NDSU Technology Action Plan Request

I. Action Plan Introduction and Authorizations

NDSU ORGANIZATION OR UNIT
Department of Theatre Arts

TITLE OF PROJECT
Lighting control console and intelligent fixture upgrade

<table>
<thead>
<tr>
<th>Project Duration (3 years maximum)</th>
<th>From: Spring 2011</th>
<th>To:</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Type of Project (Check one)</th>
<th>New X</th>
<th>Previously Submitted</th>
<th>Renewal</th>
</tr>
</thead>
</table>

Total Technology Fee Request $39,500

Project Director
(Must be NDSU faculty or staff)
Mark Engler

Campus Address: 126 Askanase Hall
Phone: 1-7706
Fax:
E-mail: mark.engler@ndsu.edu

<table>
<thead>
<tr>
<th>Name (Type or Print)</th>
<th>Signature</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project Director</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mark Engler</td>
<td></td>
<td>10/28/10</td>
</tr>
<tr>
<td>Unit Head</td>
<td></td>
<td>10/28/10</td>
</tr>
<tr>
<td>Rooth Varland</td>
<td></td>
<td>10/28/10</td>
</tr>
<tr>
<td>IT Division Consultant</td>
<td></td>
<td>10-29-10</td>
</tr>
</tbody>
</table>

Executive Summary (maximum of 175 words)
The department of Theatre Arts is requesting funding for a lighting equipment upgrade in Askanase Hall. The funds would cover the purchase of a modern lighting control console and four intelligent lighting fixtures.
NDSU Technology Action Plan Request

II. Project Overview

1. How does this project meet student needs?

Live entertainment (theatre, concerts, etc.) uses a specialized computer console to control the lighting and effects. As with all technology, lighting control has advanced rapidly over the last 20 years. The lighting console in Askanase Hall was first introduced in the late 90's and cannot adequately handle the modern intelligent (moving) lights that have become standard in both concert and theatrical lighting. This project will allow students to train with modern lighting equipment.

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

Directly, this project will affect all Theatre majors and minors plus those students who enroll in Stagecraft (THEA 273), Theatre Practicum (THEA 201, 202, 203, 204), and Opera Workshop (MUSC 319), approximately 80-100 students. Indirectly, this technology will improve the experience of all students and community members who attend NDSU Theatre and Opera productions. The Theatre has averaged roughly 1000 student ticket sales over the last few years.

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

There isn't a broader application outside the Theatre program. The equipment can be used in Askanase Hall and the Walsh Studio Theatre. It can also be moved to Festival Concert Hall for theatrical productions there.

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

The immediate impact will be to improve the quality of the Theatre, Musical Theatre, and Opera Theatre productions produced by the departments of Theatre and Music. Long term, students who are interested in careers in Entertainment Technology will be better prepared to find jobs or continue their education in a graduate program.

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)?

Future upgrades to this equipment will be handled by, the Department of Theatre or the Division of Fine Arts.

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.)

Purchase of this equipment will allow for the better training of our students and the better utilization of our existing resources.

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

To my knowledge, there is no similar equipment or service on campus.
NDSU Technology Action Plan Request

III. Project Description

The Department of Theatre Arts is requesting funding to upgrade some of the lighting equipment in Askanase Hall. Specifically, the purchase of an ETC ‘Ion’ lighting control console, two ETC Revolution intelligent lights, and two Martin TW-1 intelligent lights.

In 2007 new Electronic Theatre Control (ETC) dimmers were installed in Askanase Hall and the wiring was upgraded to include DMX512 cable runs throughout the facility. DMX512 is a standard used in the entertainment industry for digital communication between light consoles, dimmers, and other stage effects. Both theatres in Askanase Hall have the infrastructure to handle modern lighting and stage effects; we just don’t own the equipment to take advantage of it.

The purchase of a new lighting console and four intelligent lights will be the first step in modernizing and expanding our lighting inventory. The console is the key component. Without it, communication with moving lights and other effects would be impossible. Over the next few years, using Division and Department funds, I will be adding to our lighting inventory. I hope to purchase color scrollers, gobo rotators, effects projectors, L.E.D. stage lights, and fog and haze machines. All of which are controlled through the light console.

This upgrade will allow us to better train our technical theatre students and allow us to better compete for top high school students. It’s very difficult to recruit students to the program when neighboring institutions and the local high school theatres have technology more advanced than our own. Currently, both MSUM and Concordia College have newer lighting control systems, and the Fargo Public School District has a modern console and a large inventory of intelligent lights, color scrollers and other equipment. Theatre students will not come to NDSU if the stage equipment they used in high school was better than the equipment they would use here. They will go to the College that can offer them the chance to work with cutting edge technology.

