Technical documentation

Objects and custom fields

Only standard objects were used, and custom fields were added into them:

1. Quote: to store the complete information of the tuition including subjects, total discount and total price to pay.

   Custom fields:

   a. Partial_Payment__c (Currency): used to store the partial payment to display the dates to and amounts to pay the tuition.
   b. Payment_Method__c (Picklist): used to store this two options to pay, either monthly or payment in full.
   c. Scholarship_options__c (Picklist (Multi-Select)): used to store the names and percentages of all the requested scholarships.

   Relations with other objects:

   a. Has a Master-Detail relationship with opportunity
   b. Acts as the child in the Lookup relationship with Contact
   c. Roll-up summary (Quote Line Item), used to count how many quote line items it is related.

2. Opportunity: used to store the quotes of the students and no custom fields were made.

   Relation with other objects:

   a. Acts as the parent of Quote in the Master-Detail relationship.

3. Contact: used to store the student's information.

   Custom fields

   a. Average__c (Number): used to store the student's current average.
   b. Period__c (Picklist): used to store the preferred period of the student to take his classes, either quarterly or in a semester.
   c. State__c (Picklist): used to store the state where the student lives can be either of the following: Guanajuato, Nuevo León, Jalisco or Querétaro.
   d. Identifier__c (Auto number): used to store a unique identifier for the student with the format EST-00000.

4. Quote Line Item: used to join a Product or in this case a university subject with a Quote and no custom fields were made. From here is where I obtain the individual university subjects prices and discounts.

    Relation with other objects
    a. Child in a lookup relationship with Product, or in this case it is considered the university subject.
    b. Child of Quote in a Master-Detail relationship with Quote.

5. Product: used to store the name of the university subject and no custom fields were made.

    Relations with other objects

    a. Parent of Price Book Entry and Quote Line Item, both in a lookup relationship

6. Price Book Entry: used to join a Product or university subject with a Price Book and no custom fields were made. In this objects is where the price of each Product or university subject is set.

    Relations with other objects

    a. Child of Price Book and Product, both in a lookup relationship.

7. Price Book: used to store the name of the different university campuses, and no custom fields were made.

    Relations with other objects
    a. Parent of Price Book Entry in a lookup relationship.

Validation rules

Contact

1. A validation rule in the Contact object was set to only permit to enter an average that was in the range from 0 to 10, this is set to the Average__c custom field.

2. There is a check that verifies that the Average__c custom field is not null since it is used in another validation rule to check if the student is eligible for the Excellence scholarship

3. Finally, a check to validate that the Email field is not empty since this is used to send the student an email with the quote of the enrolled subjects.

Quote

1. There is a check that validates that if the average of the related contact that is the student is below 9.5 then it is not possible to add the Excellence scholarship in the Scholarship_options__c custom field.

2. There is a check that validates that the contact lookup field is not null since this is used to look for the related contact's email to send the tuition or quote generated in a pdf file.

3. Finally there is a check that validates that the payment method is not null since this is used to calculate the partial payments for the quote.

Triggers

1. updateQuoteLineItems: this is an after update of the Quote object trigger that handles several functions, the main ones are the following:

    a. Calculation for the discounts of the enrolled subjects based on the different criteria, for example: if one subject is enrolled then 0% discount is applied, else if two subjects are enrolled then the first one has 0% discount and the second one is applied a 10% discount, else if three or more subjects are enrolled then the first one has a 0% discount and the rest have 15% discount. Also depending on the scholarships: if excellence or sports scholarships are selected then for each there is a 10% discount (Excellence scholarship is only applied if the student has an average of 9.5 or higher), related teachers and economic need scholarships each gives a 30% discount.

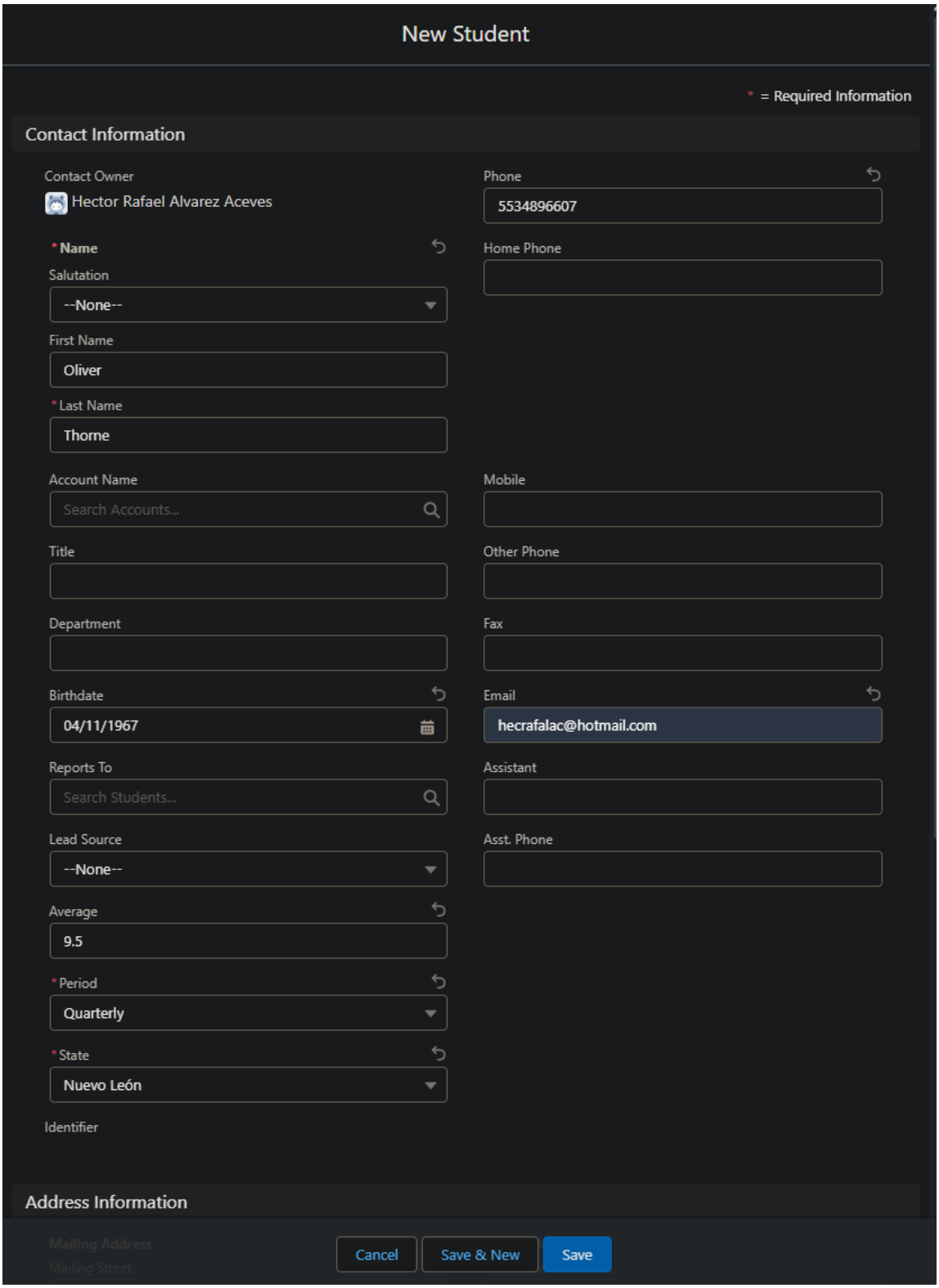
    b. Also there is a check that validates that the sum of discounts does not exceed 60% or else automatic adjustments will be made like deleting subjects, reverting payment method from payment in full to monthly or reversion from added scholarships to the past scholarships before the discount was more than 60%.

