I. Action Plan Introduction and Authorizations

NDSU ORGANIZATION OR UNIT
College of Business

TITLE OF PROJECT
Barry Hall – Laptop Infrastructure Needs

Project Duration (3 years maximum)  From: Jan 1, 2012  To: Dec 31, 2012

Type of Project (Check one)  New X  Previously Submitted  Renewal

Total Technology Fee Request  $27,104.00

Project Director  (Must be NDSU faculty or staff)
Dr. Tim O. Peterson

Campus Address:
Richard H. Barry Hall 102D

Phone: 231-7061
Fax: 231-7508
E-mail: Tim.O.Peterson@ndsu.edu

Name (Type or Print)  Signature  Date

Project Director
Dr. Tim O. Peterson

Unit Head
Dr. Ronald Johnson

IT Division Consultant
Melissa Stotz

Executive Summary (maximum of 175 words)

This proposal requests funding to increase the wireless access points and infrastructure needs to accommodate 75 laptops in the Richard H. Barry Hall building. Eleven additional wireless access points need to be installed, as well as data and electrical requirements for the storage location of the laptops.

In the original Richard H. Barry building project, there were 180 laptops purchased for classroom use; however, due to a shortage of funds, the adequate number of access points and proper infrastructure for the storage location were not installed to support the laptops. Due to operational and infrastructure shortfalls, the laptops were not used very often. The 180 laptops were due for refresh next year; we were able to trade in the 180 laptops for 75 new laptops, which will not be due for refresh for 3 years.

With assistance from ITS and Network Engineering and Operations, and funding from the Technology Fee Advisory Committee, we feel the laptop project at Barry Hall will be a success.
NDSU Technology Action Plan Request

II. Project Overview

1. How does this project meet student needs?

This project has a direct impact on student needs. The 75 laptops that need this infrastructure are for student use in the classrooms. Without the funding of this proposal, the 75 new laptops will not have the adequate infrastructure to support them; therefore, will most likely get very little use.

2. What audience does this project directly serve? What audience is indirectly served? How many students are affected?

This project directly serves students and instructors. The potential of 3000 students could be affected by this project.

3. For projects that target a subset of NDSU’s students, please describe the possibility for broader application in the future.

This project targets a broad audience of NDSU students.

4. Describe both the immediate and long term impact of this project.

The immediate and long term impact of this project is instructors being able to utilize computer programs in the classroom, while the students will each have a laptop available with the required software being used by the instructor. Potential for increased student understanding of course content is an immediate and long term impact of this project.

5. Who will pay for ongoing expenses following the technology fee funded portion of this project (e.g., who will replace hardware or software after it has reached its end of life)?

The 11 additional access points will become part of Network Engineering and Operations refresh of hardware. The electrical and data needs for the storage location do not have known ongoing expenses. Upon failure of UPS systems (typical lifespan of 2-6 years), the replacement cost will be negotiated by involved parties.

6. Describe how this project will follow NDSU’s best practices in information technology. (Please make sure the NDSU IT Division staff you consulted signs in Part I of this form.)

The College of Business and the department of Agribusiness and Applied Economics are working with ITS to ensure best practices are being followed.

7. What service on campus is most similar to the one proposed here? How does this project differ?

A service is not being proposed; electrical, data and infrastructure is being proposed to support the needs of 75 laptops being used in any of the Barry Hall classrooms. Similar would be a wired computer lab; very different because 75 laptops will be mobile and can transform any of the 12 classrooms into a computer lab.
III. Project Description (5 pages maximum)

During the construction phase of Richard H. Barry Hall, there was a shortage of funds to complete all infrastructure needs that were required for the building. As a result, 180 laptops were purchased for use in the classrooms, but the infrastructure was not fully funded and the required infrastructure was not put into place to support their usage in the building. There were a number of obstacles in the way of these laptops being properly used and configured. The result was frustration by everyone involved; instructors, students, and ITS.

The College of Business and the Agribusiness and Applied Economics department have been working closely with ITS on planning for the laptop project to be successful. ITS completed a feasibility study to learn what is necessary for the laptop project to be successful.

Because the 180 laptops were due for refresh next year, we traded them in for 75 new laptops; which will not need to be refreshed for three years. This allows time to learn interest and usage before replacing the systems.

This project is asking for funding to address the infrastructure needs of the building to accommodate the usage of 75 laptops in the Barry Hall classrooms.

Eleven additional access points need to be purchased and installed to allow enough coverage for the higher demands the laptops, and other student-owned mobile devices will place on the current wireless access points. Along with the additional access points, an additional switch is needed in the wiring closet.

There will be three mobile laptop carts that will need to be stored in a closet with adequate data, electrical and UPS protection.

The mobile laptop carts will provide the ability for every classroom in Barry Hall to be used as a cluster. There are over 3000 students who take classes in Barry Hall and could benefit from this technology being available.
List the date for each project milestone. These milestones should represent the **significant** accomplishments that will be associated with the action plan. For each milestone, please indicate its expected outcome and the means for assessing that outcome. (The table may be extended as needed.)