The number of students this technology will directly affect is relatively small, 60-80 Theatre majors and minors plus another 30 or so Music majors who participate in the Opera Theatre Program. However, this equipment will improve the overall quality of lighting in all our productions, which will improve the experience of everyone who comes to see a theatre production at NDSU. Last year that was over 1000 students and 1700 community members.
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>12/1/10</td>
<td>Purchase equipment</td>
<td>First use in the February Musical production of &quot;Oklahoma&quot;</td>
<td></td>
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</tbody>
</table>
NDSU Technology Action Plan Request

VI. Budget

Edit the dollar amounts in the “clear fields.” (click in area so that it appears “gray,” then edit) The “darkly shaded fields” can perform arithmetic. Simple use Ctrl A to “Select All” and then press function key 9, F9.

NDSU ORGANIZATION OR UNIT
Department of Theatre Arts

PROJECT DIRECTOR(S)
(Must be NDSU faculty or staff)
Mark Engler

<table>
<thead>
<tr>
<th>A. Salaries and Wages (Number)</th>
<th>Number of Months</th>
<th>FUNDS REQUESTED</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Staff ()</td>
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<td>$ 0.00</td>
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<tr>
<td>2. Graduate Students ()</td>
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<tr>
<td>3. Undergraduate Students ()</td>
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<td>$ 0.00</td>
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<tr>
<td>B. Total Salary and Wages (Sum A.1., A.2., and A.3.)</td>
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<td>$ 0.00</td>
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<td>C. Fringe Benefits</td>
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<td>$ 0.00</td>
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<tr>
<td>D. Total Salaries (Sum B and C)</td>
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<td>$ 0.00</td>
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E. Equipment (List each item; include installation and maintenance costs in your estimates)
1. ETC Ion lighting console
2. Touch screen monitors for Ion console (x2)
3. ETC Source 4 Revolution intelligent light fixture (x2)
4. ETC Iris module for S$ revolution (x2)
5. ETC Shutter module for S4 Revolution (x2)
6. ETC Rotating wheel module for S4 Revolution (x2)
7. Martin MAC TW-1 Intelligent Light Fixtures (x2)
8. Shipping (estimate, no quote)

F. Total Equipment (Sum items in E.) $39,500.00

G. Materials and Supplies (List each item)
1. 
2. 
3. 
4. 
5. 

H. Total Materials and Supplies (Sum items in G) $ 39,500.00

I. Total Salaries; Equipment; Materials and Supplies (Sum: Line D + Line F + Line H) $ 0.00

J. Total Technology Fee Request $39,500.00

K. Match (Describe in Match Section) $ 0.00

L. Total Project Expenditure (Sum: Line J + Line K) $ 39,500.00
Quotes for the requested equipment are attached. The vendor did not provide a quote for shipping. $465.62 was added to the request to cover shipping. At least two more quotes will be obtained if the funding request is approved.

There are no labor or installation costs associated with this project. The equipment will interface with our existing dimmers and wiring. I have used all the requested equipment in other venues. It is essentially “plug and play”.
Sold To: 20-NORT071

North Dakota State University
Accounts Payable
Theatre Arts
Reineke Fine Arts Center
Fargo, ND 58105

Ship To:

North Dakota State University
Mark Engler
Fine Arts/Theatre
1301 12th Avenue North
Fargo, ND 58105

Customer's Fax #: (701) 231-2085

<table>
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<th>Qty Backordered</th>
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<th>Disc.</th>
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<td>005</td>
<td>EACH</td>
<td>1.000</td>
<td>0.000</td>
<td>0.000</td>
<td>11,685.00</td>
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<td>11,685.00</td>
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A. Ion 1000 Control Console to consist of:
1. 4310A1012 ION 1000 - Ion Console with 1024 Outputs/Parameters
2. 10000 Control Channels
3. 10,000 Cues
4. 4 - Encoders with LCD Display
5. 1 - High Resolution Level Wheel
6. 1 - Grand Master

1. Ethernet Port
2. DMX Out
3. Mid in and through
4. Supports 2 DVI-D or 1 VGA monitors
5. Hard Drive
6. USB Ports
7. 1 - ION - Dust Cover
8. 1 - 6' Power Cord Edison
9. 1 - M8084 3 button scroll mouse
10. 1 - M8083 104 key keyboard
11. 1 - USB Flash memory drive
12. 1 - Ion Training DVD

