HawkCard Office

Business Plan

2004-05
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Statement of Purpose

The following business plan provides a review of current services and system networking offered by the HawkCard Office and potential services, marketing and system networking and that could be offered in the future.

The current campus one-card system from Blackboard, Inc., offers many functions for the office and campus to consider for utilization.

Action Plan Summary

The pages following this summary go into detail regarding industry trends, system capabilities and future plans for the UW-Whitewater Hawk Card office. This action plan summary narrows down the information to that which is feasible and recommended for implementation within our institution.

Purple Points versus Bank Debit Cards:
Because of the insurgence of bank debit cards into the market, the feasibility of the Purple Point program should be studied. The services performed by the office in offering and maintaining the program are a duplication of those provided by banks that are already providing students with debit cards. A feasibility study needs to be conducted to explore the following scenarios:

- Continue the Purple Point program and adjust fees to increase revenue
- Eliminate the Purple Point program, replacing the current revenue stream with that provided by a banking relationship.
- Simply eliminate the Purple Point program and accept bank debit cards across campus

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<thead>
<tr>
<th>Action Item</th>
<th>Responsible Party</th>
<th>Target Completion Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contact off campus vendors to get feedback on the program</td>
<td>Bob</td>
<td>6/1/05</td>
</tr>
<tr>
<td>Meet with Hawkcard Advisory group</td>
<td>Dave/Bob</td>
<td>6/1/05</td>
</tr>
<tr>
<td>Do web survey to see what % of students carry debit and credit cards</td>
<td>Dave</td>
<td>5/15/05</td>
</tr>
</tbody>
</table>
**Technology, Equipment and System Upgrades:**

**Network Infrastructure**
Currently the system runs on its own network or “backbone”. In order to achieve efficiencies in maintaining just one campus network, we recommend that the system transition to the main campus backbone.

Implementation Costs: To be determined

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<tr>
<th>Action Item</th>
<th>Responsible Party</th>
<th>Target Completion Date</th>
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</thead>
<tbody>
<tr>
<td>Meet with T&amp;IR regarding move to campus backbone</td>
<td>Dave and Bob</td>
<td>5/15/05</td>
</tr>
</tbody>
</table>

**Server Location and Security**
The Hewlett-Packard server currently resides in the Hawk Card office in the University Center. This environment lacks the necessary security and climate control. It is recommended that the server be moved to the campus server bank in McGraw Hall. This should be completed in conjunction with the University Center remodeling project.

Review Period: January or May 2006  
Implementation Costs: To be determined

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<thead>
<tr>
<th>Action Item</th>
<th>Responsible Party</th>
<th>Target Completion Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Meet with T&amp;IR regarding server relocation</td>
<td>Dave</td>
<td>5/15/05</td>
</tr>
<tr>
<td>Move Server</td>
<td>Dave and T&amp;IR</td>
<td>8/1/05</td>
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</tbody>
</table>

**Disaster Recovery/Continuation Plans**
With input from T&IR, a disaster recovery/continuation plan needs to be developed.

Implementation Costs: Minimal

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<thead>
<tr>
<th>Action Item</th>
<th>Responsible Party</th>
<th>Target Completion Date</th>
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</thead>
<tbody>
<tr>
<td>Work with T&amp;IR</td>
<td>Dave</td>
<td>9/1/05</td>
</tr>
<tr>
<td>Review level of maintenance agreement – is platinum necessary?</td>
<td>Dave</td>
<td>6/1/05</td>
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</tbody>
</table>
T&IR Support of Hawk Card Server Functions

Discussions should be held with T&IR to provide some degree of backup support in managing and administering the Bb system. That degree should be determined as a result of the discussions. Since the server should be moved to their area, this is a natural partnership to pursue.

Implementation Costs: Minimal

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<tr>
<th>Action Item</th>
<th>Responsible Party</th>
<th>Target Completion Date</th>
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</thead>
<tbody>
<tr>
<td>Identify areas T&amp;IR can help support</td>
<td>Dave and Bob</td>
<td>9/1/05</td>
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</tbody>
</table>

Bb Universal Edition Software

Blackboard’s newest software edition, the “Universal Edition,” is due to be released in the near future. This software update will present issues for UW-W.

The existing campus hardware will not be compatible with the Universal Edition software, thus UW-W will not be able to implement the initial upgrade. The Maxi, Midi and Mini wedges (Bb cash registers) currently used by campus departments will be the last pieces of hardware made compatible with the Universal Edition.

One option will be for all campus departments to replace their existing Bb cash register with new NCR brand cash register from Bb that will be compatible with the second version of the Universal Edition.

Another option will be for all non-food service departments to replace the Bb cash registers with the NCR registers while all food service locations replace the Bb cash registers with cash registers from Micros that would interface to the Bb system.

We recommend that the office work with departments in determining timelines and recommending new hardware for their areas. During these discussions, the question of whether to discontinue Purple Points in exchange for accepting bank debit cards should be addressed. The NCR or Micros hardware could probably be used regardless of whether Purple Points or bank debit cards are accepted by the various entities. The NCR cash register hardware should be compatible with other systems just in case Bb ceases being our software provider.

When new hardware is installed, if it is financially feasible the system should be upgraded to the newer Universal Edition Software. If the price of the upgrade is substantial, UW-W should do an RFP to determine whether to use Bb software or replace it with another solution.

Review Period: 2006 through 2008
Implementation Costs: To be determined

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<tr>
<th>Action Item</th>
<th>Responsible Party</th>
<th>Target Completion Date</th>
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<tbody>
<tr>
<td>Meet with Hawkcard Advisory group</td>
<td>Dave and Bob</td>
<td>6/1/05</td>
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</table>

**Interfacing Micros Brand Cash Registers to OPTIM**

Because the current food service point-of-sale hardware and software (Maxi, Midi and Mini wedges) will not be compatible with new Bb or other software, it should be replaced. The Micros system is compatible with multiple software providers and provides state of the art food service management software within the system. It’s recommended that this new system be implemented in conjunction with the new food service contract or along with a food service contract extension.

Review Period: 2007 - 2008
Implementation Costs: To be determined and included in food service contract – paid by contractor

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<tr>
<th>Action Item</th>
<th>Responsible Party</th>
<th>Target Completion Date</th>
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<tbody>
<tr>
<td>Set implementation strategy</td>
<td>Bob</td>
<td>9/1/05</td>
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</table>

**Banking Connection**

The HawkCard Office needs to research possible banking connections for the HawkCard. Connections could be possible with HigherOne, UW Credit Union or some other state or regional bank through a UW System-wide contract. This partnership should be considered in conjunction with the decision as to whether the Purple Point program should be eliminated. The revenue generated through this partnership should be considered as a replacement to the revenues currently generated by the 2% Purple Point fees paid by vendors.

Implementation Costs: Minimal

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<tr>
<th>Action Item</th>
<th>Responsible Party</th>
<th>Target Completion Date</th>
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<tbody>
<tr>
<td>Meet with Jim Freer for update</td>
<td>Steve Summers</td>
<td>9/1/05</td>
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</tbody>
</table>

**Direct Deposit of Financial Aid Refunds to Purple Point Accounts**

Because of the limited venues that accept Purple Points, we recommend that this not be considered. If students want to use their funds outside of the Purple Point system, refunds and checks would have to be issued, increasing the cost of labor in the Hawk Card and campus.
cashiers office. We recommend implementing a similar program in partnership with a banking institution.

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<tr>
<th>Action Item</th>
<th>Responsible Party</th>
<th>Target Completion Date</th>
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<tbody>
<tr>
<td>Determine if a portion can go to Purple Points – meet with Jim Freer regarding Touchnet</td>
<td>Steve Summers</td>
<td>9/1/05</td>
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</table>

**Direct Payroll Check Deposits to Purple Point Accounts**
For the same reasons outlined above, we don’t recommend pursuing this concept. We recommend implementing a similar program in partnership with a banking institution.

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**Smart Card Technology**
Through the installation of the card access system by Residence Life, smart card technology in the form of proximity cards will be implemented in 2005. Current cards containing magnetic stripes and bar codes will be replaced with cards that also contain proximity technology. Future applications for smart cards should be monitored and studied by not only the Hawk Card office but by all campus departments.

Biometric technology, while currently cost prohibitive, should also be continuously monitored and studied for future consideration.

