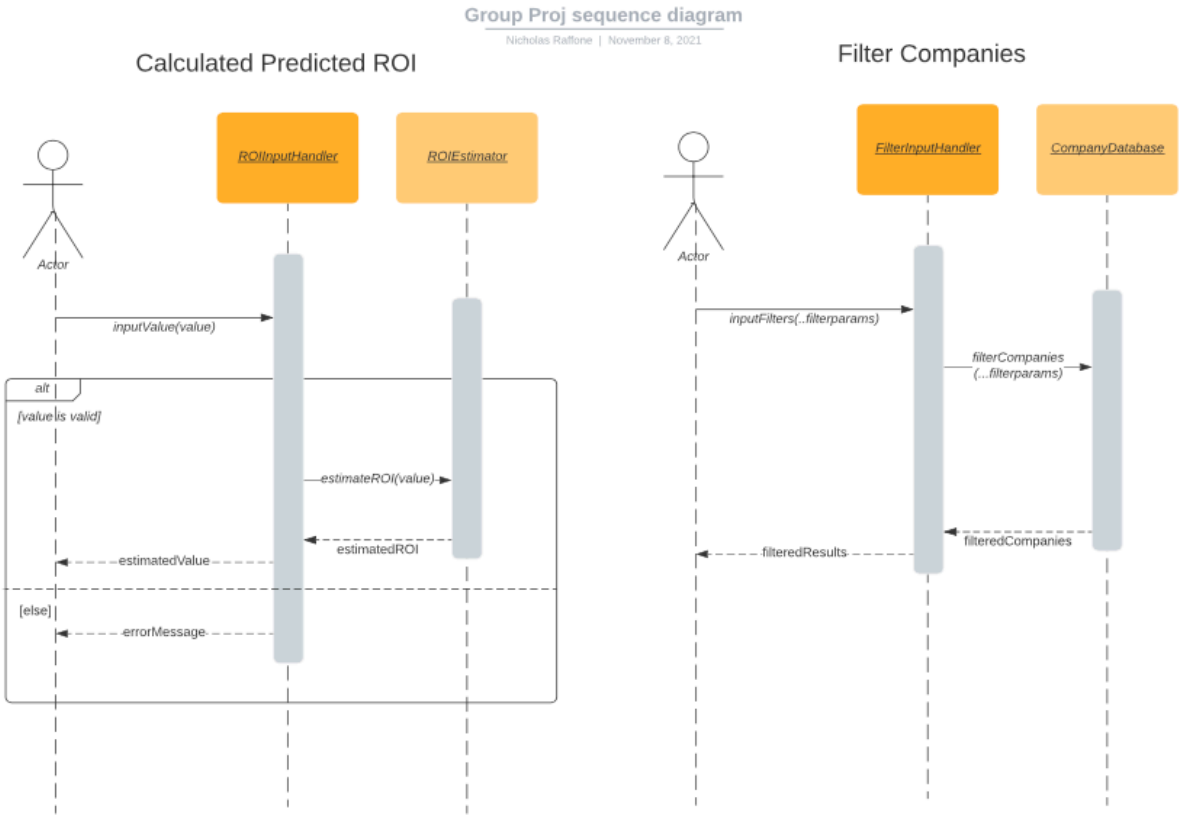
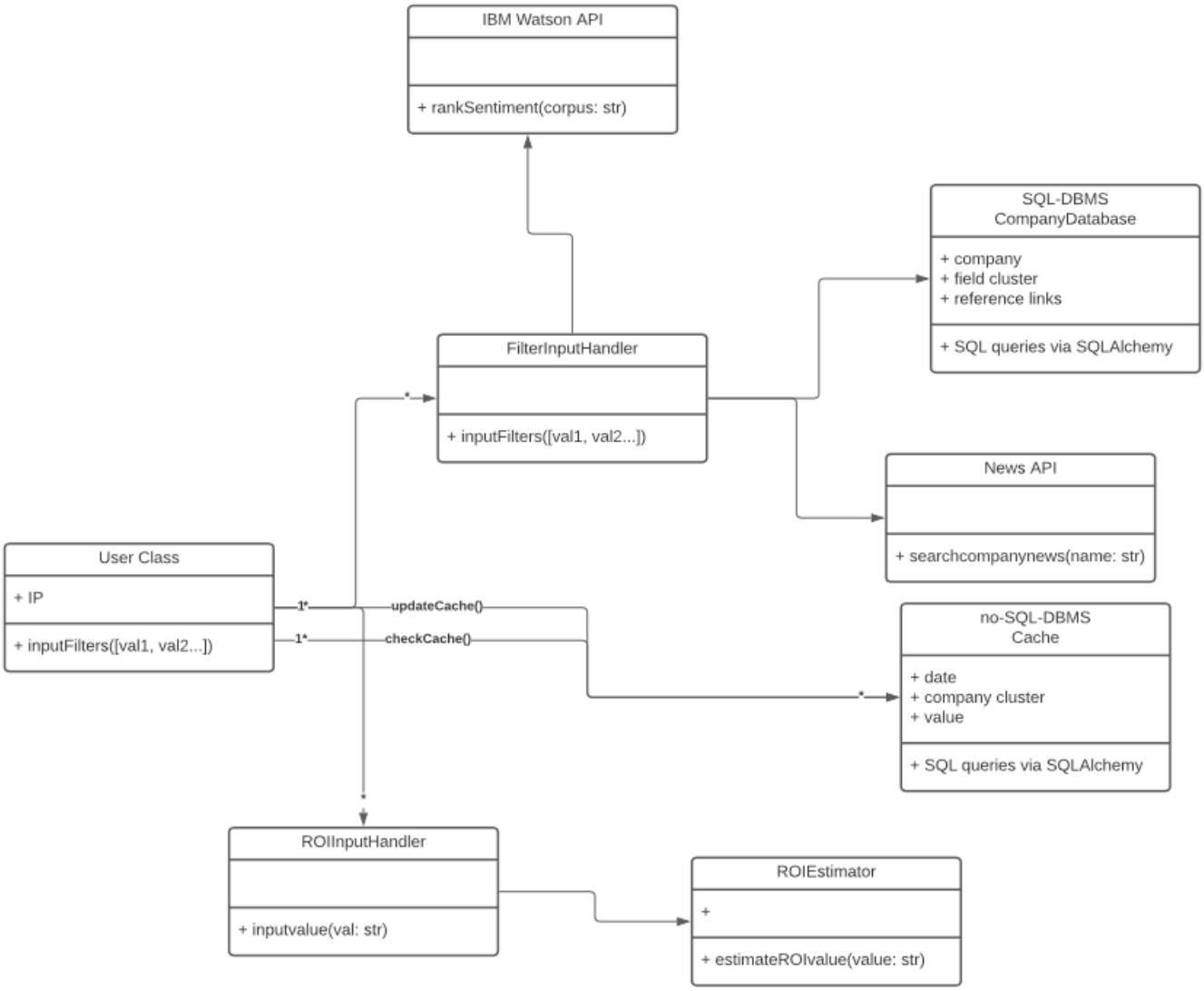
Author (s): Muhammad Aziz

USE CASE NAME:	Calculate Potential Earnings	**USE CASE TYPE**
USE CASE ID:	2	**Business Requirements:** ☑
PRIORITY:	Normal	
PRIMARY BUSINESS ACTOR:	User, Calculator	
OTHER PARTICIPATING ACTORS:	• System	
SHORT DESCRIPTION:	This use case allows the user to enter a principal amount which then gets processed by the calculator	
PRE-CONDITION:	The user must be on the page where they are able to enter a principal amount value	
TRIGGER:	The user enters a value and clicks "enter"	
TYPICAL COURSE OF EVENTS:	**Actor Action**	**System Response**
	The user enters a value cluster in the field	
	The user clicks "enter"	The system uses the calculator to preform a calculation on the value for estimated returns
		The estimated returns are displayed to the user
ALTERNATE COURSES:	The users may simply not use this tool and proceed to analyzing the market sentiment themselves.	
CONCLUSION:		
POST-CONDITION:	The system wait for another principal amount to be entered or allows the user to filter companies instead	
BUSINESS RULES:		
ASSUMPTIONS:	- IBM Watson has returned the response about the company listed with the ROI value.	

III. Activity Diagrams



IV. Sequence Diagrams



V. Class Diagram