B. Control Console Accessories to consist of:
1. 4310A1003 FADW 2x20 - Black Universal Fader Wing 2x20:
2. 40 - Faders with 2 buttons each
3. 2 - LCD Screens for Text Display
4. 1 - USB A to-B Cable
5. 1 - Power supply for remote operation
6. 1 - Dust Cover

Order Continued on Next Page
**Quote**

**Stage Technology**

2518 N 2ND Street Suite 116
MINNEAPOLIS MN 55411-2211
Phone: (612) 455-0210
Fax: (612) 455-0224

Sales Order Number: 1530071
Order Date: 10/19/2010
Salesperson: RLS
Customer's PO:

---

**Sold To:** 20-NORT071
North Dakota State University
Accounts Payable
Theatre Arts
Reinelt Fine Arts Center
Fargo, ND 58105

**Ship To:**
North Dakota State University
Mark Engler
Fine Arts/Theatre
1301 12th Avenue North
Fargo, ND 58105

Customer's Fax #: (701) 231-2085

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**Ship Via:** UPS GROUND

**F.O.B.:**

**Terms:** Net 30 Days

**Confirm To:** M. Joy Erickson

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<td>4250A1022 Net3-RFR - Net3 Radio Focus Remote Universal Frequency to Include:</td>
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<td>1 - Base Station with:</td>
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<td>1 - Ethercon Ethernet Port to contact to Lighting Network</td>
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<td>1 - 24 button Backlit keypad</td>
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<td>2 - Encoder wheels</td>
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<td>1 - Mini USB port for Recharging Battery</td>
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<td>1 - ON/Off Switch</td>
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<td>1 - USB A to B Cable</td>
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<td>1 - USB A to Mini B Cable</td>
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<td>1</td>
<td>4310D1005 DVD2-Ion - Ion Fundamentals Training DVD II</td>
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II. Manufacturer's Services:
A. Two-year limited warranty on parts and workmanship.
B. The services of a factory engineer to instruct user personnel. Such services to be supplied on 21 days notice.
C. Production requires 1 - 6 weeks for delivery of equipment after receipt of written approval and release.
D. Eight hours of console training.

III. Notes and Clarifications:
A. Monitor(s), Control Cables, Control Plug-in Stations, Console Worklights and all other console accessories not specifically listed herein are to be provided by others.
B. Delivery lead times will be advised at date of order.

98-06414
005 EACH
2,000
0.000
0.000
875.00
1,750.00

Elo 1928L 19" Touchmonitor

Quoted price above, no further discounts apply.
Quotes are valid for 30 days.
### Quote

**Sold To:** 20-NORT071  
North Dakota State University  
Accounts Payable - Theatre  
Music Education 115  
PO Box 6050  
Fargo, ND 58108  

**Ship To:** North Dakota State University  
Mark Engler Fine Arts/Theatre  
Music Education 115  
12th Avenue North & Bolley Dr  
Fargo, ND 58105  

Customer's Fax #: (701) 231-2085  

**Ship Via:** UPS GROUND  
**F.O.B.:**  
**Terms:** Net 30 Days  
**Confirm To:** M. Joy Erickson  

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<th>Extended Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>85-90181</td>
<td>ETC Source Four Revolution, Base Unit, with Wybron color scroller #7160A1017 <strong>does not include lamp</strong></td>
<td>005 EACH</td>
<td>2.000</td>
<td>0.000</td>
<td>0.000</td>
<td>3,579.06</td>
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<td>7,158.12</td>
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<td>2.000</td>
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<td>446.88</td>
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<td>893.76</td>
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<td>ETC Shutter Module for S4 Revolution #7160A1004</td>
<td>005 EACH</td>
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<td>1,328.44</td>
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<td>ETC Rotating Wheel Module for S4 Revolution #7160A1003</td>
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<td>670.31</td>
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<td>Martin MAC TW-1</td>
<td>005 EACH</td>
<td>2.000</td>
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<td>6,775.00</td>
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Prices are budgetary and do not include freight. Revolution does not include lamps.

All Quotes are good for 30 days and freight is not included unless noted.

Custom items are not returnable. Custom items include but are not limited to: curtains, drops, scims, projection screens, cut yardage of fabric, cut yardage of projection screen material, and any other items modified from their original form.

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**Net Order:** 25,599.38  
**Less Discount:** 0.00  
**Sales Tax:** 0.00  
**Order Total:** 25,599.38

Order Entered By: RLS  
10/21/2010 9:31:15AM