

Requirements Definition

1. User requirements:

This section specifies the requirements that the user expects from the system. The user requirement determining what the customer actually wants it to do

1.1 Functional Requirements:

Our system aims to rank the companies according to the ISO standards. Besides holding data of the current trends and do the sorting and choosing processes computerized way.

The main features supported by the application are as follows:

1. Log In: A user needs to Log In before doing anything. Users are Admin or Proposing User or Applying User
2. Log Out: A user wants to Log out when he/she finish the needed work.
3. Add company information: adding details about a specific company
4. Delete a company: When a company ends its business it should be deleted from the current business companies.
5. Update company information: modify data about a company
6. Get information about a company: retrieve details about the company
7. Rank a company: ranks a company according to ISO standards
8. Add new trend: adding new trend to the system
9. Update trend data: modify data of a trend
10. Close a trend: when a trend is taken by a company the trend should be closed
11. Apply to a trend: a company applies to propose to get a trend.
12. Get current open trends: show the available trends that companies may apply to
13. Choosing a company to take the trend: when the deadline is reached, the system should automatically choose the best company according to quality and price

1.2 Non Functional Requirement

Constraints on the services or functions offered by the system such as timing, budget, authorization, development hindered us from applying other services. We wish to apply them afterwards.

1. Track company history: gets the data of the past projects held by specific company.
2. Have direct contact with the Saudi Commercial Chamber and its database.
3. Give authorized material about ranking of the companies according the ISO standards.
4. Give consultation services to companies to be able to get ISO standards.

2. System Requirements

2.1 Look and feel requirements

- The system should have a Graphical User Interface.
- It should be web enabled to support the online access.
- It should be easy to understand and surf.

2.2 Usability requirements

- The system should serve three different categories of users that are Administrators, Proposing User or Applying User.
- As long as all of the data of the companies and trends is available, any needed analytical reports can be accomplished.
- many companies including the governmental institution can add and get information out of the system

2.3 Operational Requirements:

- The system should be operating 24/7 days

2.4 Performance Requirements

Some business processes can be eliminated in the new system to save the time and the effort of the user. They are:

- Marketing for the proposing companies.
- Advertising about the trends.
- Individual efforts in order to investigate about a proposing company.

Also there are other processes that add more capabilities of the new system which are:

- Email notification of the result of the trends.

- Electronic selection of the company that wins the trends which saves effort, time and maintains accuracy.

2.5 Portability requirements

- Any user can login to their system at anytime from anywhere.
- System can run on any operating system like windows or UNIX.

2.6 Security requirement

- Nonregistered user must not be able to use the system.
- The privacy of the information of companies can be kept.
- Authentication is needed to log in to the system. Authorization is needed to get the proper screens for each user.

3. Use Case Diagram



Figure 0.1: Use Case diagram

4. Use Case Description

4.1 Log In

Table 0.1: Use case Description "log In"

USE CASE NAME:	Log In	USE CASE TYPE User Requirements:
USE CASE ID:	01	
PRIORITY:	Medium	
PRIMARY BUSINESS ACTOR:	• Application Users	
OTHER PARTICIPATING ACTORS:	• Application software	
OTHER INTERESTED STAKEHOLDERS:	• Top Manager of organization	
DESCRIPTION :	User needs to Login before doing anything. Login is available for registered users only. Users are admin or proposing user or participant user.	
PRE-CONDITION:	User is registered to Big Tenders application, Click Login page	
TRIGGER:	User enters username and password correctly and presses Login	
TYPICAL COURSE OF EVENTS:	Actor Action	System Response
	Step 1:	Step 2:
	1-User Requests Application software contents	Application asks the user to login
	2-User browses Login page	Application asks for username and password
	3-User enters username and password	Application checks username and passwords
	4-User Logged in	
ALTERNATE COURSES:	At no.1: If user is not registered, the system will ask him to register first	
	2- If user doesn't browse Login page, the system will redirect him to Login page.	
	3- If user enters username and password incorrectly, the system will ask to retype it again.	
CONCLUSION:	User needs to be registered and Log In before browsing anything	
POST-CONDITION:	User is logged in and able to browse all content of application software	

4.2 Log Out

Table 0.2: Use case Description "log out"