Review Period: 2005 - Ongoing
Implementation Costs: Variable

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<th>Action Item</th>
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**Marketing:**

**Current and Future Marketing/Promotion Methods**
In order to review the overall usage of Purple Points by students, a yearly cross tab analysis will be done. Efforts to extract demographic data from the Hawk Card system will be put forth renewed and continuously pursued. The information gathered will be used to promote and market programs administered through the Hawk Card office.
Review Period: 2005 - Ongoing
Implementation Costs: Variable

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**Additional System Uses and Functionality:**

**Wireless Connections to the System**

Wireless connections would add flexibility to the Hawk Card system. While it is agreed that these connections should be implemented, this implantation should take place only after we determine whether to retain the separate HawkNet system or join the campus backbone. This will prevent duplicating wireless hardware that is already being installed across campus by T&IR.

Implementation Costs:
- Wireless PDA terminal startup costs $4,700
- Additional PDA units $1,600
- Yearly Licensing Fees $3,900

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<tr>
<th>Action Item</th>
<th>Responsible Party</th>
<th>Target Completion Date</th>
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<tbody>
<tr>
<td>Experiment with off-line (not on-line) PDA System -- pool funds with other departments</td>
<td>Dave Halbach</td>
<td>11/1/05</td>
</tr>
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</table>

**Prepaid Laundry**

A prepaid laundry program should be considered for implementation. Such a program could offer a discount for depositing laundry funds in lump sums at the beginning of the semester.

Implementation Costs: Minimal

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<tr>
<th>Action Item</th>
<th>Responsible Party</th>
<th>Target Completion Date</th>
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</thead>
<tbody>
<tr>
<td>Determine if laundry readers are capable</td>
<td>Dave</td>
<td>6/1/05</td>
</tr>
<tr>
<td>Meet with Residence Life to discuss this proposal</td>
<td>Bob</td>
<td>7/1/05</td>
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</tbody>
</table>
Gift Cards for Bookstore
The office is in the process of developing gift cards for the UWW Bookstore. This concept will be pursued.

Implementation Costs: Minimal and built into the agreement with the store

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<tr>
<th>Action Item</th>
<th>Responsible Party</th>
<th>Target Completion Date</th>
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</thead>
<tbody>
<tr>
<td>Check with Bookstore for status of gift card program included with Nebraska Book system – see if Bb system should even be used</td>
<td>Steve Summers</td>
<td>7/1/05</td>
</tr>
</tbody>
</table>

Gift Cards for Food Service
Food Point gift cards should be considered as a marketing opportunity. This program could be similar to the Bookstore gift card program. This concept will be pursued.

Implementation Costs: Minimal and built into the agreement with the store

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<tr>
<th>Action Item</th>
<th>Responsible Party</th>
<th>Target Completion Date</th>
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</thead>
<tbody>
<tr>
<td>Work with Chartwells to implement</td>
<td>Bob</td>
<td>7/1/05</td>
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</table>

Library Card System Replacement
As the library card debit card system nears the end of its life, discussions should be held with library staff about replacing the system with new readers from Blackboard that interface to the existing Blackboard system.

Implementation Costs: Minimal and built into the agreement with the library

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<tr>
<th>Action Item</th>
<th>Responsible Party</th>
<th>Target Completion Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contact library for discussion and updates</td>
<td>Dave</td>
<td>7/1/05</td>
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</table>
Value Transfer Stations
Because of the expense of value transfer stations, the ability to add Purple Points at all point of sale stations and the proposal to convert from Purple Points to bank debit cards, value transfer stations are not recommended.

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<tr>
<th>Action Item</th>
<th>Responsible Party</th>
<th>Target Completion Date</th>
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</thead>
<tbody>
<tr>
<td>Discuss with library staff</td>
<td>Dave</td>
<td>7/1/05</td>
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</tbody>
</table>

Camp and Conference Usage of Cards
Because of the durability, convenience and tracking abilities associated with the campus ID card system; we recommend that summer camps and conferences use ID cards. Other advantages include the use of the cards with the new residence life door access system and being able to provide the camper with a souvenir from UW-Whitewater.

Implementation Costs: Minimal and built into camp participant fees

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<tr>
<th>Action Item</th>
<th>Responsible Party</th>
<th>Target Completion Date</th>
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<tbody>
<tr>
<td>Review ramifications on</td>
<td>Dave</td>
<td>6/1/05</td>
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<tr>
<td>maintenance fees</td>
<td></td>
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<tr>
<td>Depending on outcome of</td>
<td>Pat</td>
<td>8/1/05</td>
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<tr>
<td>above, visit with Lou Zahn</td>
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<td></td>
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<td>regarding cards for camps</td>
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WSG Elections
The OPTIM system could be used by WSG for Presidential elections each year. This system simply checks if a student has already voted or not. It doesn’t record the actual vote, which is maintained only on the paper ballot.

Implementation Costs: Minimal

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<tr>
<th>Action Item</th>
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Intercollegiate Athletics
Faculty/staff athletic passes could be created through the Hawk Card office and the system could be used to verify student status for access to athletic events.
A related improvement would be to allow the use of Purple Point purchases at Williams Center and Perkins Stadium by faculty & staff. Network data wiring exists in both locations currently. Purple Point purchases could be handled with a small activity reader.

Implementation Costs: $1,500 for a new Bb activity terminal

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<tr>
<th>Action Item</th>
<th>Responsible Party</th>
<th>Target Completion Date</th>
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<tbody>
<tr>
<td>Experiment with off-line PDA</td>
<td>Dave</td>
<td>11/1/05</td>
</tr>
</tbody>
</table>

**Web Based Stores for Academic Departments**

Many campus departments sell specialty supplies to students. Often times, a student is required to pay at the campus cashiers office in advance, producing a receipt to the applicable academic department. The Hawk Card office could assist in making this process more user friendly by incorporating an e-commerce site offered by Blackboard. A feasibility study should be conducted.

Implementation Costs: $19,000 - $32,000

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<th>Action Item</th>
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**Student Org Acceptance of Purple Points for Fund Raising Activities**

Existing, underutilized activity readers can be configured to accept Purple Points for simple purchases. This should be promoted to student organizations.

Implementation Costs: $1,500 per Bb activity terminal

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<tr>
<th>Action Item</th>
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**Student Org/Club Memberships**

The Blackboard system could be used to check membership to various student organizations.

Implementation Costs: $1,500 per Bb activity terminal
UC Hallway Vendor Acceptance of Purple Points
Similar to allowing Student Orgs to use activity readers or cash registers at UC Hall Tables, the concept of allowing outside vendors to accept purple points should be discussed.

Implementation Costs: $1,500 per Bb activity terminal

Campus Wide Printing/Copying Cost Control Management
The campus is currently reviewing methods to reduce computer lab printing costs. HawkCard Office involvement is anticipated to be minimal unless T&IR determines that the use a commercial print management software package is the preferred way to control cost.

University Fitness Center Community Memberships
Similar to the Athletic Pass, it would be possible to create generic Fitness Center passes, without pictures, that could be used by community members.

Implementation Costs: Minimal

Other Potential Applications and Uses of ID/Photo Systems
The ID system could be used for producing passport photos or creating class rosters to aid faculty in getting to know the students.

Implementation Costs: Minimal
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<tr>
<th>Action Item</th>
<th>Responsible Party</th>
<th>Target Completion Date</th>
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Off-Campus Purple Point Program
The current program needs to be reviewed continuously for feasibility.

Implementation Costs: Minimal, if a banking partner is used, revenues may increase

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<th>Action Item</th>
<th>Responsible Party</th>
<th>Target Completion Date</th>
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Door and Elevator Access
Residence Life will be implementing a door access system in 2005. The system they select may or may not use the Blackboard database in administering the access system. The outcome of that process may create the possibility of using the Blackboard system for door and elevator access in other campus buildings.

Implementation Costs: To be determined

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<th>Action Item</th>
<th>Responsible Party</th>
<th>Target Completion Date</th>
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Parking Lot Gates
While gated lots currently don’t exist on campus, it is possible to implement this in the future is Parking Services needs this function. This idea will be passed onto Parking Services.

Implementation Costs: To be determined

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<tr>
<th>Action Item</th>
<th>Responsible Party</th>
<th>Target Completion Date</th>
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</table>
Hawk Card Office Policies

Purple Point Limits and Accounts Receivable Management
Because vendors are being reimbursed before the university is collecting the funds from students, the Hawk Card office often carries a negative cash balance. If this continues, considerations should be made to eliminate this accounts receivable balance.

