Hello everyone and welcome to the Innovation Portal Overview Presentation. This short presentation was created to outline the overarching vision and purpose for the project. I have annotated the entire presentation in an effort to detail and explain each slide. If you have questions regarding any of this material please contact me at mschroll@pltw.org.   Thank you for your interest in this pilot portion of the Innovation Portal Project. Please use the resources at this site to help you obtain a teacher account (and from that account individual accounts for your students) and begin building your student portfolios.

Mark Schroll
Innovation Portal –Project Director

Chantel Newman demonstrating her EDD project to State Senator Jeff Plale during the PLTW Showcase at the Wisconsin State Capitol.

Freshman Adam Martin and his "Introduction to Engineering Design" teacher Greg Cisewski in the PLTW lab at East High School in Wausau, WI

"My project involved a lot of work, but it was really fun. Winning the scholarship at Marquette was a great honor..."

"Chantel's project was impressive in how she addressed her design problem and went about deriving a solution. It looks like there could be more happening with her device in the future..."
Dr. Jon Jensen – Marquette University – College of Engineering

The Problem:

A common problem with organizing curriculum around creating original student design work is that opportunities for students to receive recognition for their accomplishments outside of the classroom exist but are not well publicized or organized to be accessible to these students on a national scale. Thousands of student do this kind of work but most often they simply close their portfolios and move on when the class is finished. This is also part of the reason many organizations interested in recognizing this kind of work lose that interest quickly; too few entries or too little access to or information about students doing original problem solving and design work.

Adam Martin demonstrates his functional prototype of an improved training device for cross-country skiers. With the help of Wisconsin Small Development representatives, Adam's invention has been formally reviewed for its technical and manufacturing feasibility and has been found to be a commercially viable product.

Home of the J-Hawks

With Sytsma's help, the two filed a patent application in a couple of days. With their idea now protected, it was time to survey more potential users and obtain their feedback.

Josh Ritzman working on the control system for the EcoFridge

Project EcoFridge team – (L to R) Garrett Custer, Mike Leveille, Nick Behnke, Tylor Rathsack, Josh Ritzman
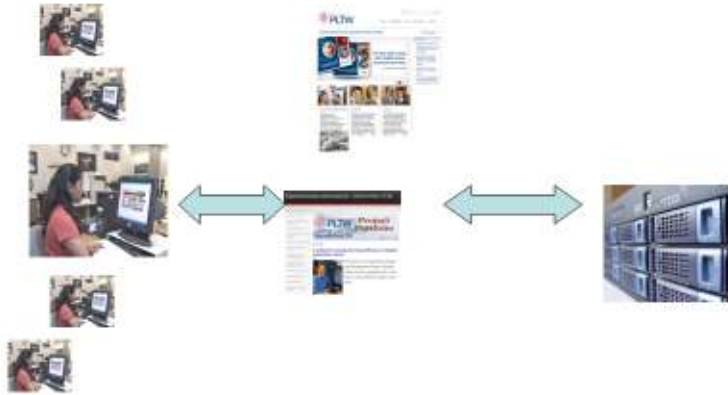
Innovation Portal

60,000 Foot Goals

> The goals listed here are aimed at addressing some of the main obstacles to connecting student design work with opportunities like scholarships, admission preferences, third party reviewers and competitions. Much like a science fair, if these students (and teachers) had a standardized means of organizing and presenting their work around a recognized model of assessment, many of the obstacles could be removed.

1 - Create a *Structured, Secure (IP issues) and *Standardized process for posting student portfolios of Original Design Work – (EDD as a Model)

2 – Create Multiple, Ongoing, Interactive, Opportunities for recognition of individual submissions

3– Create a means of identifying, extracting, documenting and distributing noteworthy Innovation Portal events for all stakeholders

** A recognized rubric or standard for organizing and assessing submissions is essential for any form of outside interaction and Core Training model

STEP One: Engineering Design Portfolio Rubric

The success of the Innovation Portal is intimately tied to the contents and structure of a Portfolio Rubric.

Work has already begun to address and capture what attributes should be in a Portfolio Rubric arranged around the design process and to create a tool that can be used as both a means of assessment and a day to day guide for building and organizing the projects. The statement depicted here has been repeated in many ways from many post secondary and industry representatives interested in recognizing original student design work. (You can access the current revision of the rubric on the "How to Build the Template" page of the iPortal Pilot Test website

"Without a systematic process for reviewing original student design work there is no way to incorporate the value of the work into the algorithm of college admissions or any other recognition process. Without a standardized tool to organize and evaluate any submitted work there can be no systematic process."