<table>
<thead>
<tr>
<th>Date</th>
<th>Milestone</th>
<th>Expected Outcomes</th>
<th>Means of Assessment</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/15/2012</td>
<td>With ITS approval, identify adequate storage closet for the laptops.</td>
<td>Location will be identified.</td>
<td>Space will be allocated as the storage location for the mobile laptop carts.</td>
</tr>
<tr>
<td>1/31/2012</td>
<td>Submit work orders to Network Engineering and Operations and Facilities Management</td>
<td>The work orders will be received by the respective departments and entered into their work log.</td>
<td>Check with each department to get an estimate of time when the work should be completed.</td>
</tr>
<tr>
<td>5/15/2012</td>
<td>Work orders complete</td>
<td>Completed work orders</td>
<td>The additional access points will be installed and the required data, electrical and other infrastructure will be available.</td>
</tr>
<tr>
<td>5/30/2012</td>
<td>Configure the mobile laptops carts in the storage closet ready for use.</td>
<td>Laptops have the required infrastructure available for operation.</td>
<td>Laptop carts are ready for use in the classrooms.</td>
</tr>
</tbody>
</table>
NDSU Technology Action Plan Request

V. Supporting Documentation

Statement provided by Melissa Stotz

As the Classroom Technology Manager I give my full endorsement to this project request. The laptops have already been purchased. The first time the project did not follow all of the best practices, nor was the required infrastructure in place to adequately support the project. Having completed the feasibility study for this project, and having worked closely with the departments involved, gives this project new life.

Along with the funding of the necessary infrastructure, the ITS endorsement is contingent upon adequate space being provided for the storage of the laptops, as well as, a signed Service Level Agreement with the College of Business and the department of Agribusiness and Applied Economics.
## NDSU Technology Fee Action Plan Request
### VI. Budget

1. **NDSU ORGANIZATION OR UNIT**
   - College of Business

2. **PROJECT DIRECTOR(S)**
   - (Must be NDSU faculty or staff)
   - Tim O. Peterson

### 3. SALARIES AND WAGES

<table>
<thead>
<tr>
<th>Personnel description</th>
<th>Number employed</th>
<th>Number of months</th>
<th>Funds Requested</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. Staff</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>B. Graduate students</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>C. Undergraduate students</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

4. **TOTAL SALARIES AND WAGES**
   - $0.00

5. **FRINGE BENEFITS**
   - $0.00

6. **TOTAL SALARY, WAGES AND BENEFITS**
   - $0.00

### 7. EQUIPMENT

<table>
<thead>
<tr>
<th>Description</th>
<th>Quantity</th>
<th>Total Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. 11 additional access points @ $800.00 ea</td>
<td></td>
<td>8,800.00</td>
</tr>
<tr>
<td>B. 24 port 3750 +POE switch</td>
<td></td>
<td>5,234.95</td>
</tr>
<tr>
<td>C. 4 - 3000va UPS systems @ $1475.00 ea</td>
<td></td>
<td>5,900.00</td>
</tr>
<tr>
<td>D. 10% project contingency</td>
<td></td>
<td>1,993.00</td>
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<td>E.</td>
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<td>F.</td>
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<td>G.</td>
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<td>H.</td>
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</tbody>
</table>

7. **TOTAL EQUIPMENT**
   - $21,927.95

### 9. MATERIALS AND SUPPLIES

<table>
<thead>
<tr>
<th>Description</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. Installation (labor, cable and terminations) Itemized list available upon request</td>
<td>$4,406.00</td>
</tr>
<tr>
<td>B. IP design and implementation for an additional 75 addresses</td>
<td>$300.00</td>
</tr>
<tr>
<td>C. 10% project contingency</td>
<td>$470.00</td>
</tr>
<tr>
<td>D.</td>
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<td>E.</td>
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</tbody>
</table>

9. **TOTAL MATERIALS AND SUPPLIES**
   - $5,176.00

10. **TOTAL TECHNOLOGY FEE REQUEST**
    - $27,103.95

11. **MATCH (Describe in Match Section)**

12. **TOTAL PROJECT EXPENDITURE**
    - $27,103.95
NDSU Technology Action Plan Request

VII. Budget Justification

The budget page consists of:

Eleven wireless access points. These additional access points are needed to provide enough wireless coverage for 75 additional laptops, as well as the growing demand placed by students bringing their personal mobile devices to class.

Additional 24 port switch. This switch gear and Power-Over-Ethernet (POE) is required to support the 11 additional access points.

Four UPS systems. These are larger capacity UPS systems for protecting the 75 laptops in the storage room.

Installation. These are the projected installation charges to install the equipment listed above, along with materials required for installation, and additional electrical outlets and data ports.

IP design and implementation for additional 75 addresses. This is time spent by Network Engineering and Operations to assign IP addresses to the 75 laptops.

10% project contingency. This amount has been added to the project for any unforeseen expenses. If the contingency is not needed, it will be turned back to the TFAC.
NDSU Technology Action Plan Request

VIII. Budget Match

No budget match is available for this project.