This is the end of the action plan summary. More details regarding the areas discussed are found in the following pages.
Mission of the Office

The mission of the HawkCard Office is to:

- Administer the University student and employee ID card (HawkCard) program.
- Administer the Purple Point pre-paid debit program.
- Manage student enrollment and changes in the University Dining program.
- Manage the Video Image PC data system, PC server hardware and software, reader equipment and network equipment associated with the ID and pre-paid debit systems.
- Support the Residence Dining program by performing internal audit and review functions for invoice payments and commissions received.
- Manage all financial operations via individual unit operating budgets.
- Manage the Purple Point Account revenue clearing account and all revenue distribution to individual departments that participate in the Purple Point Account program.

Description of the Office

The HawkCard Office photographs all new students and staff entering the University, prepares individual photo ID cards (called the HawkCard) and distributes those cards.

Students may open an optional Purple Point Account, a pre-paid debit account, through the HawkCard Office or add deposits to an existing account. The Office manages the network server, network equipment, software and card reader equipment associated with the Purple Point Accounts and food service access. The Office manages all Purple Point financial operations (from customer account deposit management to revenue distributions to the 14 participating University departments). The array of in-campus locations accepting Purple Points includes:

- All University Dining locations (11 locations)
- Campus vending machines (109 active machines)
- ILY Auditorium Ticket Outlet
- Library service desk and library copiers
- Office of Leadership Development
- Parking Services
- Printing Services and copiers
- Recreation Sports and Facilities
- Residence Hall laundry centers (14 centers total)
- Textbook Rental Services
- UC Info Center/Ticket Services
- UC Recreation Center
- University Bookstore
- University Fitness Center
- University Health & Counseling Services
There are 21 off-campus businesses that accept Purple Points through the program administered by Blackboard One (BbOne) as of September 17, 2004. These businesses include:

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<thead>
<tr>
<th>A Touch of Sun</th>
<th>Cost Cutters</th>
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<tbody>
<tr>
<td>Culvers</td>
<td>Domino's</td>
</tr>
<tr>
<td>Sentry</td>
<td>Hawaiian Tan</td>
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<tr>
<td>Jimmy John’s</td>
<td>Jade Buffet</td>
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<tr>
<td>KFC/A&amp;W</td>
<td>Kiernan Consulting / KC Computers</td>
</tr>
<tr>
<td>Marathon Gas</td>
<td>McDonald’s</td>
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<tr>
<td>Novak’s Restaurant</td>
<td>Pizza Hut</td>
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<tr>
<td>Randy’s Restaurant</td>
<td>Rocky’s Pizza</td>
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<tr>
<td>Subway</td>
<td>Taco Bell</td>
</tr>
<tr>
<td>Theatres of Whitewater</td>
<td>Toppers Pizza</td>
</tr>
<tr>
<td>Wonder Lube</td>
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</table>

During the 2003-04 fiscal year, 4,614 students and 178 staff used Purple Point accounts, depositing $1.67 million into those accounts.

Approximately 3,600 (academic year average) students are enrolled in the Residence Dining program. The Office establishes the appropriate individual student accounts that permit access to the residence dining program. The Office also completes all of the audit functions for residence dining invoice payment to the food service company (Chartwells) and reconciles residence dining and University food service commission payment received by the University.

**Purple Points versus Bank Debit Cards**

When the Purple Point system was implemented, it had advantages not available through other tender (payment) types. Fewer students had credit cards, even fewer had debit cards and by placing funds into Purple Point accounts parents were relatively assured of where the funds would be spent. This program eliminated the need for students to carry cash or checks and eliminated the risk of bad checks being taken by campus departments. As we all know, technology has changed rapidly and now most students carry bank debit cards and credit cards. The various departments on campus could benefit greatly by incorporating these payment methods into their operations.

Because of the labor hours spent on managing the Purple Point program UWW should consider whether to eliminate the program and transition to accepting bank debit cards. The 2% of Purple Point revenues that the office receives for maintaining the program amounts to approximately $33,500 annually. Cost of administering the system, adding deposits and reporting may well exceed this. A study needs to be conducted to determine the cost versus benefit of maintaining a Purple Point program.

Additional factors that affect the feasibility of the program include the rates off-campus merchants pay for accepting Purple Points. With this program, they buy or lease special card
readers and pay up to 8% in fees. With credit/debit cards, the rates fees are closer to 2%. In light of this, the future of the off-campus program is questionable.

Technology, Equipment and System Upgrades

Network Infrastructure and Transmission of Data across the Campus Network

Presently all data transmissions from Blackboard cash registers, vending machines, and laundry centers pass along a separate part of the campus fiber optic backbone. This portion of the backbone is referred to as the “HawkNet.”

The infrastructure of the HawkNet system is comprised of Blackboard IP converters purchased by the office and Cabletron brand hubs and switches provided by T&IR in the mid-to-late 1990’s. To maintain or improve the speed of transactions, a plan to replace and upgrade the Cabletron hubs and aggregation point devices of the HawkNet backbone must be created or the data transmissions should be moved over to the main campus backbone. Moving the data transmissions to the main backbone would require approval and coordination with T&IR staff. Moving the data to the campus’ main backbone may eliminate the financial burden on the HawkCard office budget for replacing the hubs and switches.

The current separation of the data between the two networks offers some advantages both to the HawkCard Office and the campus. First, if either one of the networks is down due to equipment failure, the other one is still functioning. This has been helpful to the HawkCard office a number of times. Second, since the Blackboard system data is so isolated, it is very difficult for anyone to try to “sniff” the data looking for ID number, account information or system information or attempting to hack into the system.

A drawback to the current configuration is that the major Cabletron components that provide connections from each building across the campus are nearing their end of usefulness. Initial quotes from Cisco indicate an approximate cost of $54,000 to replace and upgrade the existing Cabletron equipment to Cisco equipment. This cost would provide new 10/100 MB switches in all buildings on campus as well as the necessary aggregation equipment in Goodhue and McGraw Halls. The cost of a HawkNet network upgrade would be the responsibility of the HawkCard Office.

Discussions will be held with T&IR to determine whether this separation of campus data networks should continue and to determine the best method for data transmissions over the campus network. The outcome will determine whether or not the HawkNet equipment needs to be budgeted and replaced.

Plans for this upgrade will be created to implement the new equipment over time in order to avoid a major capital expense at the same time that a server replacement is necessary.

Implementation Date and Costs

2005-2006 $27,000
2006-2007 $27,000
*Contingent upon merging with campus network

Server Location and Security
There is presently no physical security of the Blackboard server in the HawkCard Office. In this
day and age, security of the system’s hardware and software needs to be reviewed and improved.
The current maintenance contract with Hewlett-Packard does include a focus on system software
security. Such focus should remain in place in future contracts.

Discussions will be held with the campus’ T&IR staff regarding the possibility of moving the
server to the main server room in McGraw Hall. This would require some changes in office
procedures related to daily system backup and periodic system reboots. If it is determined that
better security can be provided by moving the server to McGraw, it would make sense to time
such a move with the remodeling and expansion of the University Center.

The current server is planned to be obsolete and will need to be replaced in five years at an
approximate cost of $35,000.

Implementation Date and Costs

2005-2006 Costs involved in move not yet determined
2009-2010 $35,000
Ongoing Annual Costs for Hewlett-Packard support: Approximate annual of $17,500

Disaster Recovery/Continuation Plans
There presently is no written disaster recovery plan or business continuation plan. With the
current level of use of the Blackboard system and the continued expansion of the one-card
system as recommended in this document, separate disaster recovery and business continuation
plans should be created by the end of the 2005-06 school year.

Samples of such plans have been downloaded from the NACCU web site. They will serve as
guides for the creation of such a plan for UW-W. T&IR should be involved in the creation and
final approval of such a plan. The plan should be ready for initial review in fall 2005.

T&IR Support of HawkCard Server Functions.
Discussions have been held with T&IR staff to determine if a staff member can be designated to
provide backup support to the HawkCard Office staff for emergency situation involving the
OPITM server.

