

**IUPay - Web-based Payments System for Multiple Departments**  
**Cheryl L. Shifflett, AAP, CTP**  
**Office of the Treasurer**  
**Indiana University**

## **ABSTRACT**

Indiana University is a decentralized system with 8 campuses spread out across the state of Indiana. There are over 750 departments that collect payments for various items including continuing education, accounts receivable, art, journals, conference registrations, etc. Most of these departments are small in nature and do not have the budget to move their business to the internet. As central administration wishes to move payment processing away from the departments and at the same time to change paper payments into electronic payments, a need was identified. That need was to find a way to allow these small departments to take payments securely via the internet by credit card. A simple web interface was designed that would do just that. The web interface, called IUPay, does not interface with cash register systems or online shopping carts. The system simply takes a credit card payment and notifies the appropriate department via email the information that was submitted along with the payment and whether it was approved or not. The system also handles all of the necessary accounting entries that are needed to book the income and transactional fee to the appropriate department.

## **INTRODUCTION OF THE ORGANIZATION**

Indiana University (IU) founded in 1820, is a public educational institution. The Indiana University system includes eight campuses with core campuses located in Bloomington and Indianapolis; other campuses are located in Gary, South Bend, Columbus, Kokomo, Richmond and New Albany. IU is a State supported institution that enjoys a total student population in excess of 98,000 supported by a staff and faculty of over 18,000 personnel.

IU has a total operating budget of \$2.3 billion. IU is a decentralized system with over 750 departments located across all 8 campuses. Each department is responsible for their own budgets and financial reporting; however they are required to use Central Administration services and systems for centralized accounting and banking activities.

## **STATEMENT OF PROBLEM/INITIATIVE**

With over 750 areas on eight campuses that accept payments for items as varied as tuition, journals, coffee mugs, musical recordings and conference registrations, Indiana University faced the challenge of how these entities (many of which are small and do only seasonal business) could cost effectively move their business to the Internet. Most of these areas can not afford the fees associated with having an e-commerce system of their own. Many areas have limited staff with little or no knowledge of programming a web page. Although not required of higher education institutions, Indiana University also adheres to Sarbanes-Oxley standards. With limited staff in these departments, many have trouble maintaining proper separation of duties. Indiana University is also trying to move as many payments as possible into an electronic format and out of the hands of the departments, resulting in processing efficiency, as well as security of banking information. For these reasons, a need was identified to create a system that would allow multiple departments to accept credit card payments via the internet with minimal cost.

## **DESIGN**

The solution was to create a system that would allow all of these areas to accept credit card payments via the web. The system was named IUPay. IUPay needed to track who made the payment, the dollar amount, the reason for the payment, and most importantly, the department for which the payment was intended. The system ties to one e-commerce system and one credit card merchant account labeled Indiana University.

Departments that are registered to use IUPay direct their customers to the IUPay payment page (either directly or via a link on their departmental web page). At the IUPay payment page the customer then enters the appropriate department code, dollar amount, their name and address information, credit card number and CVC code, as well as a description and any comments that they wish to pass along to the department. The customer then clicks “pay now” and the payment information is submitted in real time to the credit card authorization network. An online response is provided that informs the customer if the payment was accepted, declined or encountered an error. At the same time, the transaction information is emailed to both the email address that was entered on the payment screen as well as the email address that is associated with the department code.

If the department is transferring the customer from their departmental web page, they may pre-populate many of the fields if they so wish.

The e-commerce system that IUPay runs on is the commercial PayPal/VeriSign PayFlow Pro product. This product was chosen as IU already had a relationship with them for those areas that could support their own e-commerce system (i.e. bookstores). The yearly fee for the PayPal/VeriSign PayFlow Pro account was initially paid by the Office of the Treasurer as a one-time start-up cost. On-going yearly costs are expected to be recouped as part of the fee structure of the IUPay system.

A 2% fee is charged to the department for each approved payment that IUPay processes. This 2% fee is reviewed semi-annually. The fee is used to cover the credit card processing fees as well as the ongoing yearly costs of the PayPal/VeriSign PayFlow Pro account.

The IUPay system has an administrative interface that is password protected. Each new account is set up within the administrative interface by Treasury Operations staff. The interface controls the department codes by allowing the administrator to enter beginning use and end use dates. This feature works well for those areas that are seasonal in nature. The administrative interface also ties the departmental code to general ledger accounting strings and email receipt notices.

As with most systems at IU, an interface into our general ledger system (currently FIS) was a required element of the system. Each transaction is logged into an Oracle database and each evening a batch process is run that creates the proper accounting entries based on the department code and associated accounting string from the administrative

interface. The batch process accounts for the income from the transactions as well as the appropriate expense.

