IMPLEMENTATION OF GAMING TECHNOLOGY IN EXHIBITION DEVELOPMENT

GIVING YOUR EXHIBITS VIRTUAL LIFE
PRESENTATION OUTLINE

- Project Background
- Exhibit Creation
  - Physical
  - Virtual
- Missteps & Next Steps
- Q&A
EASTERN MICHIGAN UNIVERSITY

- One main library on campus
- Faculty librarians
- Support more than 200 majors, minors and concentrations
- 23,000 students

Image courtesy of the Eastern Michigan University Archives
PROJECT BACKGROUND

Image courtesy of the Eastern Michigan University Archives

2014 March 19 LibTech 2014--Barnes and Braun Marks on behalf of EMU
EXHIBIT CREATION

PHYSICAL
RESEARCH

• Student Assistance
  • Graduate Student in History, volunteer
  • Graduate Student in Historic Preservation, paid

Image courtesy of the Eastern Michigan University Archives
CURATING & WRITING

- Space Constraints
- Content Structure
- Write, edit, rewrite… repeat
- Material selection

Image courtesy of the Eastern Michigan University Archives
The tradition of Track and Field at Eastern Michigan University has a history spanning more than 125 years. The sport of Track and Field on campus began as early as 1882 and has grown into one of the most successful athletic programs at EMU. This exhibit documents the success that was made possible by the dedicated athletes, talented coaches, and a supportive school.
HISTORY OF THE SPORT @ EMU
COACHING

John Goodridge (2009–present) has been coaching Cross Country at Eastern Michigan University since 2001, but in 2010 began coaching the men’s Track and Field team, becoming the fifth head coach of the team in the past 30 years. Track and field is traditionally a spring sport, making it easier for athletes and coaches alike to participate in both. He helped lead EMU Cross Country win the MAC Indoor Championshipe in 2009, 2010, 2011, 2009, 2008, 2007, 2006, 2010 and 2011. Goodridge has coached conference Cross Country championship teams in the MAC, Big Ten and Atlantic Coast Conference and has been just as successful in the Track and Field coaches.
ATHLETES

2014 March 19

LibTech 2014--Barnes and Braun Marks on behalf of EMU
TIMELINE JS

Embedded timeline created utilizing content (text and images) from the cased exhibit
CREATING TIMELINE

Spreadsheet

<table>
<thead>
<tr>
<th>Year</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>1897</td>
<td>Normal Athletic Association founded in October 1897. The Normal Athletic Association was created with a track and field team.</td>
</tr>
<tr>
<td>1908</td>
<td>First Days of the Normal Athletic Association</td>
</tr>
<tr>
<td>1912</td>
<td>The MAA</td>
</tr>
<tr>
<td>1927</td>
<td>The Official Season Begins</td>
</tr>
<tr>
<td>1921</td>
<td>Track and Field Team</td>
</tr>
<tr>
<td>1924</td>
<td>1924 MAA Champions</td>
</tr>
</tbody>
</table>

Flickr

2014 March 19

LibTech 2014--Barnes and Braun Marks on behalf of EMU
CREATING TIMELINE

Publish to the Web with Timeline JS

Embed Media & Widget

Timeline Example

Under the File menu, select “Publish to the Web.” In the next window, check “Automatically republish when changes are made.” Uncheck all other boxes. Click “start publishing.” This will give you the URL to embed in your HTML file.
RESOURCES

• Human
  • Paid and Unpaid
    ~200 hours

• Materials
  • Foam core
  • Craft paper
  • Specialty printing
  • Adhesives
    ~$120-140
NOW WHAT?

Image courtesy of the Eastern Michigan University Archives
EXHIBIT CREATION

VIRTUAL
IN THE BEGINNING...

• Ready Player One
  • By Ernest Cline

2014 March 19
OBSESSED WITH TECHNOLOGY

• Kinect for Xbox 360
• Oculus Rift
• Razer Hydra
• Speech-to-Text Software
OBSESSED WITH TECHNOLOGY

- Kinect for Xbox 360
- Oculus Rift
- Razer Hydra
- Speech-to-Text Software
OBSESSED WITH TECHNOLOGY

• Kinect for Xbox 360
• Oculus Rift
• Razer Hydra
• Speech-to-Text Software
OBSESSED WITH TECHNOLOGY

• Kinect for Xbox 360
• Oculus Rift
• Razer Hydra
• Speech-to-Text Software

What platform can bring all this together???
GAMING ENGINES

- CRYENGINE®
- Neoaxis Engine
- Esenthel
- Leadwerks
- PANDA3D
- Torque Game Engine
- unity
- Unreal Engine
- source™
- Ogre
- engine
- ShiVa3D
- blender™
PICKING A PRODUCT

Unity3D

- **Specs:**
  - Windows XP with SP2 or later; Windows 7 with SP1 or later; Windows 8; Mac OS X Snow Leopard 10.6 or later. Note that Unity was not tested on server versions of Windows and OS X. Windows Vista is not supported.
  - Graphics card with DirectX 9 level capabilities. Any card made since 2004 should work.
  - Using Occlusion Culling requires GPU with Occlusion Query support (some Intel GPUs do not support that).