The steps necessary to shut down or restart the OPITM server are very well documented by
Blackboard in the “OPTIM9000 System Administration” manual and take approximately 40
minutes. When a staff member from T&IR is identified, he/she and both PA’s in the office will
be shown were the manual is located and trained in the steps necessary to shutdown and restart
the server. Training could be done on a Friday morning in the summer when customer use of the
system is quite low. The T&IR staff member and office PA’s would be able to sit at the console
terminal and go through the actual steps for the server shutdown and restart. Training could be repeated once per year during the summer.

**Blackboard Universal Edition software**

Formerly known as “Parliament,” Blackboard will soon be releasing its new Universal Edition software program. Since Bb is now a publicly traded stock company, it cannot offer details about timelines for upcoming product releases.

Bb has announced the following key points about this software:

1. It is designed to run on Oracle databases.
2. This software will need 2 servers to run. One server will need to have one of the following operating systems on it, HP-UX (the same operating system as currently used with OPTIM here at UW-W), Sun’ Linux, or Windows Server. The second server will be a low cost Windows server. The second server will replace the existing, expensive, custom made Network Processor.
3. The new transaction software will initially be compatible only with the latest IP enabled readers from Blackboard, existing laundry readers, and existing Value Transfer Stations. Current IP enabled devices available from Bb include vending readers, copy readers, door access readers, multifunction readers and activity readers. UW-W presently does not have any of these IP enabled readers.
4. A later release of Parliament will include 10-12 large feature sets, including shadow accounts (currently not used here at UW-W) and compatibility with older hardware including IP converters and most devices that communicate by the RS-485 protocol (used by all readers on the UW-W campus). However, two devices, cash registers (a.k.a. wedges) and door access readers will not be compatible with this version.
5. In the 3rd release of the new system, support for existing cash registers will be available.

A key issue for UW-W with Parliament is that the campus will NOT be able to use Parliament initially because nearly of our existing readers use the RS-485 communications protocol which won’t be fully supported by Parliament until later versions are released.

Bb is also developing plans to offer NCR cash register systems that would be compatible with the next generation software system. UW-W departments could purchase one of these new NCR cash registers, trade in their current Bb cash register, and have compatibility with the new system.

**Interfacing Micros Brand Cash Registers to OPTIM**

It may be necessary to change the brand of cash registers using in some of the on-campus restaurants and dining halls because of the ever-increasing number of items available for sale. A software interface between the Micros system and Bb is available from Bb for an additional yearly fee of approximately $3,200. This concept needs to be evaluated during spring 2005 for possible implementation in Drumlín and other dining locations for fall 2005.
Banking Connection.

"Banking connection" generally refers to having campus ID cards tied to a local, regional or national bank. Such a connection can offer a number of enhanced services to students and staff. The most common enhancement is the ability for the student or staff member to open an account with the partner bank and then be able to use their ID card at any off-campus merchant that accepts debit cards. The following section explains the different types of debit accounts. This information is from the September, 2004 issue of CR80, published by Avisian Publishing.

Students enjoy the flexibility of using their ID card for payment at both on and off campus locations just as they would any other bank-issued card. While virtually all of the payment options are debit products, there are major differences between debit products. To understand the options available to our card program, an understanding of the debit card landscape is essential.

An easy way to distinguish debit cards from other payment tools is to think of the payment or repayment cycles. With credit cards, the cardholder “pays later.” With stored value cards the cardholder “pays before.” And with debit products you “pay now.”

Although all debit cards fit the “pay now” category, there are key differences. The two major types of debit cards are known by a variety of different names but the easiest way to keep it straight is that one type is authorized by a personal identification number (PIN) while the other is authorized by the customer’s signature. This difference led to one of the commonly used terms for the two types: PIN-based debit and Signature-based debit.

PIN-based debit

Though it is sometimes hard to imagine that we survived without debit cards, there was a day when we paid for nearly all of our non-cash/non-credit purchases with paper checks. When the ATM networks proliferated, it seemed a logical extension to enable the ATM card’s use at the point of sale.

These cards drew directly against a customer’s bank account and had very little likelihood of overdraft. Additionally, an electronic transaction was far less expensive to process than a paper check. Because the systems required PIN authorization, PIN pads were required at the point of sale. Because of this added expense, grocery stores were among the first to adopt PIN-based debit as their transactions were higher dollar value and very heavily dominated by paper checks.

Most of the regional ATM networks offered PIN-based debit. Names like NYCE, Interlink, Cirrus, Honor, MAC, CashStation, Pulse, and others could be found on the backs of ATM cards across the country. Consolidation and acquisition has left only a few major players in the PIN-based debit world. As an example, Concord EFS owns and operates the largest network, STAR, which has absorbed older players like Honor, CashStation, and MAC.
PIN-based debit is also referred to as online debit, and in some cases, electronic funds transfers (EFT). With these systems the customer’s account is debited immediately following the transaction. Merchants typically pay a flat fee for the transaction regardless of the dollar value.

**Signature-based debit**

The other debit alternative evolved, not from the ATM cards and networks, but from the credit card world. MasterCard and Visa dominate the signature-based debit market capitalizing on the deployed base of merchant acquirers, terminals, and transaction processing networks used for credit transactions.

Though signature-based debit products do not rely on ATM networks for typical debit transactions, they do offer ATM card functionality. Virtually every one of these cards offers ATM access via PIN to complement the debit functionality via signature.

Signature-based debit is often referred to as offline debit. Transactions do not debit the customer’s account immediately as they do in online debit, but typically within 24 to 48 hours. Merchants pay a discount fee (a percentage of the transaction’s dollar value) as they would for credit card usage for the privilege of accepting the card.

**Summary**

Perhaps the best way to encapsulate the discussion is with this paragraph from the Federal Reserve Bank of Kansas City’s document, Guide to the ATM and Debit Card Industry:

“To complete this section, it may be useful to emphasize the similarities and differences between online and offline debit transactions. Both transactions are conducted at a POS terminal. Both represent payments in exchange for goods or services. But online debit requires the use of a PIN and funds are debited immediately, while offline debit does not require a PIN and funds are not debited immediately. Online debit transactions are processed over an EFT network. By contrast, offline debit transactions are processed over credit card networks. Online debit allows the consumer to obtain cash back at the point of sale, while offline debit does not. Finally, consumers and merchants face differing fees for online and offline debit.”

One widely known example of campus ID card banking connection is HigherOne. HigherOne contracts with campuses to provide all students and staff with their ID card. Furthermore, HigherOne offers students and staff the ability to open an Internet bank account with them. In addition, HigherOne offers students the option of having any financial aid refunds electronically transferred to their HigherOne bank account. From there, students would have the ability to have funds automatically transferred from their HigherOne account into their Purple Point account if they want. The ID card from HigherOne is connected to the MasterCard network and can also be used by students and staff as a MasterCard debit card.
HigherOne is currently used by UW-Stout, UW-LaCrosse and UW-Parkside. UW-Oshkosh has created a banking connection with U.S. Bank that began with the spring 2005 semester.

The HawkCard Office needs to research possible banking connections for the HawkCard. Connections could be possible with HigherOne, UW Credit Union or some other state or regional bank through a UW System-wide contract.

**Direct Deposit of Financial Aid Refunds to Purple Point Accounts.**
A banking connection may make it possible for students to move financial aid to their Purple Point account without additional custom PS programming by the campus T&IR staff. However, if a banking connection is not in the best interests of the students or the university, a proposal should be written and submitted to T&IR to have campus programmers create an in-house method to allow students to request specific amounts of their financial aid refunds to be deposited to their Purple Point account.

This possible procedure would require collaboration between the HawkCard Office, T&IR and Student Accounts office.

Blackboard is beginning to offer a variation of the bank connection. Bb has entered into an agreement with GlobalCash to provide this service to existing or future Bb client campuses. There currently would be no cost to the campus to utilize this service. Furthermore:

a. No checking account needed for transfers but the user’s account acts similar to a checking account.

b. Funds available to the student on a new ACH card.

Further information will be provided from Bb.

**Direct Payroll Check Deposits to Purple Point Accounts.**
Another method to encourage use of the Purple Point program would be to have campus payroll checks, or a portion of them, electronically deposited to a student or staff member’s Purple Point account.

This possible procedure would require collaboration between the HawkCard Office, T&IR and Human Resources.