USE CASE NAME:	Log Out	USE CASE TYPE User Requirements:
USE CASE ID:	02	
PRIORITY:	Medium	
PRIMARY BUSINESS ACTOR:	• Application Users	
OTHER PARTICIPATING ACTORS:	• Application software	
OTHER INTERESTED STAKEHOLDERS:	• Top Manager of organization	
DESCRIPTION :	User needs to logout as security to his account when he finished working. Logout is available for logged in users only. Users are admin or proposing user or participant user.	
PRE-CONDITION:	User has finished interacting with the application software	
TRIGGER:	User presses the “Logout” button.	
TYPICAL COURSE OF EVENTS:	Actor Action	System Response
	Step 1:	Step 2:
	1-User finishes interacting with the application	Application terminates active interactions
	2-User saves his data	Application confirms saving users data
	3-User clicks on logout page	Application loads logout page
	4-User clicks on “Logout” button	Application logs out the user and redirects him to welcome guest page
	5-User is Logged out	
ALTERNATE COURSES:	1- If there’s a pending page on user decision, Application will ask for user’s decision first.	
	2- If any error happened in saving data phase, Application will display an error message and ask user to try again.	
	3- If some error happened while logging out, user will still logged in and should try to log out again.	
CONCLUSION:	User needs to Logout from Application if he finished interacting with it.	
POST-CONDITION:	User is logged out. And redirected to welcome guest page. User has no more access to his page or data.	

4.3 Add Company Information

Table 0.3: Use case Description "Add Company Information"

USE CASE NAME:	Add company information	USE CASE TYPE User Requirements:
USE CASE ID:	03	
PRIORITY:	Medium	
PRIMARY Business ACTOR:	• Participant User	
OTHER PARTICIPATING ACTORS:	• Application software	
OTHER INTERESTED STAKEHOLDERS:	• Top Manager of organization	
DESCRIPTION :	Participant User needs to add details about a specific company, like if it is ISO guaranteed or not, contact information and previous work, or any other detail.	
PRE-CONDITION:	Expert has finished gathering information and revising it	
TRIGGER:	A company information is ready to be added	
TYPICAL COURSE OF EVENTS:	Actor Action	System Response
	Step 1:	Step 2:
	1- User clicks on “Add company information”.	Application loads a blank company information template.
	2- User fills in the blank template.	Application revises and checks for any errors
	3- User clicks save	Application saves the new company information and display a confirmation message.
ALTERNATE COURSES:	1- If User fills in the blank template and there was a spelling error or necessary box left blank, Application will display an error message explaining the error line.	
	2- If User clicked save and there was a problem during saving process, Application will display an error message and ask admin to click save again.	
CONCLUSION:	User should add any company to application to have the ability to participate in any trend.	
POST-CONDITION:	The company information is added to application, And has the ability to participate in any trend.	

4.4 Delete a Company

Table 0.4: Use case Description "Delete a company"

USE CASE NAME:	Delete a company	USE CASE TYPE User Requirements:
USE CASE ID:	04	
PRIORITY:	Medium	
PRIMARY BUSINESS ACTOR:	• Admin	
OTHER PARTICIPATING ACTORS:	• Application software	
OTHER INTERESTED STAKEHOLDERS:	• Top Manager of organization	
DESCRIPTION :	When a company ends its business it should be deleted from the current business companies for more organized easier interface. This company will still be saved on the application.	
PRE-CONDITION:	A company is added to the current business companies	
TRIGGER:	A company ends its current business.	
TYPICAL COURSE OF EVENTS:	Actor Action	System Response
	Step 1:	Step 2:
	1- Admin presents the Application software to delete a company when it ends its business	Application deletes company from current business list and sends a confirmation message to the admin
ALTERNATE COURSES:	1- If Application software finds another current business, the company will not be deleted from current business companies.	
	2- If Admin doesn't receive the confirmation message, he will delete it manually.	
CONCLUSION:	Application deletes any company from the current business list when it ends its current business automatically	
POST-CONDITION:	The company is deleted from the current business companies.	

