EASTERN VISAYAS STATE UNIVERSITY
ORMOC CAMPUS
COMPUTER STUDIES DEPARTMENT
Bachelor of Science in Information Technology

Portal for Students to Purchase and Reserve Resources Services

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GROUP 4

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Introduction

Objective:
The objective of this project is to create an online platform that would allow staff and students to easily order and reserve materials like uniforms and booklets from the IGP office, even after office hours. This solution will lessen the stress associated with in-person purchases for both students and the admin, Mrs. Nikka M. Domanillo, as well as Sir Jude Alexis Ramas, making it easier to manage purchase transactions and handle student orders while also improving accessibility.

Organization Background:

EVSU Ormoc campus, the IGP Office provides important products and services. Its main job is to sell things like uniforms, booklets, and other school supplies. However, right now, based on the IGP staff, Mrs. Domanillo, students can only make purchases during office hours, which are Monday to Friday. Also, the management of the items involves manual counting, just like the booklets that Mrs. Domanillo counts manually. This can lead to miscounting the booklets. Additionally, the payment methods of the IGP Office are limited. This can be tough and inconvenient, especially when their schedules get busy.

Problem Identification

Current Process Overview:
- Students and staff have to go to the office to buy booklets, uniforms, and other items during office hours. This can be hard for those with busy schedules or night schedules. Also, students who need booklets for exams often have trouble when the office is closed, which causes extra stress and delays.

- There is no online platform for purchasing. This means that if a student urgently needs booklets or supplies, they can't buy them immediately, especially when many students are in the IGP office. They have to wait until they can buy them in person. The payment process can also take a long time, which can affect students, especially those with upcoming exams. They need to line up at the IGP office and then again at the cashier. After that, they have to return to the IGP office to show the receipt to get their booklets, which can really slow them down.

- Student will go to the IGP offcie to get a permit to pay so that the payment method must go to the casher department which may be the effect of a long transaction of buying also the casher is the one who updates the quantity of material or school supplies in the igp making it difficult to handle or it will cause wrong information in stocks in case casher makes a mistake base on our interview with Mrs Domanillo.

Problem Statement:

- Purchasing materials in office hours causes delay for students, during busy hours. Students with tight schedules of student with saturday schedule face challenges if they have exams or deadlines and need to purchase materials, as they cannot reserve materials at the IGP office. They have to go to the office to line up incase there are many students also buying items at the IGP and the cashier, This situation is difficult for them and can also be a challenge for the IGP staff, especially if there are many orders or customers, who may lead to stock shortages. it can also be caused by my mistake in case the stocks update at the casher goes wrong, Limited hours can result in long queues and increased stress for students and staff as well as admins in the IGP office .

Impact of Problem:

- Because of these issues, students often aren't ready for their exams or assignments. When they can't get the materials they need

- Stress levels go up a lot during busy times, making things feel chaotic for both students and staff. It's not just about buying supplies; it's about making sure everyone has what they need

- The IGP office may experience potential revenue loss due to missed transactions when students are unable to make purchases at critical times.

Proposed System Solution

Solution Overview:

Create an Website for the IGP office that allows students and staff to browse and purchase and to monitor the items and stocks if there are available material they need, and they also can reserve materials when needed. And also not be difficult for the admins of the IGP to handle the buyers and monitors the stocks and sales of materials in case there are many buyers, they will monitor how many are needed because there is features that buyers can reserve materials This platform will incorporate features such as real-time inventory tracking, order processing, and secure payment options so that the student does not have to go to the cashier. and they can easily get what they buy immediately, only the admin will confirm the payment with the cashier to speed up the process.

Expected Benefits:

- Students and staff will have the ability to access the portal at any time, making it easier to obtain necessary resources.

- The system will support timely restocking of items, especially when stocks run low, making it easier to monitor and reducing the risk of shortages.

- IGP staff will benefit from a reduction in manual tasks, especially in handling students who are buying. They can simply notify students about when to come to the IGP, making it more manageable and effective, especially for monitoring stock levels of materials and sales.