**Smart Card Technology**

**Overview**

The following information is from “GOVERNMENT SMART CARD HANDBOOK” by Bill Holcombe and Jim Hunt of the Office of Governmentwide Policy, General Services Administration, February 2004.
A smart card is a credit card-sized device that contains one or more integrated circuits (ICs) and also may employ one or more of the following machine-readable technologies: magnetic stripe, bar code (linear or two-dimensional), contactless radio frequency transmitters, biometric information, encryption and authentication, or photo identification. The integrated circuit chip (ICC) embedded in the smart card can act as a microcontroller or computer. Data are stored in the chip’s memory and can be accessed to complete various processing applications. The memory also contains the microcontroller chip operating system (COS), communications software, and can also contain encryption algorithms to make the application software and data unreadable. When used in conjunction with the appropriate applications, smart cards can provide enhanced security and the ability to record, store, and update data. When implemented properly, they can provide interoperability across services or agencies, and enable multiple applications or uses with a single card.

Smart card technology can enable an organization to become more secure, efficient, and interoperable while delivering strong authentication and security, identity management, data management, customer support, and communications. The ICC, the technology on a card that makes it a “smart card,” provides a number of functions. Smart card technology is commercially active and therefore provides additional benefits through commercial off-the-shelf (COTS) products and well-established technology standards.

Smart card technology can address issues surrounding identity management and can also provide the means to eventually re-engineer inefficient processes with a high return on investment (ROI). In the identification of inefficient processes, outdated business practices, and low ROI programs, an organization can eliminate deficiencies, unnecessary costs, and under-used resources through the implementation of smart card technology. The combination of smart card technology with web-based applications, electronic commerce, and other business uses of the Internet can improve the quality of life for citizens and employees.

Smart card technology provides a toolbox of enhanced capabilities that can be used to implement a smart identification card, including functions, such as:

**Access Control Tools.** Smart cards can provide significantly enhanced security features that allow the card to operate as an authentication token for secure logical access to terminals and networks (such as local area networks (LANs) and the Internet), as well as for physical access to buildings, rooms, parking lots, transit and other facilities.

**Payment Tools.** Smart cards can serve as credit, debit, or stored-value payment and/or payment token instruments and provide the capability to access financial accounts and transfer funds between accounts.

**Information Storage and Management Tools.** Depending upon the size of the ICC, smart cards can store and manage data to assist with various applications. For example, medical information stored on a smart card can be accessed by an authorized medical official in the event of an emergency or on a routine medical visit. On-card information availability can reduce the amount of time spent locating hard-copy paperwork. If the medical event were a life-threatening emergency, the information would be immediately accessible, possibly saving critical time.

**Enhanced Secure Access Capabilities.** The use of sophisticated technologies such as biometrics and PKI further enhances the security of identity verification in granting physical and logical access. PKI uses public and private keys for digital signatures and email encryption and decryption. If the digital signature is verified using the signer’s public key, then the recipient
knows that it was signed by the owner of the public/private key pair and that it has not been changed in any way since it was signed. This assures both the sender and recipient that the information has not been altered. Biometrics use physical characteristics (e.g., fingerprint, hand geometry, iris scan and voice/facial recognition) to authenticate an individual’s identity. PKI and/or biometrics can be used to more accurately identify an individual.

Types of chip cards

Often the terms “chip card,” “integrated circuit card” and “smart card” are used interchangeably, but they can mean different things. Cards are distinguished both by the type of chip that they contain and by the type of interface that they use to communicate with the reader.

There are three different types of chips that can be associated with these cards: memory only, which includes serial-protected memory, wired logic and microcontroller. The terms “memory only,” “wired logic” and “microcontroller” refer to the functionality that the chip provides. The following further discusses the types of chip cards.

Memory-Only Integrated Circuit Chip Cards (including Serial Protected Memory Chip Cards). Memory-only cards are “electronic magnetic stripes,” and provide little more security than a magnetic stripe card. The two advantages they have over magnetic stripe cards are: a) they have a higher data capacity (up to 16 kilobits (Kb) compared with 80 bytes per track), and b) the read/write device is much less expensive. The memory-only chip cards do not contain logic or perform calculations; they simply store data. Serial-protected memory chip cards have a security feature not found in the memory-only card; they can contain a hardwired memory that cannot be overwritten.

Early versions of memory-only cards were read-only, low capacity (maximum of 160 units of value), prepaid disposable cards with little security. New versions include prepaid disposable cards that use read/write memory and binary counting schemes that allow the cards to carry more than 20,000 units of value. Many of these cards also have advanced logic-based authentication schemes built into the chip. Other memory-only cards have been developed for re-loadable stored value applications. The cards contain a purser, which can be protected through the use of a personal identification number (PIN) and counters, which limit the number of times the purser can be reloaded.

Wired Logic Integrated Circuit Chip Cards. A wired logic chip card contains a logic-based state machine that provides encryption and authenticated access to the memory and its contents. Wired logic cards provide a static file system supporting multiple applications, with optional encrypted access to memory contents. Their file systems and command set can only be changed by redesigning the logic of the IC. Wired logic-integrated chip cards include contactless variations such as I-Card or MIFARE.

Secure Microcontroller Integrated Circuit Chip Cards. Microcontroller cards contain a microcontroller, an operating system, and read/write memory that can be updated many times. The secure microcontroller chip card contains and executes logic and calculations and stores data in accordance with its operating system. The microcontroller card is like a miniature PC one can carry in a wallet. All it needs to operate is power and a communication terminal. Contact, contactless and dual-interface microcontroller ICs are available. Unlike memory-only products, these microcontroller ICs have been designed (and can be verified) to meet security targets, such
as Common Criteria (for example, the Department of Defense Common Access Card IC). The secure microcontroller chip card is normally the version referred to as the “smart card.”

Today’s chip card market offers a range of memory-only and microcontroller chip cards; however, only microcontroller chip cards will be addressed in this report. Because of their limited storage capacity and low level of security, memory-only chip cards are not suitable as multi-application or multi-purpose cards in support of government requirements.

There are two primary types of chip card interfaces—contact and contactless. The terms “contact” and “contactless” describe the means by which electrical power is supplied to the ICC and by which data is transferred from the ICC to an interface (or card acceptance) device (reader). Cards may offer both contact and contactless interfaces by using two separate chips (sometimes called hybrid cards) or by using a dual-interface chip (sometimes called “combi” cards).

Contact Smart Cards. A contact smart card requires insertion into a smart card reader with a direct connection to a conductive micromodule on the surface of the card.

Contactless Smart Cards. Contactless smart cards must only be in near proximity to the reader (generally within 10 centimeters or 3.94 inches) for data exchange to take place. The contactless data exchange takes place over radio frequency (RF) waves. The device that facilitates communication between the card and the reader are RF antennae internal to both the card and the reader.

Hybrid Smart Cards. A hybrid card contains two chips on the card, one supporting a contact interface and one supporting a contactless interface. The chips contained on the card are generally not connected to each other.

Dual-Interface Chip Smart Cards. A dual-interface chip card contains a single chip that supports both contact and contactless interfaces. These dual-interface cards provide the functionality of both contact and contactless cards in a single form factor, with designs able to allow the same information to be accessed via contact or contactless readers.

**Smart Card Read/Write Devices**

Smart card read/write devices provide the physical link between the smart card and the host system or application. The host system can be a PC, a network device, or a stand-alone access control device such as a turnstile controller. The read/write device delivers power, initializes the card, and acts as the mediator between the smart card and the host. Power is delivered to the smart card by making a physical contact on the contact smart card micromodule or by inducing current through the antenna of contactless designs. Initialization is a specified protocol that must be performed on all smart cards and is supported by compatible readers. Therefore, from an implementation standpoint, one should be certain that the reader selected is compatible with the chip’s protocol. This can be accomplished by testing card and reader compatibility before they are purchased in bulk quantities.

Smart card read/write devices can be either transparent, requiring a host device to function, or they can be standalone devices functioning independently. Transparent
read/write devices require a host for all signaling functions, including initialization and application delivery. This type of hardware has no internal logic except for a line driver to condition the signal between the card and the host. A transparent reader is similar to a PC soft modem; a host drives the reader and the card. This requires more support from the software, which must understand the design of the reader and the card communication requirements.

A standalone read/write device has all of the logic required to initialize a card and to act as a mediator between a smart card and the host. For example, the host may deliver a large packet of information to the reader to pass on to the card. The reader checks the packet and sometimes breaks it into smaller packets before sending the information to the smart card. This means that the host is only concerned with communication to the reader and not to the smart card. Standalone hardware functions as a pass-through for microcontroller cards. The operating system defines all of the commands that a microcontroller card understands, so the reader is not required to intervene.