4.5 Update Company Information

Table 0.5; Use case Description "Update Company Information"

USE CASE NAME:	Update company information	USE CASE TYPE User Requirements:
USE CASE ID:	05	
PRIORITY:	Medium	
PRIMARY BUSINESS ACTOR:	• Participant User	
OTHER PARTICIPATING ACTORS:	• Application software	
OTHER INTERESTED STAKEHOLDERS:	• Top Manager of organization	
DESCRIPTION :	Some data became invalid about a company and needs to be updated or modified.	
PRE-CONDITION:	Application has some invalid data about a company	
TRIGGER:	New data is revised and ready to be updated	
TYPICAL COURSE OF EVENTS:	Actor Action	System Response
	Step 1:	Step 2:
	1- Participant User opens the company's page.	Application loads the company's page
	2- Participant User clicks "Update company information"	Application asks for new information
	3- Participant User enters new information	Application revises entered data
	4- Participant User press "Update"	Application Updates company's information and displays a confirmation message
ALTERNATE COURSES:	1- If Participant User updates the data there is a spelling error or necessary box left blank, Application will display an error message containing the error line.	
	2- If Participant User clicks update and there is a problem during updating process, Application will display an error message and ask admin to click update again.	
CONCLUSION:	Participant User updates any invalid company's information.	
POST-CONDITION:	The company information is updated and saved to application.	

4.6 Get Information about a Company

Table 0.6: Use case Description "Get Company Information"

USE CASE NAME:	Get information about a company	USE CASE TYPE User Requirements:
USE CASE ID:	06	
PRIORITY:	Medium	
PRIMARY BUSINESS ACTOR:	• Proposing User	
OTHER PARTICIPATING ACTORS:	• Application Software	
OTHER INTERESTED STAKEHOLDERS:	• Top Manager of organization	
DESCRIPTION:	Get information about a company and retrieve all details about it. And be sure of the accuracy of these data, to add it to the application.	
PRE-CONDITION:	Admin has no information about a company.	
TRIGGER:	Company's information is needed for a trend	
TYPICAL COURSE OF EVENTS:	Actor Action	System Response
	Step 1:	Step 2:
	1- Proposing User starts the interview, asks questions	Company representative answers all questions
	2- Proposing User ends the interview and prepares the questionnaire	Company representative waits the expert.
	3- Proposing User starts the questionnaire by giving the representative the first group of questionnaire	Company representative starts to write down the answers of first group.
	4- Proposing User takes the answers and give the representative the next group.	Company representative answers all questionnaire.
	5- Proposing User ends the questionnaire	Company representative leaves
ALTERNATE COURSES:	1- If Proposing User remembers another point want to talk about with Company representative after he finishes the interview, he will talk about it quickly.	
	2- If Proposing User has more than two groups of questions, he will give it to Representative after second group.	
	3- If Company representative doesn't tell any detail, he will write it down on questionnaire.	
	5- If Proposing User doesn't end the questionnaire, Company representative will wait until he finishes.	
CONCLUSION:	Proposing User gathers information through interview and questionnaire.	
POST-	The company's information has been gathered and organized and ready to be added to	

CONDITION:	the application.
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4.7 Rank a Company

Table 0.7: Use case Description "Rank a Company"

USE CASE NAME:	Rank a company	USE CASE TYPE User Requirements:
USE CASE ID:	07	
PRIORITY:	Medium	
PRIMARY BUSINESS ACTOR:	• Application software	
OTHER PARTICIPATING ACTORS:	• Admin	
OTHER INTERESTED STAKEHOLDERS:	• Top Manager of organization	
DESCRIPTION:	Ranks a company according to ISO standards. And any other standards setted by application admin.	
PRE-CONDITION:	Company is not ranked yet and can't participate in any trend.	
TRIGGER:	Company's data is applicable	
TYPICAL COURSE OF EVENTS:	Actor Action	System Response
	Step 1:	Step 2:
	1- Admin enters a new company's information	Application calculated the rank according to ISO standards and send a confirmation message to admin
ALTERNATE COURSES:	2- If Admin doesn't receive the confirmation message, he will press it's button to calculate it.	
	2- If the confirmation message has a wrong ranking value, Admin will rank the company manually.	
CONCLUSION:	Application software ranks companies automatically	
POST-CONDITION:	Company is ranked and can participate in any trend.	