    c. This trigger also handles a call to a function in a another class called EmailPDFController where the quote's PDF file is created, stored in the organization's Quote Document object and also sent to the student's email.

2. CheckChangeInAverage: this trigger makes sure that whenever the average of the student is changed to be below 9.5 then it automatically removes the excellence scholarship if the student has it.

User interface

Student page (this is the Contact page but the label was changed to student)



Student
Oliver Thorne

Title	Account Name	Phone (2)	Email	Contact Owner
		5534896607	hecrafalac@hotmail.com	Hector Rafael Alvarez Aceves

Related **Details**

Contact Owner
Hector Rafael Alvarez Aceves

Name
Oliver Thorne

Account Name

Title

Department

Birthdate
04/11/1967

Reports To

Lead Source

Average
9.5

Period
Quarterly

State
Nuevo León

Identifier
EST-00001

Phone
5534896607

Home Phone

Mobile

Other Phone

Fax

Email
hecrafalac@hotmail.com

Assistant

Asst. Phone

Mailing Address

Other Address

Languages

Level

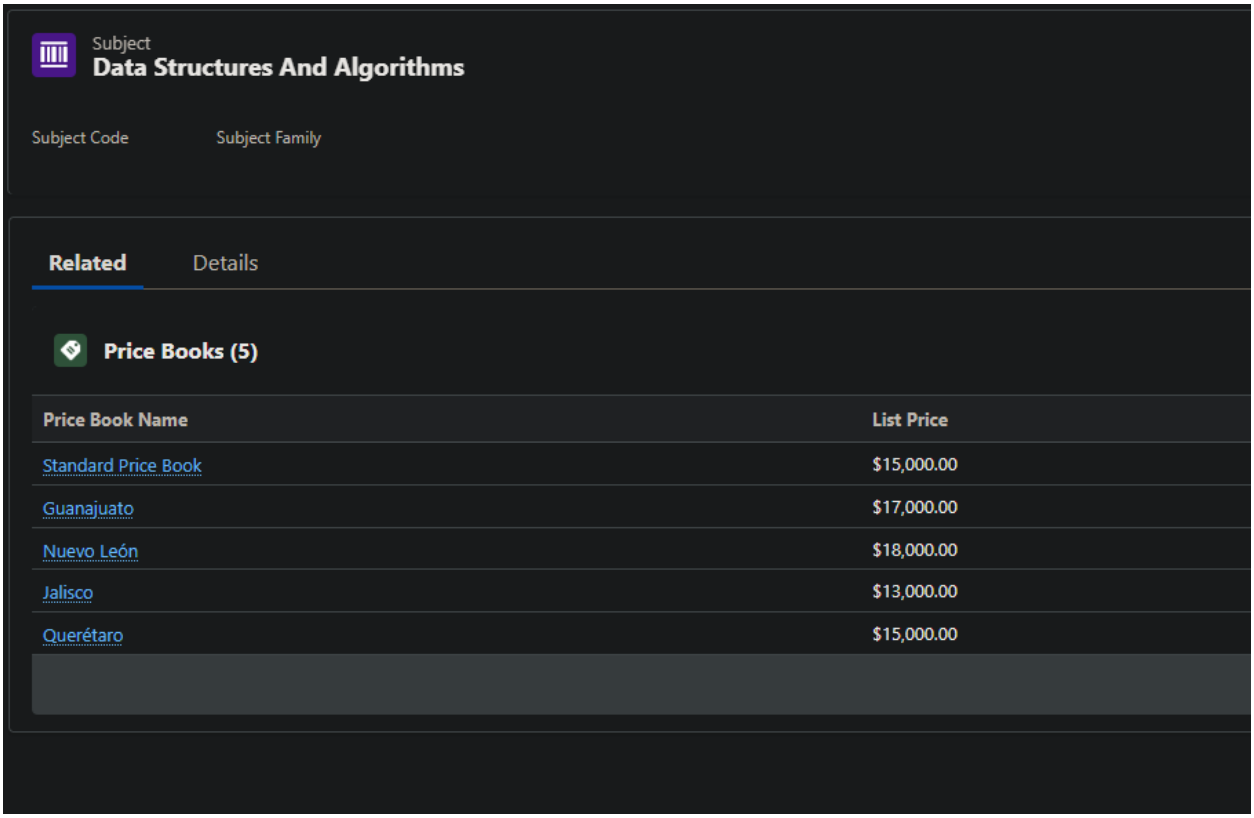
Created By
Hector Rafael Alvarez Aceves, 17/11/2024, 17:21