A number of different smart card read/write devices and interface mechanisms are now available that meet various application needs. Smart card read/write devices can provide a single function or they may be integrated into a variety of other devices such as a personal computer keyboard. Purchasing an integrated smart card reader within a PC keyboard ensures compatibility with the host system to which it is connected, eliminates the need to purchase a single function plug-in reader at a later time, and also avoids any compatibility issues. A good use for this type of reader is enabling secure logical access to a computer system or network. Single function readers are also available with various host interface connections, including keyboard plug-in wedge, USB port, PCMCIA, serial port, and direct-wired such as with a door controller for physical access control.

Smart card readers can be mounted in a variety of ways including free-flooting desktop and door-mounted units. Readers designed for secure physical access control applications are usually mounted at a convenient height on a door or turnstile with wiring hidden from view to prevent tampering. Smart card read/write devices can be integrated into other specialized devices and applications (e.g., a PDA). This type of application can provide secure access and portability.

Smart card writing devices or encoders are also used during the card personalization step. Most card personalization systems have smart card-encoding logic that enables the card’s chip to be initialized with personalization data in the same operation as the card’s visual data and text (i.e., personalization) are applied. This helps to ensure that the software application matches the user data and avoids the need to encode at a later step. Most commercial ID card printer systems can be fitted with an in-line smart card encoder. Figure 1 shows examples of common smart card read/write equipment.

**Smart Card Interfaces: Contact and Non-Contact Cards**
Smart cards may interface with read/write devices either through direct electrical contact with the card or through wireless data transfer (i.e., contactless interaction) using radio frequency or induction coupling techniques. The contact interface requires the card to be inserted into a card reader so that the reader can establish a direct electrical contact with the chip. A contactless smart card contains a chip and an antenna sandwiched between two layers of plastic. Communications are facilitated using RF technology. The chip is powered through the card’s antenna when the card is placed within 10 centimeters (3.94 inches) from the smart card reader. Contact cards are generally used for a wide variety of applications, including financial transactions and logical access control. Contactless chips are typically used for functions that require greater speed or ease of throughput (e.g., high volume transit automated fare collection systems or office building access). They also eliminate concerns over reader wear when compared to their contact chip counterparts. Contactless chips have become increasingly accepted as the ID credential of choice for controlling physical access.

Contact, contactless and multiple interface smart cards can support multiple applications, offering advantages to both the organization issuing the card and the cardholder. The issuing organization can consolidate an appropriate mix of technologies and support a variety of security policies for different situations. Applications such as logical access to computer networks, electronic payment, electronic ticketing, and transit can be combined with physical access on a multi-application and multi-technology ID credential. Issuers can also record and update appropriate privileges from a single central location. For physical access, the organization as a whole can incur lower maintenance costs over the system life, due to the elimination of mechanical components and reader resistance to vandalism and harsh environmental conditions. With hybrid and dual-interface cards, issuers can also implement systems that benefit from multiple card interfaces.

**Biometrics**

The terms "Biometrics" and "Biometry" have been used since early in the 20th century to refer to the field of development of statistical and mathematical methods applicable to data analysis problems in the biological sciences. Recently, the term "Biometrics" has also been used to refer to the emerging field of technology devoted to identification of individuals using biological traits, such as those based on retinal or iris scanning, fingerprints, or face recognition.

There presently is little or no discussion happening on campus regarding the use of biometrics for building access or other applications. Furthermore, there is no indication from Blackboard that they are doing any development in this area as a replacement of current mag stripe technology.

Blackboard’s latest, IP-enabled card readers have additional connection points built into them to allow future connection/interfaces to smartcard and biometric readers. These 3rd party readers would be able to read the chip or biometric, convert the info into appropriate info for the transactions system and then have the exiting Bb reader pass this info on for approval, validation or other processing.
Marketing

Current and Future Marketing/Promotion Methods
Market Penetration. A yearly cross tab analysis will be done to review the overall usage of Purple Points by students. Analysis could be done by gender and year in school. From this information, plans should be made to promote the convenience of using Purple Points on and off campus. Goals should be set each year for overall market penetration.

Additional Functionality and System Uses

Wireless Connections to System
As wireless networking connections become established around campus, efforts should be made to create a few wireless locations, primarily outside the UC, where existing Blackboard cash registers could be set up and safely connected to the HawkNet for online Purple Point transactions. Having wireless connections to the HawkNet would allow greater flexibility in setups for outdoor events, such as Summer on the Mall, while still encouraging customers to use their Purple Points. One or two wireless access points should be established by fall 2005.

Further in the future, other outside wireless access points would provide the opportunity to establish connections to the system from such devices as the new Sequoia wireless PDA available from Blackboard. This device can be configured as a wireless debit card reader that could be used for shuttle bus transportation, “sidewalk” sales, and other such uses.

Initial start up costs for a Sequoia wireless PDA from Blackboard is $4,700. After that, each additional wireless unit is approximately $1,600. Yearly licensing fees with Blackboard and Sequoia would be approximately $3,900 per application.

Prepaid Laundry
A method to offer prepaid debit cards specifically for residence hall laundry centers needs to be researched. If the laundry vending contract were to be changed to remove all coin acceptors on the both washers and dryers, then a prepaid “laundry card” would need to be available for sale on campus to individuals staying on campus who don’t already have a campus ID card and a Purple Point account. Such cards could be sold from the University Bookstore, Res Life offices, Esker or Drumlin.

Gift Cards for Bookstore
The HawkCard Office had been working with the Bookstore staff to create an appropriate card layout that could be sold in the Bookstore as gift cards for Bookstore purchases only. Those discussions were put on hold due to the POS changeover at the Bookstore during the 2004 summer. One of the touted features of the new system was its ability to implement its own internal gift certificate and gift card programs. Recent conversions with the Bookstore Director indicated they are trying to understand and use those features. If they are successful, then a Bookstore Gift card program using the existing Bb system would not be necessary.

However, when the discussions were last held, the following items needed to be resolved:
Cost of producing each gift card
Numbering sequence to use for the cards
Programming needed on both the Bookstore POS and within the Blackboard system.

The HawkCard Office and Bookstore will attempt to have a decision made and a program offered to customers by fall 2005.

**Gift Cards for Food Service**
Similar to the Bookstore gift card program, this program could be offered to the Food Service Company as a marketing program to increase on-campus sales. Funds would be deposited into a unique account within OPTIM that would only be accessible at on-campus dining locations. Discussions will be held with Food Service during spring 2005 regarding this possible program.

Similar to the Bookstore program, the following issues still need to be resolved:

- Cost of producing each gift card.
- Numbering sequence to use for the cards.
- Programming needed within the Blackboard system.

Implementation could happen during fall 2005.

**Library Card System Replacement with Value Transfer Stations and Visitor Cards**
While more and more documents are being moved to the Internet, and therefore printed within campus computer labs, there appears to still be a need for traditional copiers. The primary on-campus location of copiers is within Anderson Library. Currently, Anderson Library provides its own debit card system with card readers attached to copiers, microfiche and microfilm machines. As this system nears it end-of-life, discussions should be held with Library staff about replacing the system with new readers from Blackboard that interface to the existing Blackboard system and installing a Value Transfer Station (VTS) in the Library. “Visitor” cards would then be placed in the VTS that would allow any campus guest to buy a card, typically $1.00, and deposit $1, $5, $10 or more on the visitor card. A new card numbering sequence would need to be created within the current Blackboard ID system for visitors; however, this is a common use at other campus and should be created at UW-W.

**Other Value Station Locations**
Additional VTS locations may be necessary across campus, particularly if laundry were to be converted to all-card based. At a cost of $7,500 per machine, a significant need must be demonstrated to justify the cost.

**Camp & Conference Usage of Cards**
The current Blackboard system could be utilized by the Continuing Education Office for meal plans and debit card usage by the many participants in the programs from that office. Such usage
should yield much more accurate information regarding number of meals served per camp and therefore allow development of more accurate camp costs. A test camp should be identified and used during summer 2005. Results should be reviewed in fall 2005 and decisions made in late fall 2005 or early spring 2006 whether or not to expand the use of a camp/conference meal plan card.