4.8 Add New Trend

Table 0.8: Use case Description "Add a Trend"

USE CASE NAME:	Add new trend	USE CASE TYPE User Requirements:
USE CASE ID:	08	
PRIORITY:	Medium	
PRIMARY BUSINESS ACTOR:	• Proposing User	
OTHER PARTICIPATING ACTORS:	• Application software	
OTHER INTERESTED STAKEHOLDERS:	• Top Manager of organization	
DESCRIPTION :	Proposing User can add new trend, with the product specifications and conditions.	
PRE-CONDITION:	Proposing User needs a new product or deal	
TRIGGER:	Proposing User opens its page and clicks on add new trend.	
TYPICAL COURSE OF EVENTS:	Actor Action	System Response
	Step 1:	Step 2:
	1- Proposing User opens its page and clicks on add new trend	Application loads new trend form
	2- Proposing User fills in the form	Application revises filled form
	3- Proposing User clicks save	Application save entered form and display a confirmation message
ALTERNATE COURSES:	1- If Proposing User opens its page and finds the new trend added it won't add it again	
	2- If Application finds any misspelling or blank necessary fields, will display an error message and ask organization to enter it correctly.	
	3- If Application doesn't display a confirmation message, the organization will click save again.	
CONCLUSION:	When Proposing User requests addition, it add new trend for it.	

4.9 Update Trend Data

Table 0.9: Use case Description "Update a Trend"

USE CASE NAME:	Update trend data	USE CASE TYPE User Requirments:
USE CASE ID:	09	
PRIORITY:	Medium	
PRIMARY BUSINESS ACTOR:	Proposing User	
OTHER PARTICIPATING ACTORS:	<ul style="list-style-type: none">• Application software• 	
OTHER INTERESTED STAKEHOLDERS:	<ul style="list-style-type: none">• Top Manager of organization	
DESCRIPTION:	Update trend data entered by any organization or company requesting products with the new product specifications and conditions.	
PRE-CONDITION:	Proposing User entered a trend and need to change a detail or update it.	
TRIGGER:	Trend data is changed	
TYPICAL COURSE OF EVENTS:	Actor Action	System Response
	Step 1:	Step 2:
	1- Proposing User opens its page and clicks on update trend	Application loads trend form
	2- Proposing User updates trend’s form	Application revises updated form
	3- Proposing User clicks save	Application saves entered form and displays a confirmation message
ALTERNATE COURSES:	1- If Proposing User opens its page and finds the trend doesn’t need update, it won’t update it.	
	2- If Application finds any misspelling or blank necessary fields, will display an error message and ask organization to enter it correctly.	
	3- If Application doesn’t display a save confirmation message, the organization will click save again.	
CONCLUSION:	When Proposing User has any trend detail changed, it will update it on application software.	
POST-CONDITION:	Updated trend is saved and ready to be seen.	

4.10 Close a Trend

Table 0.10: Use case Description "Close a Trend"

USE CASE NAME:	Close a trend	USE CASE TYPE User Requirements:
USE CASE ID:	10	
PRIORITY:	Medium	
PRIMARY BUSINESS ACTOR:	• Admin	
OTHER PARTICIPATING ACTORS:	• Organization • Application software	
OTHER INTERESTED STAKEHOLDERS:	• Top Manager of organization	
DESCRIPTION:	Close a trend: when a trend is taken by a company the trend should be closed for more organized interface and to prevent mistaken duplication.	
PRE-CONDITION:	A trend's deadline is reached	
TRIGGER:	A trend's is taken by a company	
TYPICAL COURSE OF EVENTS:	Actor Action	System Response
	Step 1:	Step 2:
	1- Admin checks the trends' deadlines within next 24-hours	Application lists all requested trends
	2- Admin activates automatic trend closing function to run immediately when deadline is reached.	Application runs the function when deadline is reached and changes the trend's status to closed and sends a confirmation message to the admin and both companies
ALTERNATE COURSES:	1- If admin doesn't find any trends' deadlines within next 24-hours, he won't activate automatic trend closing function.	
	2- If Admin doesn't receive the confirmation message, he will close it manually.	
	3- If any of the both companies doesn't receive the confirmation message, will contact the Application technical support	
CONCLUSION:	When a trend's deadline is reached, it's closed automatically	
POST-CONDITION:	The trend status is closed.	