Last Modified By
Hector Rafael Alvarez Aceves, 17/11/2024, 17:21

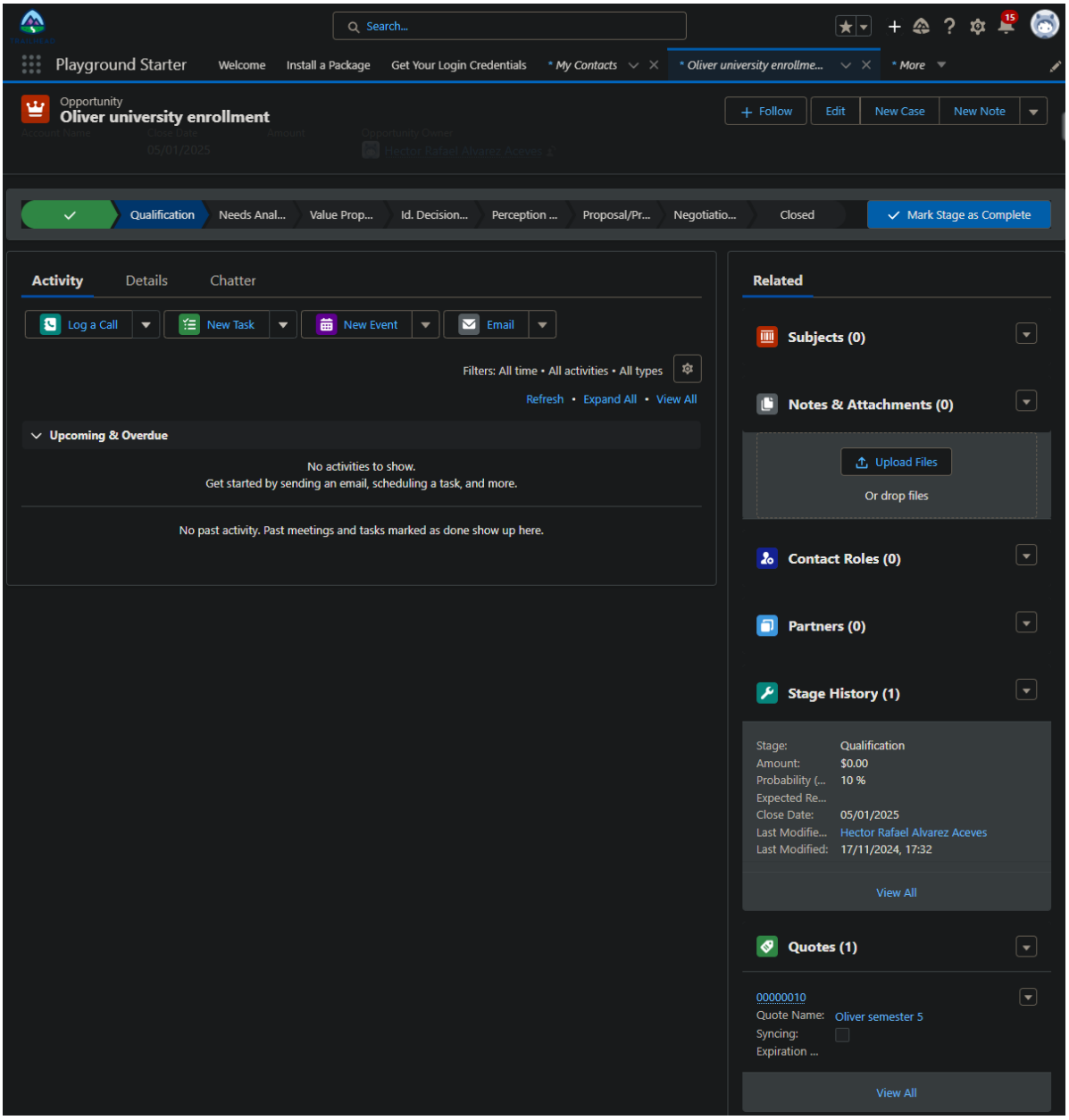
Description

Subject with different prices (this is the Product page but the label was changed to Subject)