- Improved User Experience: By streamlining the purchasing process, overall user satisfaction is likely to increase, which can lead to higher revenue for the office. and it also has a good effect on students who have a conflict with scehule or on staff who may need something in the IGP

Context-Level Data Flow Diagram (DFD)
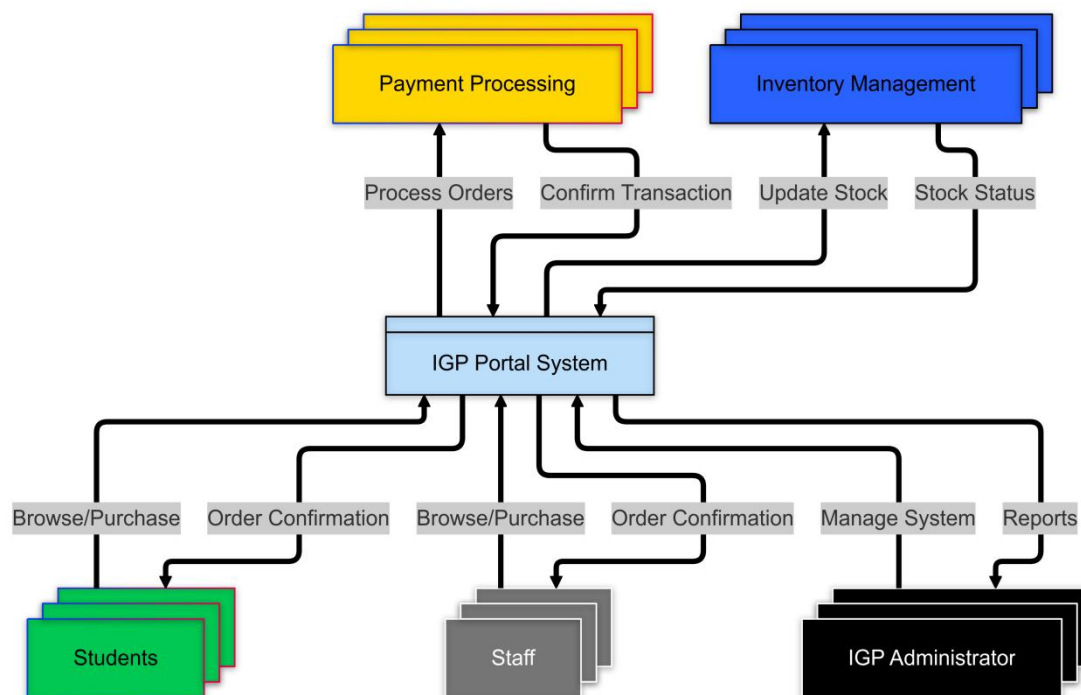
Students:
- **Browse/Purchase**: Students can browse available resources and initiate purchases through the IGP Portal System.
- **Order Confirmation**: After completing a purchase, students receive an order confirmation from the portal.

Staff:
- **Browse/Purchase**: Staff members can also browse and purchase resources, similar to students.
- **Order Confirmation**: Staff receive confirmations for their orders as well.

IGP Administrator:
- **Manage System**: The administrator manages the IGP Portal System, overseeing its functionality and user accounts.
- **Reports**: The administrator can generate reports based on system activity, sales, and inventory levels.

IGP Portal System:

       This is the central of all interactions between the entities and the processes. It handles browsing, purchasing, order processing, and inventory management.
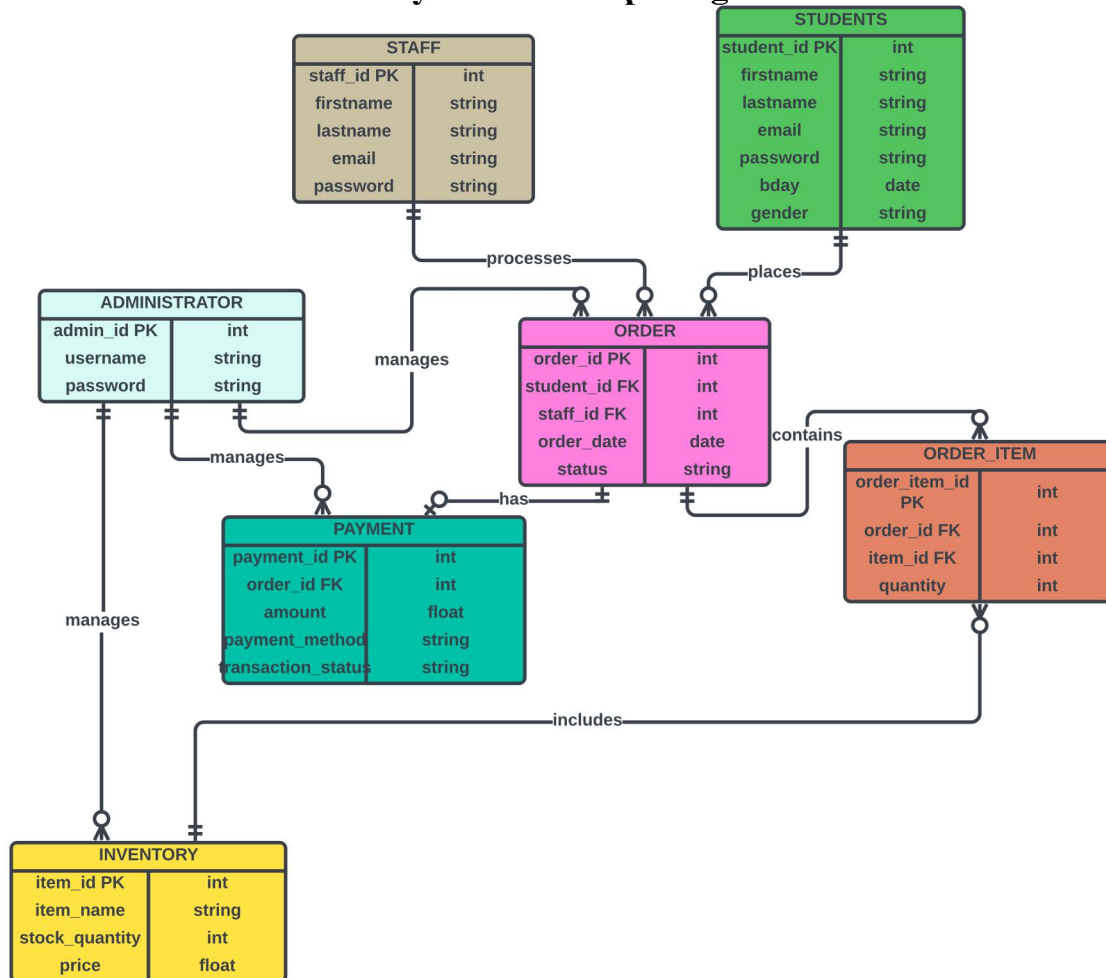
Payment Processing:

- **Process Orders**: When a student or staff member makes a purchase, the portal processes the order.
- **Confirm Transaction**: After processing, the system confirms the transaction, which is communicated back to the students and staff.

Inventory Management:

- **Update Stock**: The portal updates the inventory based on the orders processed, ensuring that stock levels are accurate.
- **Stock Status**: The system retrieves and displays the current stock status, which is essential for both students and staff to know what resources are available.

Entity-Relationship Diagram

STAFF
staff_id PK	int
firstname	string
lastname	string
email	string
password	string

STUDENTS
student_id PK	int
firstname	string
lastname	string
email	string
password	string
bday	date
gender	string

ADMINISTRATOR
admin_id PK	int
username	string
password	string

ORDER
order_id PK	int
student_id FK	int
staff_id FK	int
order_date	date
status	string

ORDER_ITEM
order_item_id PK	int
order_id FK	int
item_id FK	int
quantity	int

PAYMENT
payment_id PK	int
order_id FK	int
amount	float
payment_method	string
transaction_status	string

INVENTORY
item_id PK	int
item_name	string
stock_quantity	int
price	float

Relationships: processes, places, manages, manages, manages, has, contains, includes

STUDENTS
Attributes:
student_id (PK): Unique ID
firstname: First name
lastname: Last name
email: Email address
password: Account password
bday: Date of birth
gender: Gender