4.11 Apply to a Trend

Table 0.11: Use case Description "Apply to a Trend"

USE CASE NAME:	Apply to a trend	USE CASE TYPE User Requirements:
USE CASE ID:	11	
PRIORITY:	Medium	
PRIMARY BUSINESS ACTOR:	• Participant user	
OTHER PARTICIPATING ACTORS:	• Application software	
OTHER INTERESTED STAKEHOLDERS:	• Top Manager of organization	
DESCRIPTION:	When a Participant user finds an interesting trend, and reads all the terms and finds it suitable, Participant user should propose to get that trend.	
PRE-CONDITION:	A company viewed all available current trends and finds a suitable one	
TRIGGER:	The company opens trend's page and clicks on Apply to this trend	
TYPICAL COURSE OF EVENTS:	Actor Action	System Response
	Step 1:	Step 2:
	1- Participant user opens trend's page and clicks on Apply to this trend	Application loads trend's form
	2- Participant user fills in trend's form	Application revises filled trend's form
	3- Participant user clicks save	Application saves entered form and displays a confirmation message
ALTERNATE COURSES:	1- If the Participant user opens trend's page and faced any problem with Applying to this trend, it will contact Application technical support.	
	2- If Participant user fills the form and there is a spelling error or necessary box left blank, Application will display an error message containing the error line.	
	3- If Participant user clicks save and there is a problem during updating process, Application will display an error message and ask company to click save again.	
CONCLUSION:	A Participant user can apply to any opened trend	
POST-CONDITION:	The Participant user applied successfully to the trend	

4.12 Get Current Open Trends

Table 0.12: Use case Description "Get Open Trends"

USE CASE NAME:	Get current open trends	USE CASE TYPE User Requirements:
USE CASE ID:	12	
PRIORITY:	Medium	
PRIMARY BUSINESS ACTOR:	• Participant user	
OTHER PARTICIPATING ACTORS:	• Application software	
OTHER INTERESTED STAKEHOLDERS:	• op Manager of company	
DESCRIPTION:	When a Participant user wants to see all the available trends that may apply to, and read the terms and specifications to choose a suitable trend from this list.	
PRE-CONDITION:	Participant user is not updated with the current available trends.	
TRIGGER:	A Participant user seeks for a trend.	
TYPICAL COURSE OF EVENTS:	Actor Action	System Response
	Step 1:	Step 2:
	1- The Participant user requests current open trend page.	Application loads current open trend page.
	2- The Participant user filters the trends and prints it	Application sends the desired data to printer to be printed
	3- The Participant user gets the current open trend list.	
ALTERNATE COURSES:	1- If the Participant user requests current open trend page and faced any problem with getting current open trend page, it will contact Application technical support.	
	2- If Participant user filters the trends and doesn't find any suitable trend, it won't print anything. And will check again later.	
CONCLUSION:	A Participant user can show all the available trends that may apply to	
POST-CONDITION:	The Participant user has list of all the available trends.	

4.13 Choosing a Company to Take the Trend

Table 0.13: Use case Description "Choosing a Company to win a Trend"

USE CASE NAME:	Choosing a company to take the trend	USE CASE TYPE User Requirements:
USE CASE ID:	13	
PRIORITY:	Medium	
PRIMARY BUSINESS ACTOR:	• Application software	
OTHER PARTICIPATING ACTORS:	• Participant user • Admin	
OTHER INTERESTED STAKEHOLDERS:	• Top Manager of company	
DESCRIPTION :	when the deadline is reached, the system should automatically choose the best company according to quality and price	
PRE-CONDITION:	The trend is still open and Participant users are applying to it.	
TRIGGER:	The trend’s deadline is reached.	
TYPICAL COURSE OF EVENTS:	Actor Action	System Response
	Step 1:	Step 2:
	1- Admin checks the trends’ deadlines within next 24-hours	Application lists all requested trends
	2- Admin activates automatic functions to run immediately when deadline is reached	Application runs the functions when deadline is reached
		The Functions choose the best company according to quality and price
ALTERNATE COURSES:	1- If admin doesn’t find any trends’ deadlines within next 24-hours, he won’t activate anything.	
	2- If the best offer company removed it’s form and doesn’t want the trend anymore, after admin activates the automatic functions, the Application will choose the current next best offer.	
CONCLUSION:	The Participant user is chosen automatically to take the trend.	
POST-CONDITION:	The trend will be closed and removed from current open trends.	