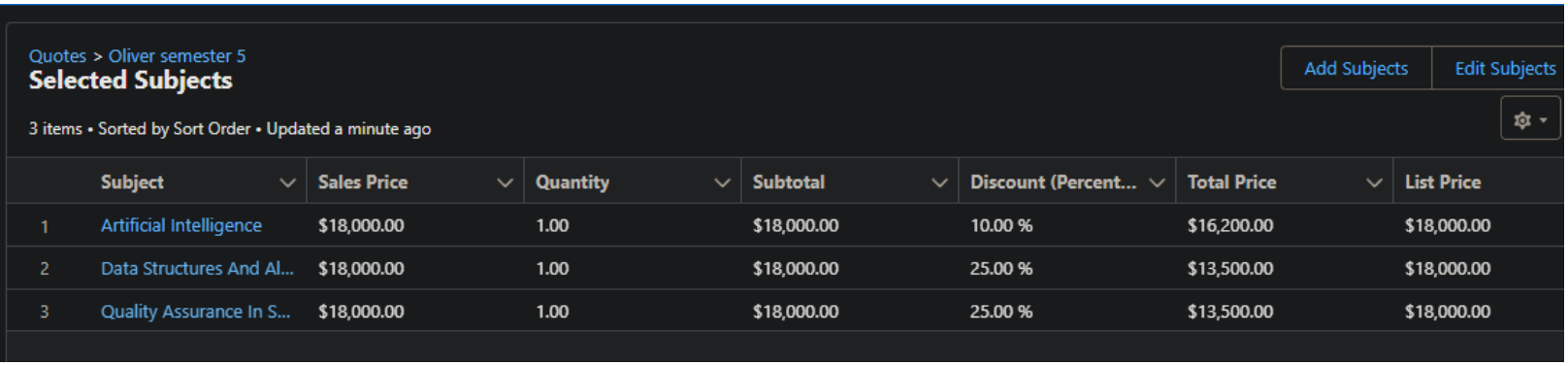
The standard price book is actually never used but it has to be added in order to have custom price books



Opportunity with Quotes

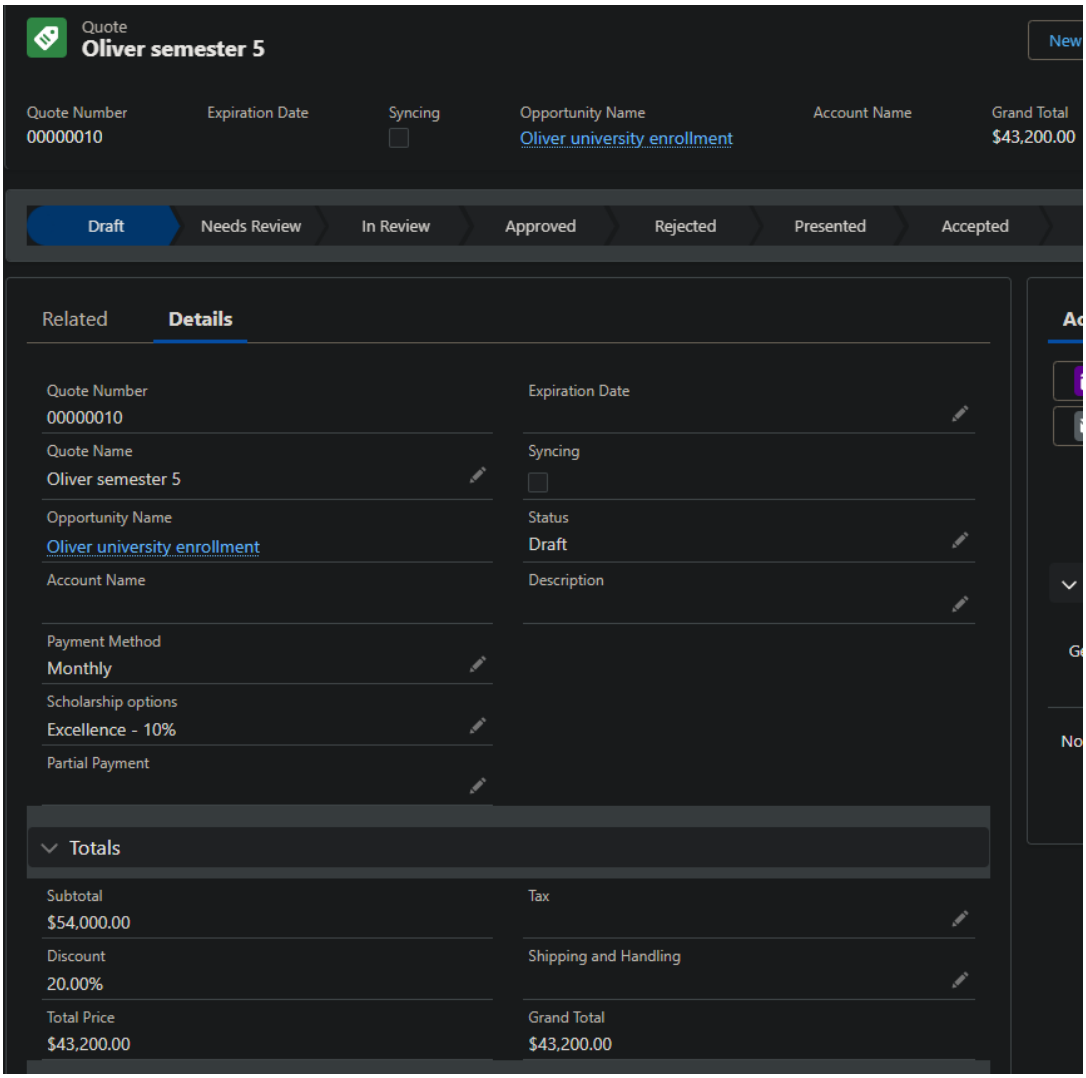


Selected subjects (this is the Quote Line Item object but the label was changed to Selected Subjects)