STAFF
Attributes:
staff_id (PK): Unique ID
firstname: First name
lastname: Last name
email: Email address
password: Account password

ADMINISTRATOR
Attributes:
admin_id (PK): Unique ID
username: Username

password: Account password

ORDER
Attributes:
order_id (PK): Unique ID
student_id (FK): Student who placed the order
staff_id (FK): Staff processing the order
order_date: Date of order
status: Order status (e.g., pending, completed)

PAYMENT
Attributes:
payment_id (PK): Unique ID
order_id (FK): Associated order
amount: Total paid
payment_method: Method of payment
transaction_status: Payment status (e.g., successful, failed)

INVENTORY
Attributes:
item_id (PK): Unique ID
item_name: Name of the item
stock_quantity: Quantity in stock
price: Item price

ORDER_ITEM
Attributes:
order_item_id (PK): Unique ID
order_id (FK): Associated order
item_id (FK): Inventory item
quantity: Quantity ordered

Relationships

STUDENTS to ORDER:
Relationship: A student can place multiple orders. **Cardinality**: One-to-Many (1:N)

STAFF to ORDER:
Relationship: A staff member can process multiple orders.**Cardinality**: One-to-Many (1:N)

ORDER to ORDER_ITEM:
Relationship: An order can contain multiple order items. **Cardinality**: One-to-Many (1:N)

ORDER_ITEM to INVENTORY:
Relationship: Each order item is linked to one inventory item. **Cardinality**: Many-to-One (N:1)

ORDER to PAYMENT:
Relationship: Each order has one associated payment. **Cardinality**: One-to-One (1:1)

ADMINISTRATOR to ORDER:
Relationship: An administrator manages multiple orders. **Cardinality**: One-to-Many (1:N)

ADMINISTRATOR to INVENTORY:
Relationship: An administrator manages multiple inventory items. **Cardinality**: One-to-Many (1:N)

ADMINISTRATOR to PAYMENT:
Relationship: An administrator manages multiple payments. **Cardinality**: One-to-Many (1:N)

Feasibility Analysis

Technical Feasibility:
The proposed online portal for the IGP office will require a web development technologies, including front-end Javascripts, html, and css we can also use

frameworks node js and tailwind and back-end technologies such as PHP or django python. The system will also need a secure database MySQL to store user data, inventory, and transaction records and if there are other developers involved, they can also use github or bitbuket for system collaboration. Given the current technological landscape, these tools are available and widely supported, makes it technical implementation feasible.

Operational Feasibility:

The online portal for the IGP office will require some adjustments within the organization. Admin and staff also the cashiers will need to adjust to the new process or workflows for purchasing the products in IGP office, including managing online orders and inventory updates and also the payment methods. However, the expected benefits, such as reduced manual tasks and improved customer satisfaction, suggest that the organization can adapt to the new process of IGP office.

Conclusion

The proposed online portal for the IGP office will effectively resolve the identified problems by providing a online web platform for students and staff to browse, purchase, and reserve materials at any time. This system will eliminate the manually updating inventory for admins and for student needs the platform will lessen the stress of in-person transactions and during limited office hours, significantly reducing delays for buying the needs, especially for students with busy schedules or urgent needs. By incorporating features such as real-time inventory tracking and easy payment method, the portal will streamline the purchasing process, making it easier for admins and users and staff to manage and monitor the orders and stock levels.
Overall, while there are challenges to overcome, the benefits of the proposed system will significantly enhance the purchasing experience for students and improve operational efficiency for the IGP office.

References

Interviews:
- Domanillo, N. M., IGP Staff. (2024, October 10). Personal
Interview conducted by Iquen Marba, Orly Orge, and Orwell Anthony Barida.

- Ramas, J. A., IGP Administrator. (2023, October 10). Personal Interview conducted by Iquen Marba, Orly Orge, and Orwell Anthony Barida.

Surveys:
- Iquen Marba, Orly Orge, and Orwell Anthony Barida. (2024).
Survey conducted with IGP administrators regarding current processes and challenges.
Product Information:
- IGP Office. (2024). Information on product pricing and availability