Issues to be dealt with include the cost of producing and pre-encoding the cards for Continuing Ed, the cost to Blackboard for the additional cardholders that would be in the system, at a cost of $3.00 each, and the possible use of the cards as a debit card along with the camp/conference meal plan.

WSG Elections
The OPTIM system could be used by WSG for Presidential elections each year. A number of schools using OPTIM have created various methods for using the system. Some simply use the system to check if the voting student is allowed to receive a ballot (or has already voted). Briefly the process is as follows:

“...assign an election privilege and a count account. The day before the election assign the privilege to all enrolled students and deposit a count of 1. There is a tender key on the activity reader with a fixed charge of 1. The elections judges swipe the card and check for privilege and valid account balance before they will give the voter a ballot. A patron count report is sent to the Association office after the polling sites close for the day. They check the number of ballots against the patron counts.”

This method simply checks if a student has already voted or not. It doesn’t record the actual vote, which is maintained only on the paper ballot.

Other schools actually use one of the various POS models to check if the student is eligible, to cast their vote and, to AND to tabulate the votes.

Such a method would allow for the following benefits:
1. Controlled voting hours via the “Operating Schedule” assigned to each voting location.
2. Control of who votes.
3. Tabulation of results by the OPTIM system.
4. Log recall of votes cast, if necessary.

Voter anonymity would be reduced or eliminated. However, FERPA regulations would probably apply, making it difficult to release the information regarding who voted for whom in any given election.

Discussions could be held with Leadership Center staff and/or Dean of Students to if this method would be helpful in WSG elections.

Rec Sports/Intramurals Department
Rec Sports currently requires scanning of the HawkCard for entrance to the Williams Center Weight Room, group exercise classes in the Williams Center Dance Studio and University

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Fitness in Wells Hall. The department also has 2 activity readers in the Williams Center Equipment Room that they do not utilize.

Discussions are being held with Rec Sports staff regarding scanning ID cards on a PDA to verify that all intramural participants are currently enrolled students. This function could be utilized on outdoor IM fields as well as all indoor locations that IM events are held.

**Intercollegiate Athletic Department**

**Faculty/Staff athletic pass**
The UW-W Athletic Department began offering a Faculty/Staff Athletic pass in fall 2003. Discussions will restart with the new Athletic Director to determine his interest in this area, how the pass would/could be used and whether or not the faculty/staff ID card could handle the needs of the Athletic Department and offer some cost savings for this program.

**Student Admission to athletic events**
Perkins Stadium, Kachel Gym, the Gymnastics Arena (gym 3) and the Volleyball Arena (gym 4) are currently set up to have activity readers active at the entrances to scan student ID’s for admission to athletic events. However, the department rarely checks student ID’s for entrance to events.

**Onsite ticket purchases with Purple Points for athletic events**
A related improvement would be to allow the use of Purple Point purchases at Williams Center and Perkins Stadium by faculty & staff. Network data wiring exists in both locations currently. Purple Point purchases could be handled with a small activity reader.

**Web Based Store for Academic Departments**
Some academic departments on campus sell specialty items to students that are not carried by the University Bookstore or any off-campus merchants. Information indicates that many times, the student is required to pay for the item(s) in advance at the Cashier’s Office, and then present a receipt to the academic department in order to receive the item.

It would be possible to create an online eCommerce site that would allow the student to use Purple Points to pay for such specialty items. Participating departments would be allowed to “sell” the items through the portal and create a method to “deliver” the item(s) or simply have the student stop in the appropriate office to pick up the item.

The following is from the Blackboard web site:

“The Blackboard Portal System™ enables additional transaction capabilities when licensed as part of the Blackboard Commerce Suite™.

“Community System,” sometimes referred to as eCommerce Gateway, will be the name of this product. It is currently in beta testing at Creighton University, University of Alabama, New York University, Cal Tech and University of Akron.
This product will eventually replace the existing Online Card Office (OLCO). There will probably be an 18 month transition period from OLCO to the Community System. This product will include a function called “My Account” which will allow users to check their account balances and make deposit. The product will also include the ability for the campus to create online “stores” that various departments could use to sell items to students for class.

This product is being written using the Java programming language. Bb can host the server (at a price) or the campus can host it on a pc-type dual processor server box with at least 1 gigabyte of RAM. David Yaskin is leading this project for Bb. Further information will follow.

**Student Org Acceptance of Purple Points for Fund Raising Activities**

A method using simple activity readers should be created by fall 2005 that would allow Student Organizations at UC hallway tables to accept Purple Points for payment of dues or purchase of club fund raising items. Existing, underutilized activity readers can be configured to accept Purple Points for simple purchases.

A test of this concept was conducted in October 2003 at Jitters in Wells Hall. The process seemed to work well. Policies and procedures for check-out/check-in of readers as well as cost to student organizations for setting this up would need to be developed during spring and summer 2004.

A small cash register system from Blackboard would be more appropriate and provide better reporting and sales flexibility. The cost of such a system is approximately $3,200. It may be appropriate to write a grant request for funding to purchase 1 or 2 such systems for student organization use within the UC, Esker or Drumlin.

**Student Org/Club Memberships**

The Blackboard system could be used to check membership to various student organizations. The concept is currently being tested in the UC Recreation Center for the Billiards Club and Bowling Club. There could be a broad range of potential uses by various clubs. Those uses would need to be identified through discussions with Leadership Center staff, club officers and advisors. Such a process would likely require the purchase of additional activity readers.

Costs - $1,500 per new activity reader.

**UC Hallway Vendor Acceptance of Purple Points**

Similar to allowing Student Orgs to use activity readers or cash registers at UC Hall Tables, the concept of allowing outside vendors to accept purple points should be discussed. Again, it may be possible to use existing activity readers to track the sales of items via Purple Points. Policies and procedures for checkout/check in of readers as well as cost to vendors for setting this up would need to be developed. This concept should be discussed during spring or summer 2005 with a recommendation coming during summer 2005.
Campus Wide Printing/Copying Cost Control Management

The campus is currently reviewing methods to reduce computer lab printing costs. The Blackboard system is capable of interfacing to eight different print management software applications, A.N.D. Technology, CMS Diginet, EnvisionWare, Equitrac, GoPrint Systems, Pharos UniPrint, Sequiam Software, and VendPrint. While the final solution will be determine by T&IR, they are aware of the capability of the Blackboard system to interface to these various print management programs, thereby using the Blackboard system to "approve or deny" computer lab printing based on whether or not the student still has money left in their print allocation account or if they have sufficient Purple Points to cover the cost.

HawkCard Office involvement is anticipated to be minimal unless T&IR determines that the use a commercial print management software package is the preferred way to control cost. If so, then the Office would be quite involved with the interfacing of the print management software into the Blackboard system.

Implementation date - to be determined, implementation costs - to be determined, annual support cost from Bb for print management interface, estimated $3,200 per year.

University Fitness Center Community Member Memberships

Similar to the Athletic Pass, it would be possible to create generic Fitness Center passes, without pictures, that could be used by community members. The concept has been briefly discussed with Fitness Center staff but should be revisited during 2005-06.

Other Potential Applications and Uses of ID/Photo System

Passport Photos.

A number of other campuses across the country provide passport picture taking as a service from the card office for a fee. HawkCard Office staff is very familiar with taking pictures for ID cards. Therefore is should be possible to transfer that skill to printing pictures that would be suitable for use on official passports. Cost of necessary equipment and software should be researched during 2005-06 with a recommendation by the end of the school year whether or not this would be a cost effective service to offer the UW-W community.

Class Rosters for Faculty

A number of other campuses across the country use student photos taken by the card office to produce class rosters for faculty. At UW-W, this concept would need to be reviewed to determine if FERPA allows this based on current campus decisions related to what is and is not considered directory information. With the storing of the ID pictures within a PeopleSoft database, T&IR staff would be able to write such a program. Since only one academic department has brought this idea forward it should remain a low priority for the office.
Off-campus Purple Points Program

BbOne primarily manages the Off-campus Purple Point program. The current contract with BbOne expired on June 30, 2004. To date, the program has been successful. The program should be continued in the future. The issue for the HawkCard Office is whether or not to renew the contract with BbOne for marketing and technical support provided to the local merchants. While the services have been helpful to each merchant, the commissions paid by merchants primarily benefit BbOne. The HawkCard Office needs to determine during the spring 2005 if this program will continue in its present format or if the office should take over administration, marketing and technical support entirely in order to receive higher commissions.