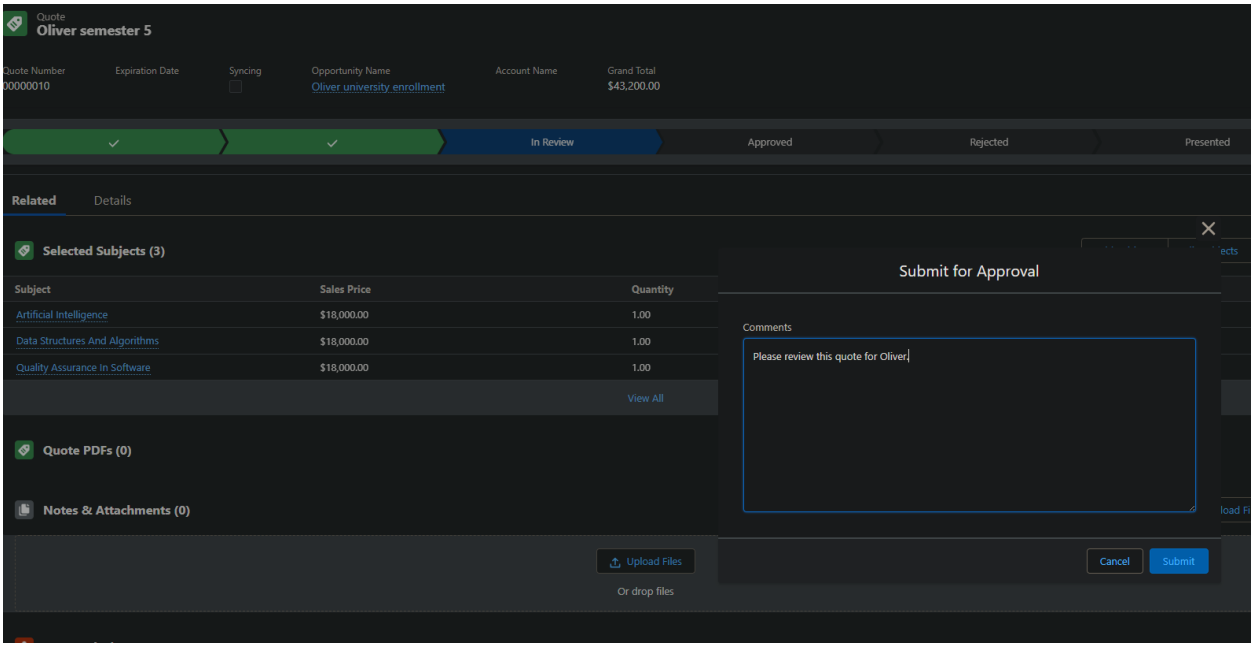


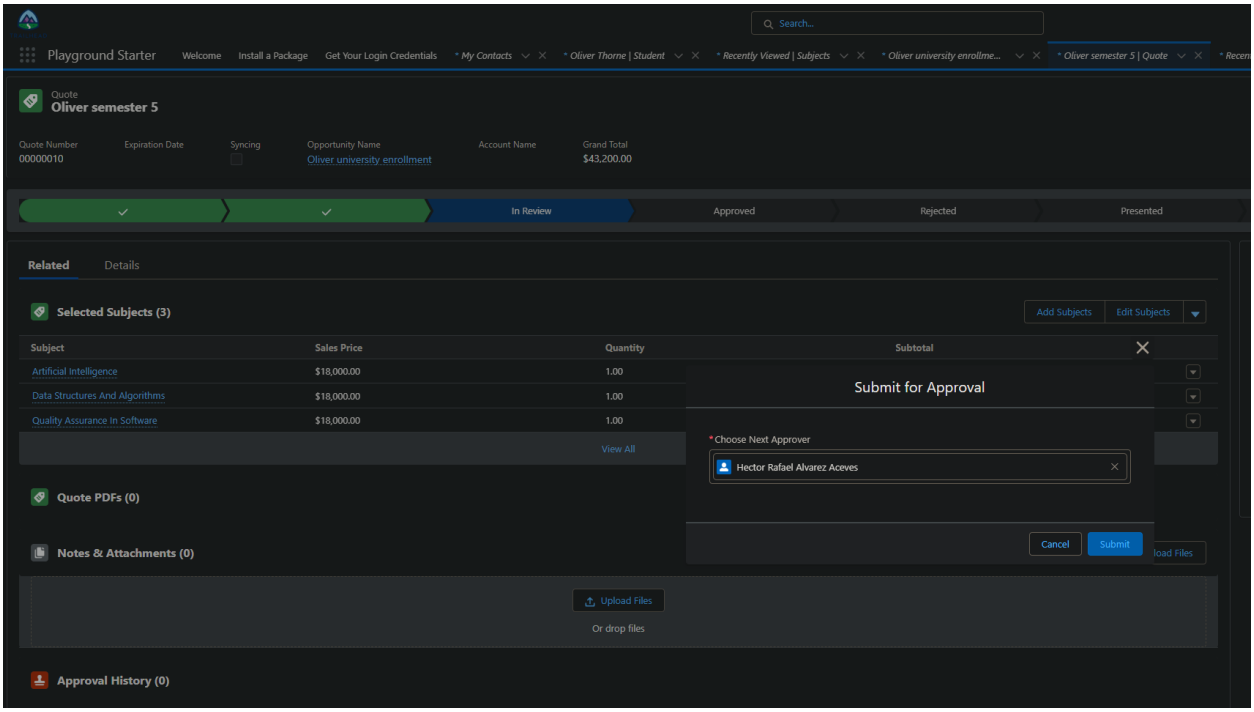
	Subject	Sales Price	Quantity	Subtotal	Discount (Percent...	Total Price	List Price
1	Artificial Intelligence	$18,000.00	1.00	$18,000.00	10.00 %	$16,200.00	$18,000.00
2	Data Structures And Al...	$18,000.00	1.00	$18,000.00	25.00 %	$13,500.00	$18,000.00
3	Quality Assurance In S...	$18,000.00	1.00	$18,000.00	25.00 %	$13,500.00	$18,000.00