A second element that we attempt to build into all new financial systems at IU (particularly for credit cards) is an automated reconciliation process. Each business day we receive a file from our processing bank that details the transactions for IU's entire merchant base. Based on the assigned merchant id, we are able to pull the transactions that originated in the IUPay system and compare them to the transaction logged in the Oracle database. When the reconciliation program runs, it compares the transactions based on transaction date, dollar amount and authorization code and marks those that match as reconciled in the database. An email report is generated to appropriate staff informing them of the total number of transactions that were reconciled, any items that mismatched (i.e. date different), and any items that did not reconcile. Items are held for a maximum of five business days. If, after the five business days, an item in the Oracle database does not appear in the bank file, it will be reported on the reconciliation email.

## **IMPLEMENTATION**

IU chose to implement the IUPay system in phases. Phase I made the IUPay Payment page available to a limited number of departments. The accounting at this stage was a manual process. We did this as a proof of concept before we devoted too much time into the product. During this phase we asked for user feedback on ways to improve the payment page and email receipts. We also conducted many demonstrations to different groups on our campuses to see how much interest would lie in using the IUPay product. After six months, the product was evaluated and a decision was made to add the additional accounting, reconciliation and transaction tracking to the system.

Phase II consisted of adding the automated accounting and daily reconciliations to the system. In order to do this, additional fields had to be added to the administrative interface for the accounting strings for each department code. We also had to build the Oracle database in which each transaction would be logged. Testing of these pieces had to be completed prior to releasing them into the product to ensure that entries made into our general ledger were accurate and proper. Once this phase was completed we were able to make a full release of the IUPay system to the entire University.

As we continue to demonstrate the IUPay product, additional needs are identified. As these needs are identified, we are adding new features to the IUPay system. The first addition is the Central Authentication Service option. By choosing this option payers are required to log in to the IUPay Payment page with their IU issued id and password. The logon id is tracked and supplied to the department so that they know who was logged in when the payment occurred. A simple Yes/No option box was added to the administrative interface to easily enable this feature.

The second addition was to add a registration front end. IU already had a registration program called Transform. We took the Transform code and added on the proper programming that would direct customers to the IUPay Payment Page when they clicked on the appropriate Pay by Credit Card link. This allows for those areas that are hosting conferences to track their registrations.

A future addition is to provide access to transaction reports for the departments using IU Pay. The transaction reports would be queries that would run against the IUPay transaction table. The query would be run by department code so that departments only view those transactions that relate to their department. Currently, if a department needs a transaction listing, Treasury staff is able to pull an Excel file from the IUPay transaction table and email it to the requesting department.

## **BENEFITS**

The IUPay system takes payment processing out of the hands of the departments and puts it in the hands of their customers. At the same time, it has resulted in good customer service with an added level of security.

The IUPay system does not store any credit card data. This is a key benefit in assuring compliance with Payment Card Industry Data Security Standards (PCI DSS) requirements.

The IUPay system allows departments to move their business to the internet at minimal cost. There is no set-up charge and departments pay only for their approved transactions.

Allowing for the fields on the payment page to be pre-populated helps reduce user error. This was a request of the original pilot group of users and the functionality and instructions were added prior to the full release.

The reconciliation feature enhances the system by allowing problem transactions to be identified and corrected prior to month end bank reconciliations and statements.

Thirty-three departments have used the IUPay system since initial pilot roll-out in January 2006. IUPay processed 1,125 transactions during 2006 totaling \$280,741.48.

The way that IUPay was designed, the system is expandable to emerging technologies and payment options (i.e. ACH).

As IU continues to review its e-commerce partners, changing the gateway from the PayPal/VeriSign PayFlow Pro product to another vendor's gateway would require minimal programming.

## **RETROSPECT**

The system as a whole works as designed. One issue that is still being worked on is the reconciliation of refunds. Since refunds do not appear in the IUPay transaction log, but do appear in the bank file that is used to reconcile, these transactions appear on the daily reconciliation email as unreconciled items. A special request is then needed to remove these items from the report.

The only functionality that was left out of the system is a system that would allow departments to issue refunds. Currently, all refund requests are submitted via email to Treasury Operations and staff manually submits the refunds via the PayPal/VeriSign PayFlow Pro Manager Interface. A password protected interface that requires the necessary information to perform a refund would enhance the system. When entered, the transaction could be logged in the IUPay transaction table. This would resolve the reconciliation issue mentioned above.