Unreal Engine (UDK)

- **Specs:**
  - Windows 7 64-bit
  - 2.0+ GHz multi-core processor
  - 8 GB System RAM
  - NVIDIA 8000 series or higher graphics card
  - Plenty of HDD space
What's cool, new and made with Unity?

The games in our gallery. Meet a young woman trapped within a shadowy totalitarian state, a depressed and destructive cat, a ravaging horde of zombies and more...

Great Unity games

RÉPUBLIQUE

Subscribe to Unity Pro  Made With Unity  2D  Unity 4.3

Get Windows goodies  Get started with Unity

From the blog

February 20

Unity Night in Odessa
Last week, the Unity Odessa office hosted a "Unity Night", together with colleagues from Denmark an...

Exclusive offer for Unity developers building games for Windows
Post was written by IPs. Cinnabar, Director, Partner Developer, Unity Technologies.

Get Unity news, discounts and more!
Enter your email here...  Sign up

More Unity
WHY UNITY3D?

- Lower computer specs (for my work computer)
- Works well with all the peripherals
- Has plenty of training documentation
- Mentioned to me by Faculty
UNITY COSTS

(AKA: I’VE GOT MY MIND ON MY MONEY
AND MY MONEY ON MY MIND.)

• Free… sorta
  • Standalone, webplayer, iOS, Android, all included
  • Xbox and Playstation not included
• Special Functions available on the developer’s version ($1500)
• Assets
ADDITIONAL PROJECT RESOURCES

Staff Time

- Initially, there is a steep time commitment
- New things to learn
  - Unity3D software
  - C# and JavaScript (MonoDevelop is supplied with Unity)
  - Photoshop
  - Blender for 3D modeling
- Remembering High School Math

eFellows

EMU sponsored grant that paid for the purchase of:

- Oculus Rift VR display
- Razer Hydra Game Controller
- Dragon Naturally Speaking speech to text software
- $300 in Unity3D assets

LibTech 2014--Barnes and Braun Marks on behalf of EMU
ASSETS

- Asset Store comes free with Unity
- Some have associated costs
- Plenty of free assets
- Some extravagant scenes are available for free
FREE ENVIRONMENT EXAMPLE
PUTTING IT ALL TOGETHER

Image courtesy of the Eastern Michigan University Archives

2014 March 19
LibTech 2014--Barnes and Braun Marks on behalf of EMU
BUILDING AN OBJECT - THE BASICS
BUILDING AN OBJECT - THE BASICS
BUILDING AN OBJECT - THE BASICS
BUILDING AN OBJECT - THE BASICS
BUILDING AN OBJECT - THE BASICS
THE TRACK SCENE
THE TRACK SCENE
THE TRACK SCENE
THE TRACK SCENE
THE TRACK SCENE
THE TRACK SCENE
THE TRACK SCENE
THE TRACK SCENE
THE TRACK SCENE
AS IT IS NOW

Web Version

Downloadable Version
GRAND IDEAS THAT FAILED (so far…)

- 3D scan of objects
- Imbedding DynamicWeb Pages like TimelineJS
- Interactive ‘hands-on’ activities
- Streaming Video (available in the enhanced version of Unity)
- Library Display Virtual Reality
OTHER CONSIDERATIONS

• Don’t recreate a photo or existing environment (at least initially)
• Don’t be a perfectionist
• Manage your time wisely
• Remember your non-gamer friends
NEXT STEPS

Curation
• Historic Gallery at EMU
• Partnership with Art Department
• Partnership with Historic Preservation Program
• Campus Tour/Interactive Campus Map

Technology
• iOS or Android Development
• Partnership with Gaming Technology Students
• Partnership with GIS Lab and Students
QUESTIONS?

Michael Barnes  
mbarnes1@emich.edu

Alexis Braun Marks  
abraunma@emich.edu

LibGuide:  
http://guides.emich.edu/unity3D

Image courtesy of the Eastern Michigan University Archives