Quote with total discount applied



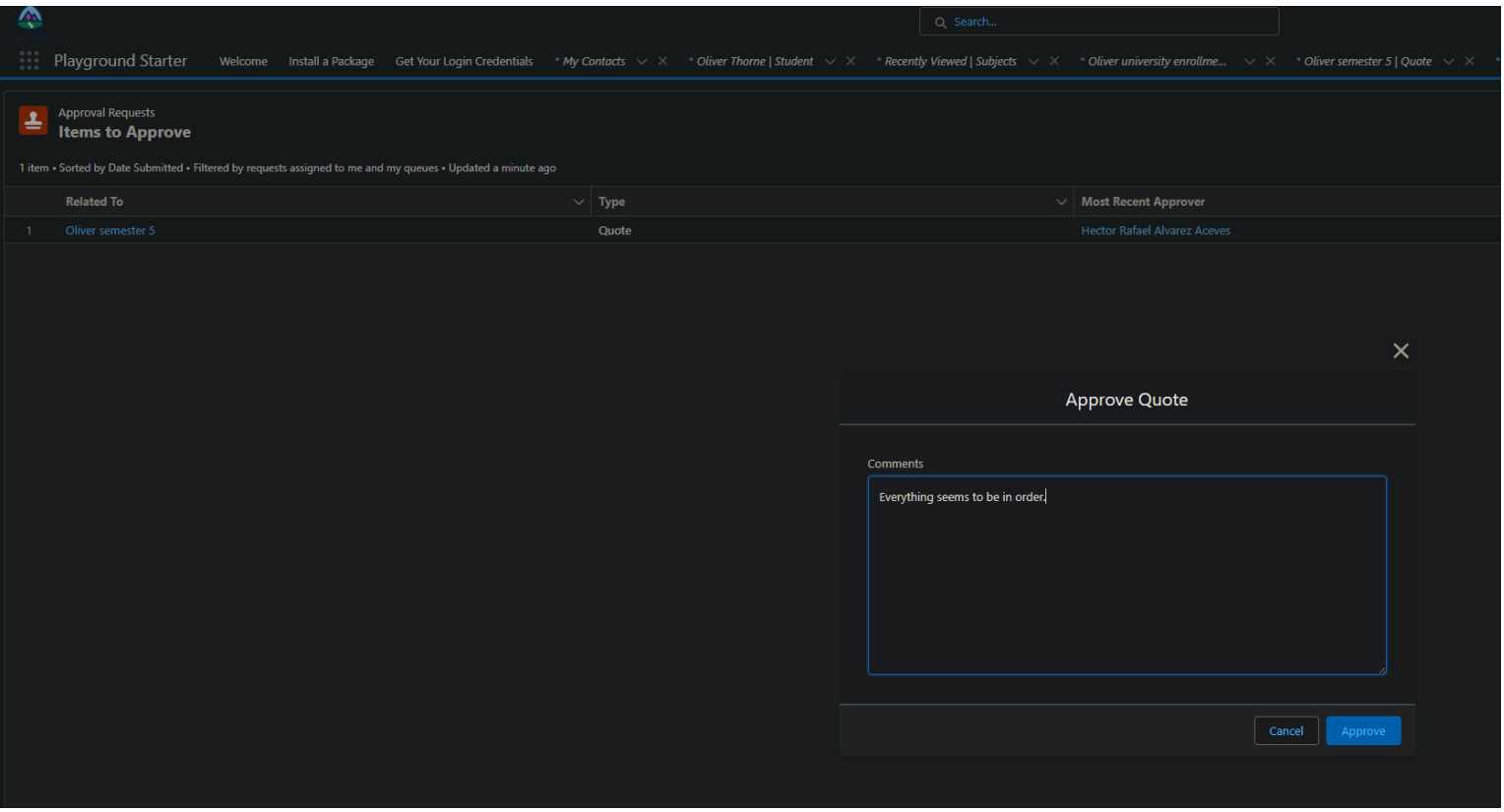
Quote is sent for approval



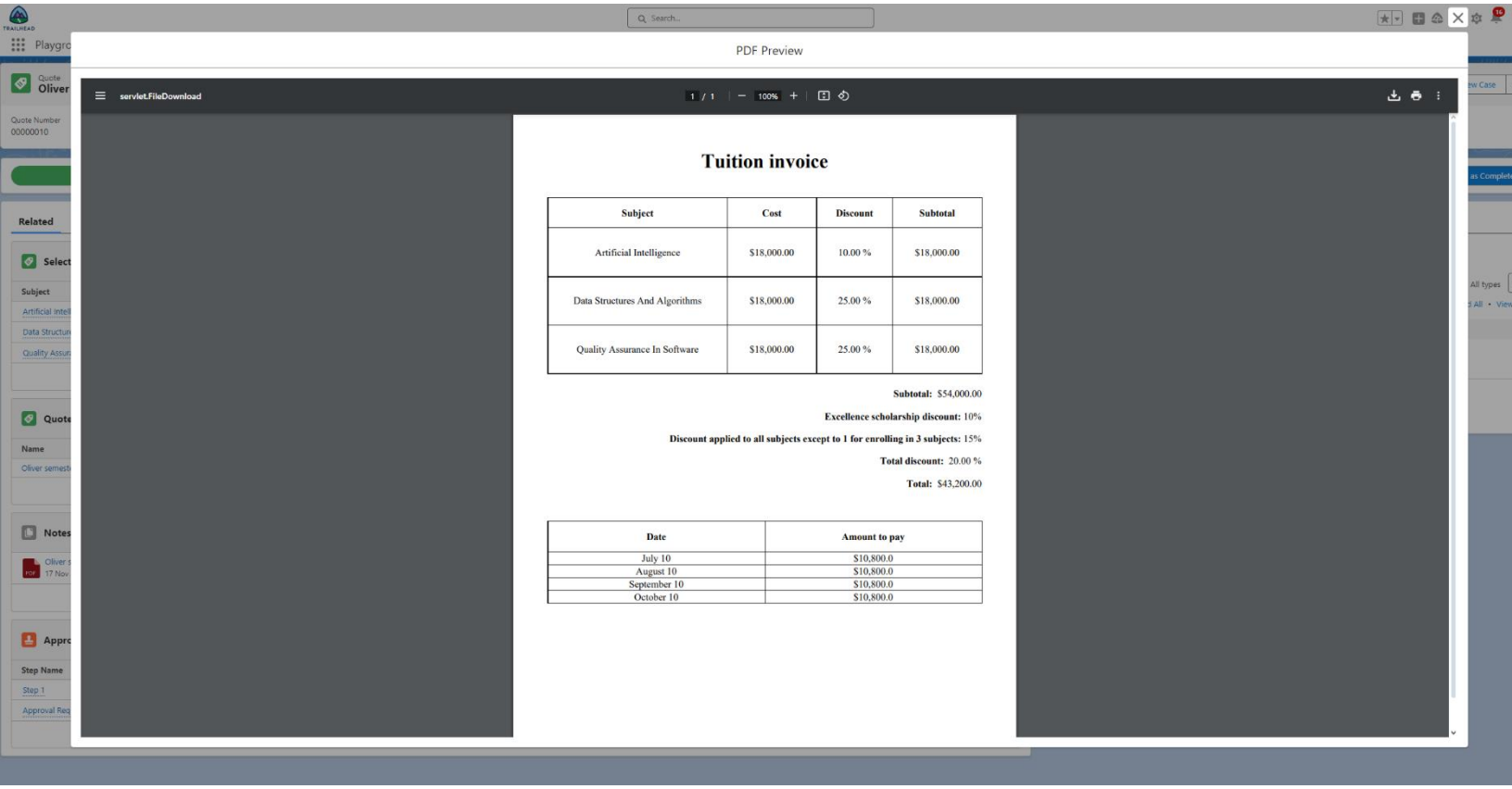


The approver, the career coordinator, needs to approve the quote

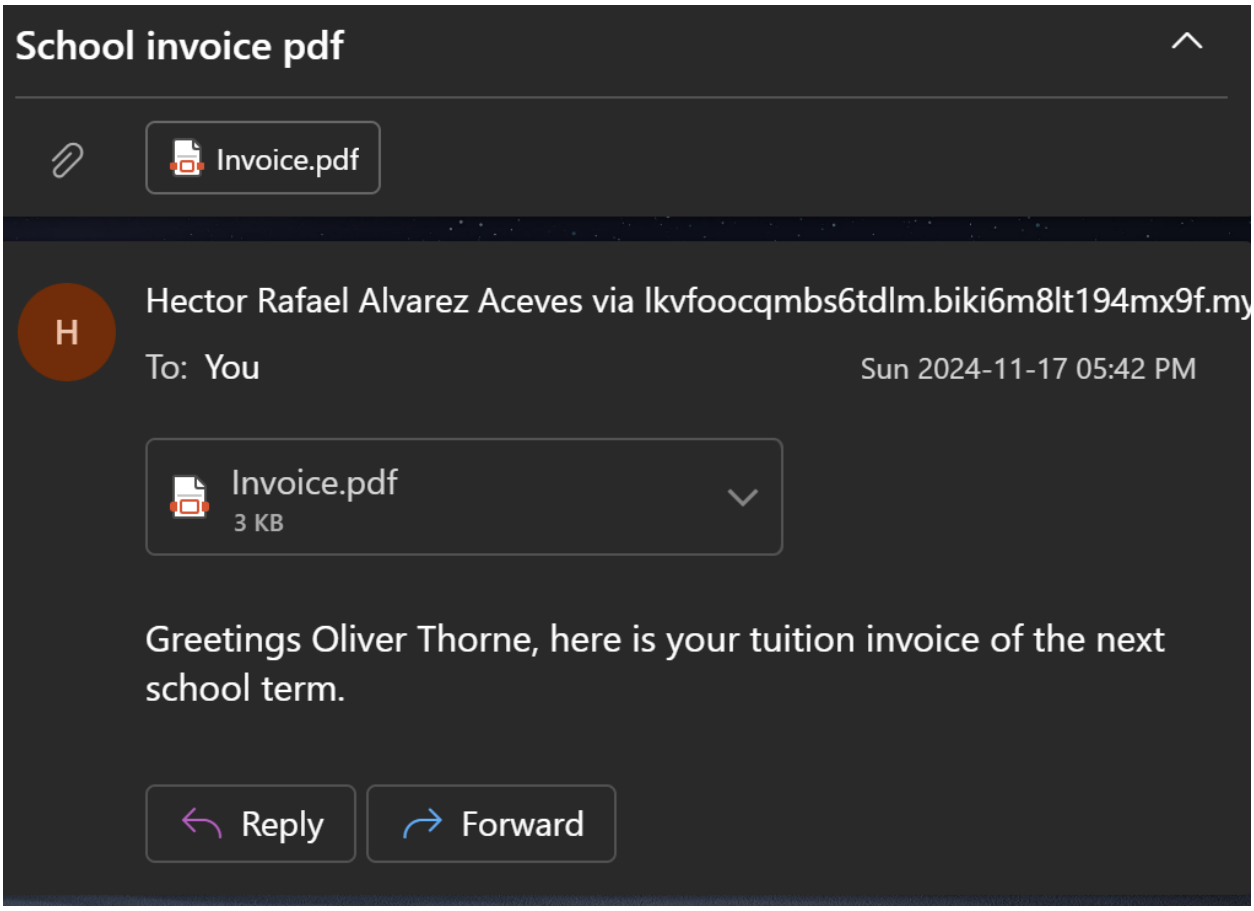
This approval makes the “Status” field of the quote to change to “Approved” which triggers the calculation of the custom field “Partial payment” which then triggers the creation of the pdf file that is stored in the Quote’s PDFs and is also sent to the student’s email.