Door Access

The current Blackboard system has the capability to handle online door access. Students, faculty and staff would use their HawkCard for access into the various academic and residential buildings on campus. The system can be quite expensive to install on a per door basis. Many campuses install a limited number of the online readers on exterior doors or doors to areas with highly sensitive information or expensive equipment and use an off-line electronic door access system for most interior doors. At this time there is no formal campus plan to install and utilize such a system.

Residence Life is investigating a number of different technologies for controlled door access. It is possible that their choice will become the preferred method across campus. HawkCard Office involvement is difficult to determine at this point. If Residence Life choices fobs, the Office's anticipated involvement will be minimal. If the choice is some type of card based access such as proximity cards or a form of smart card, the involvement with be significantly higher.

A test of Bb's current door access system would beneficial to both the HawkCard Office staff and the campus in general. A financial cost and implementation plan should be developed to test exterior door access in a limited number of doors on Drumlin & Esker Hall. The HawkCard Office doors could also be a part of this test.

Elevator Access

Similar to door access, the Blackboard system can be used to control access and operation of campus elevators. Again, HawkCard Office involvement is anticipated to be minimal unless the campus determines that the use of mag strip cards is safe and effective for elevator access applications.

Parking Lot Gates

The Blackboard can be used to control entrance and exit gates for parking lots. While gated lots currently don't exist on campus, it is possible to implement this in the future is Parking Services needs this function. This idea will be passed onto Parking Services during spring 2005 semester for their review and possible discussion.
HawkCard Office Financing/Organization

Administration Fees
Since the inception of the HawkCard program, funding for the Purple Points program has come from a 2% administrative fee paid on each Purple Point transaction.

Additional funding for the office comes from the Residence Dining account, Chartwells, MacGray, AllSeasons Services, Pepsi and commissions from off-campus sales via Blackboard One.

Alternative Funding Sources
A number of factors have arisen that have had a negative effect on the operation budget of the HawkCard Office. These include lowered interest rates, fewer deposits charged to the student bill before school starts and the loss of "breakage" from funds remaining in student accounts at the end of a school year (see next section below). Along with the increasing operating costs of the office and the level amount of debit account usage, budgeting for the general HawkCard Office account has become more difficult. Jim Anderson of UW-Platteville presented a session at the College Enterprises Inc., Card Systems Partners Conference in April 2000, about this issue. Listed are some of the ideas from the session that are not currently used at UW-Whitewater:

1. Develop a banking relationship that provides a commission or similar revenue stream to the HawkCard office based on total use of the banking partner's debit card use by students, faculty & staff.
2. Charge a segregated fee each semester.
3. Seek increased GPR support.
4. Charge a first card fee.
5. Charge an activation fee.
6. Make departmental ID badges.
7. Include the ID office budget in a larger department's budget.
8. Make souvenir cards and specialty cards.
9. Make department copy cards.
10. Make visitor cards.
11. Charge a fee to re-encode cards.
12. Make passport photos.
13. Make ID's for campus and conferences.
14. Provide digitized photos on disk.
15. Charge a processing fee for cash refunds.
16. Produce ID cards for others.
17. Sell advertising space on the back of the card.
18. Charge a technology fee.
Policies

Breakage

A lengthy discussion at the Union Directors’ meeting in April 2004 was held regarding unclaimed property ($$). The following is a summary from Gerda Benedict of UW-River Falls.

According to Rich Lampe, Division of Procurement at UW System, we are clearly subject to the legislation. Point’s balances, tuition balances, and any other student funds held when they leave campus are subject to this legislation. Rich has asked each of the directors to provide information to him in the near future about 1) when we refund dollars and when we don’t and 2) what is the process for doing this. You may want to get in touch with your Union Director so you can become involved in submitting this information to Rich. There will then be other discussions and the campuses will be notified of the results.

Rich is suggesting that we have a fee for standard refunds, and that an additional admin fee be added if it is subject to the reclaiming process. This process would require us to send a notice to any student having a balance, giving them 90 days to claim their money, and having to issue a check or payment to them for their balance—postage, printing costs, etc. If we don’t have fees to administer this refund, even $.10 would be subject to refund. By charging a fee, most of our unclaimed dollars will be absorbed to cover our expenses.

If your campus is like ours, we still have a few who have higher balances that we would have to deal with. This brings up all kinds of questions about points with meal plans that are a requirement on campuses, non-refundable deposits, etc. We have in the past budgeted for use of these unused dollars, but would no longer be able to do this.

There has been discussion about the time frame. It was agreed that one year is not acceptable because students leave and come back. The alternative time frame discussed was five years, which seems much more do-able. If students don’t claim these dollars once the 90 day notification period has lapsed, the statute says these dollars “flow into an account for the state.”

Rich said we can’t contract our way out of this . . . either with contracts with the students that say “no refunds” or with contract language which would allow our food services contractor to keep the unused dollars.

Purple Point Limits & Accounts Receivables Management

The increased use of Purple Points in off-campus businesses and allowing students to charge Purple Points to their student bill has created a large accounts receivable responsibility for the Hawk Card office. Because vendors are being reimbursed before the university is collecting the funds from students, the Hawk Card office often carries a negative cash balance. If this continues, considerations should be made to eliminate this accounts receivable balance.
Clarifying FERPA and requests for pictures.
HawkCard Office policies and procedures related to the release of student information will be reviewed and rewritten as necessary to insure compliance with campus, state and Federal guidelines. In particular, the office will create a form authorizing the release of meal plan and/or Purple Point information for students to use. Such form will be created and in use no later then the start of the 2004-05 school.

ID Industry Predictions for the Future
CR80 News, published by Avisian Publishing, ran a series of article in 2004 providing insight and predictions from various industry experts. Some of those predictions are:

From Cindy Vetter, Director of the UNC Card Program, University of Northern Colorado, “Banking partnerships will increase. Students want to be able to use their cards worldwide... students don't want to just be locked into using their cards in their “local school town.”...Their expectation is that ease of use, convenience and transportability should be normal aspects of each day...Schools are also looking for ways to save funds”

From John Diaz, Sequoia Retails Systems, Inc. “Demand will accelerate for products and services that securely provide access to campus card services whenever and wherever the cardholder needs them...portable card reader solutions will replace many of the hard-wired terminals that institutions have regularly used for athletic events, picnics, sidewalk sales and other remote events... by cutting the wires, the campus card program will be free to roam to remote areas of campus, thereby further expanding the use of the program...another trend is an increased demand for self-service applications that process payments for goods and services on campus...finally, the expansion of the campus card program beyond the controlled environment of cashiers and hard-wired terminals will put further emphasis on the need to secure cardholder information.”

From Read Winkelman, National Sales Manager – Colleges and University Transaction Processing System, The CBORD Group, Inc. “1) Web-based ordering will be the “hot new technology.” 2) Wireless and handheld applications will become common. 3) Integration with campus IT conventions and database platforms will become increasingly important to lower TCO.”

From Holly Sacks, Vice President, Marketing, HID Corporation. “...the continuation of two significant trends in the University card market...First is the ongoing need to provide enhanced security for students, faculty, support staff, and visitors... Second is in the area of wide-spread deployment of contactless smart card technology...The trend will be areas of integration tools and systems solutions.”

As card technology develops, the need for a standalone, on-campus/local town debit card system diminishes. However, a banking relationship for UW-Whitewater could leverage the existing capital equipment for several more years while allowing the continued expansion in the use of the card for financial transactions.
As the campus in general and Residence Life in particular, move forward in the implementation of electronic door access, the physical construction of the HawkCard will change. It could become a dual mag strip/prox card; it could become a smart card. As form of identification, a "HawkCard" of some type will continue to be needed at UW-W. The uses will only be limited by budgets and creativity.
## Three Year Action Plan

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<td>4. T&amp;IR support of HawkCard server functions review.</td>
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<td>5. Smartcard technology uses review.</td>
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<td>7. Gift card program for Bookstore review.</td>
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<td>10. Student Org acceptance for Purple Points for fund raising activities.</td>
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<td>11. Student Org membership checkin via Bb system review.</td>
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<td>12. UC Hallway vendor acceptance of Purple Points review.</td>
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<td>17. Purple Point limits and accounts receivable management review.</td>
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<td>11. Marketing &amp; promotions review.</td>
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