5. Data Modeling: (ER diagram):

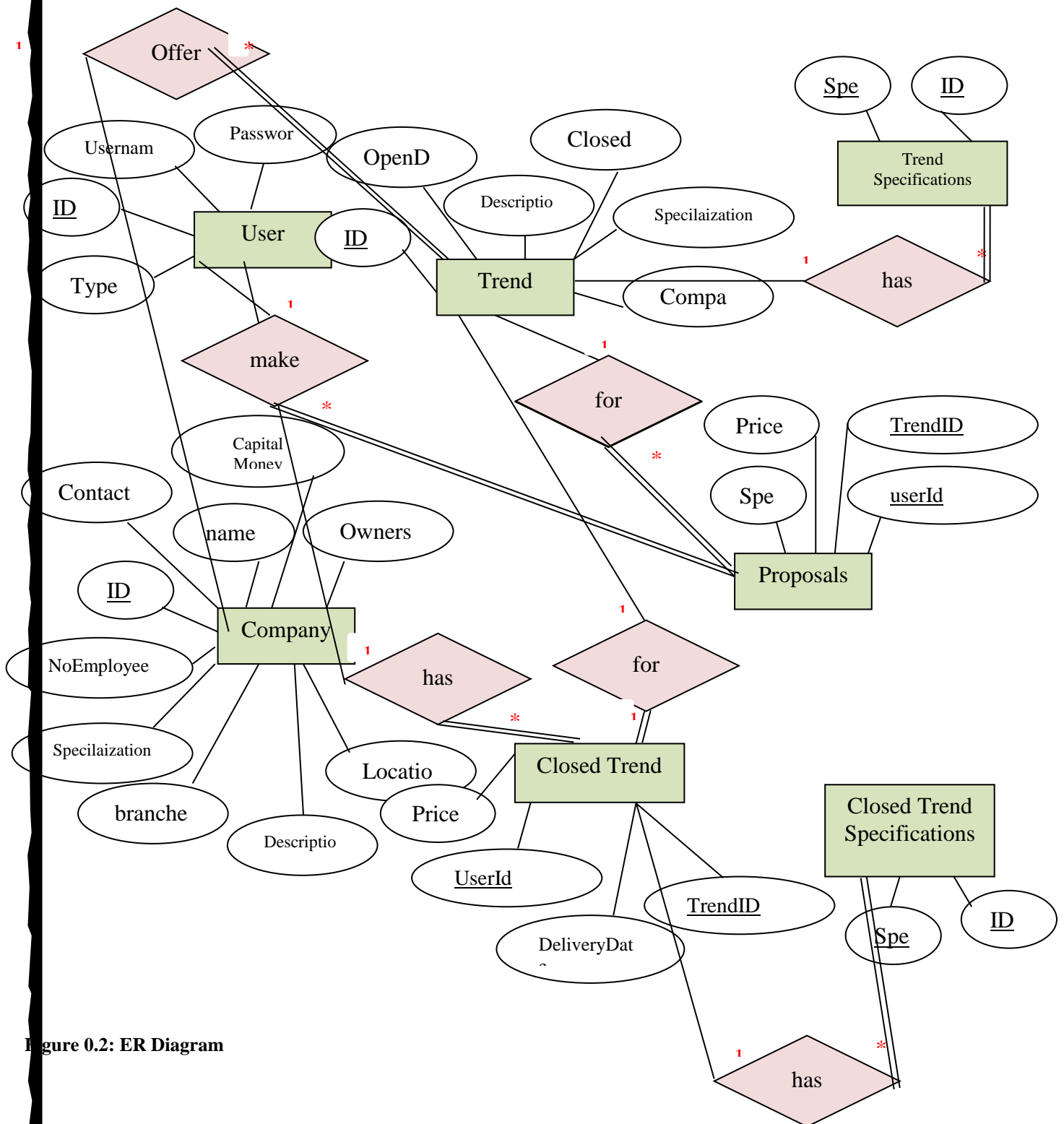


Figure 0.2: ER Diagram