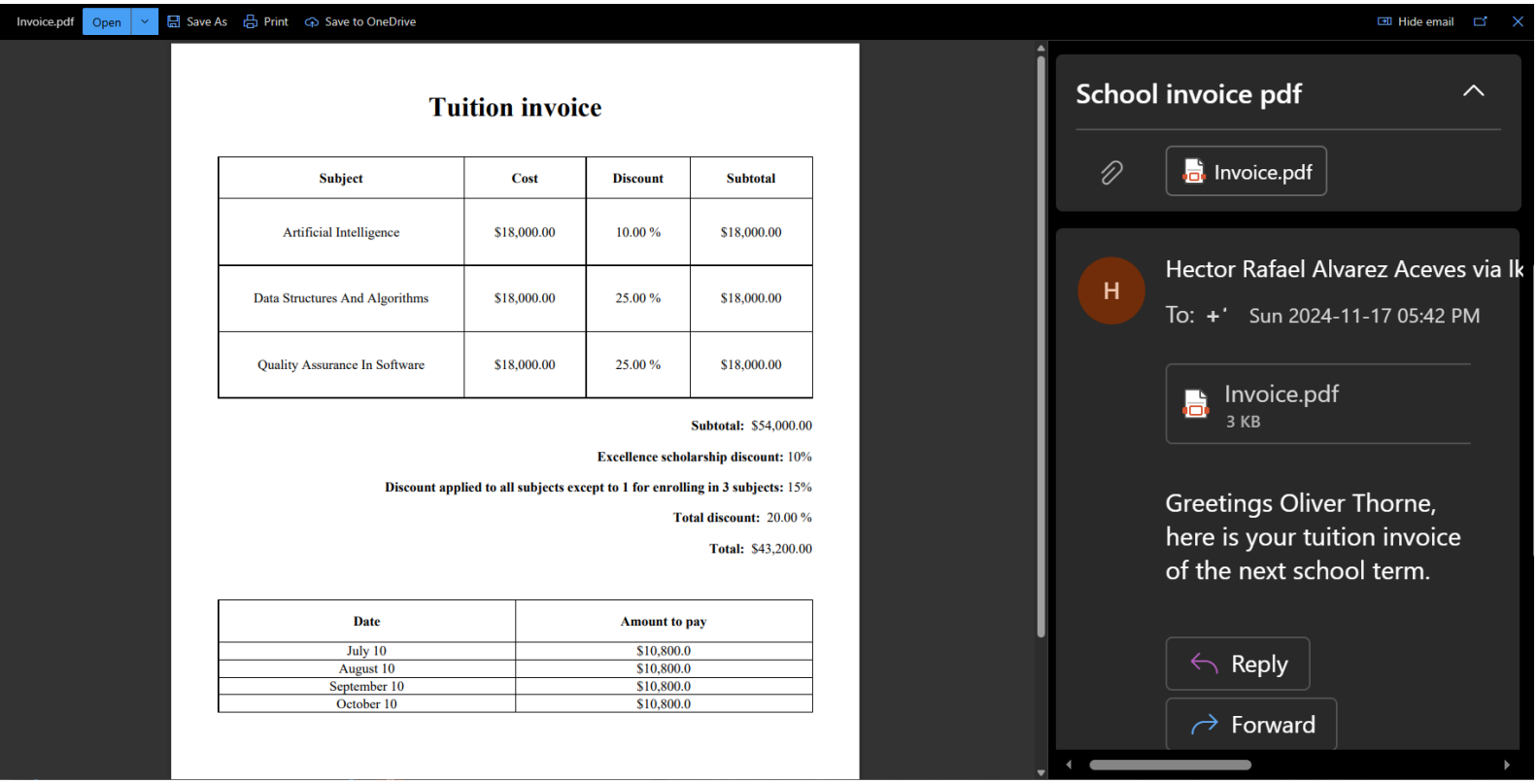


Quote PDF in the Quote PDFs section



Quote in the student's email




Invoice.pdf
Open
Save As
Print
Save to OneDrive
Hide email
Tuition invoice
Subject
Cost
Discount
Subtotal
Artificial Intelligence
$18,000.00
10.00 %
$18,000.00
Data Structures And Algorithms
$18,000.00
25.00 %
$18,000.00
Quality Assurance In Software
$18,000.00
25.00 %
$18,000.00
Subtotal: $54,000.00
Excellence scholarship discount: 10%
Discount applied to all subjects except to 1 for enrolling in 3 subjects: 15%
Total discount: 20.00 %
Total: $43,200.00
Date
Amount to pay
July 10
$10,800.0
August 10
$10,800.0
September 10
$10,800.0
October 10
$10,800.0
School invoice pdf
Invoice.pdf
H
Hector Rafael Alvarez Aceves via Ik
To: +'
Sun 2024-11-17 05:42 PM
Invoice.pdf
3 KB
Greetings Oliver Thorne,
here is your tuition invoice
of the next school term.
Reply
Forward

In this case, since the student was in quarterly period, there were four partial payments made, but in case that the student enrolled in a semester period, there would be six partial payments.

Tuition invoice

Subject	Cost	Discount	Subtotal
Artificial Intelligence	$18,000.00	10.00 %	$18,000.00
Data Structures And Algorithms	$18,000.00	25.00 %	$18,000.00
Quality Assurance In Software	$18,000.00	25.00 %	$18,000.00

Subtotal: $54,000.00

Excellence scholarship discount: 10%

Discount applied to all subjects except to 1 for enrolling in 3 subjects: 15%

Total discount: 20.00 %

Total: $43,200.00

Date	Amount to pay
July 10	$10,800.0
August 10	$10,800.0
September 10	$10,800.0
October 10	$10,800.0