Liz Kisenwether -PENN State
Dr. David Rethwisch - University of Iowa
Dr. Paul Strykowski - University of Minnesota
Bill Leonard - RIT
Dr. Karen High - University of Oklahoma
Dr. Ken Reid - Ohio Northern University
Dr. Helgeson – St. Cloud State University

Engineering Design Portfolio Grading Rubric and Process Meeting

March 30th and 31st, 2010
University of Maryland – College Park
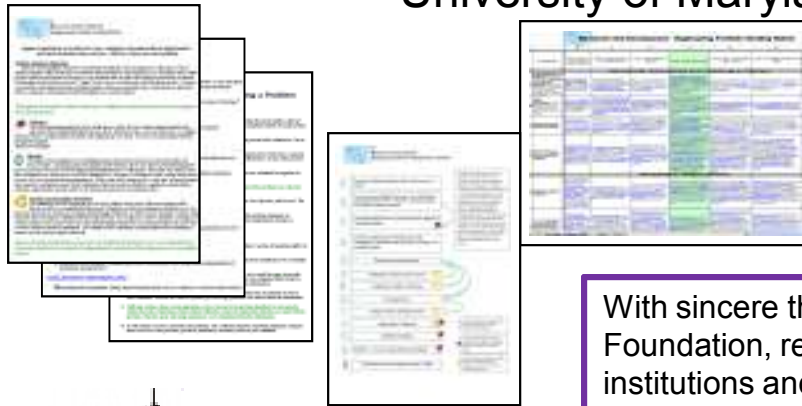
With sincere thanks to the Kern Family Foundation, representatives of these institutions and others were brought together for a two day session in Maryland to begin the discussion of what a design process assessment rubric should contain and how it could be used to support curriculum development.

STEP Two: A structured and secure process for submitting student works

STEP Three: The development, maintenance, and monitoring of "Opportunity Modules"

In a nut shell then, the goal of the iPortal is to create an online space and structured system where students can build and then connect their work with "opportunities" for recognition while in the same "space" making it easy for organizations interested in the work to offer and then review and manage, what is here being referred to as, "Opportunity Modules"

PLTW

IP Team

Develop and Maintain "Opportunity Modules" and Relationships

Portfolio Review

Portfolio Review

Competition

Competition

Intellectual Property Advice & Resources

IP Team

Develop and Maintain Ongoing Output of iPortal Stories and Press releases

STEP Four" Create a Process for identifying, extracting and documenting iPortal events

weebly

e-TimeStamp
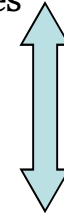
PLTW
MDR Team

PLTW
Publicity Team

PLTW
Network

National STEM Conversation

IPORTAL

PORTAL

Portfolio Review

Portfolio Review

Student Work

PLTW

IF Team

Develop and Maintain "Opportunity Modules" and Re...

Compet...

Compet...

Intellectual ... Advice & Re...

I found this graphic and it seemed to sum up the whole of the goals of the Innovation Portal and of what teachers would like to have for their students…(it also made me smile a great deal…)

A noteworthy point that may not have been highlighted is that, like this graphic depicts, students will be able to enter their work in any number of opportunity modules….many birds one stone…

Opportunities

PLTW
MDR Team

In Schroll terms…

National STEM Conversation

OPTION One: Server side webpage generator, templates, and hosting service

Download of Rubric, Template and information begin building

Secured teacher and student accounts …posting of "Opportunity Module" Options

WEB Based, Web page creator

(WYSISYG) (no software for schools to buy)

Single Template

Time Stamp – Certificate Return all postings

Web Hosting Service and maintenance
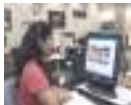
In an effort to make all of these ideas a functional reality, I began to search and review existing services and products that we could hopefully bring together to create a single seamless experience for students and teachers. The first and most important part of the equation involved the creation, storage and display of student portfolios. Almost immediately I came across WEEBLY. The founders of WEEBLY had something very similar in mind when they began their software as a way for students at PENN State University to create and post student portfolios on campus. Their idea took off , they got start-up funding in 2007 and are now a very successful company located in Los Angeles. Their online drag and drop web creator combined with their "Education Campus" management system was a perfect fit for this piece of the iPortal puzzle.

These are three web resources that we have built to help with this pilot project

http://markschroll.weebly.com/

Prototype of Portfolio Template and Guide

The site pictured here is both an example of how an iPortal Portfolio should be arranged and contains advice and project resources for each section.

The site pictured here is likely where you are now and where you accessed this introduction. The purpose of this site is to both introduce teachers to the pilot project's scope and to offer them a tool to get started at building portfolios with their students.

http://iportalpilot.weebly.com/

Instructional web site for the iPortal Pilot Testing group – how to get teacher and student accounts, build the template, and begin building portfolios. (where you downloaded this presentation)

This Site was built as a mock up for the interface that teachers and students might see when accessing and using the Innovation Portal when complete. It was built as a visual aid for the programmers to help them envision how the entire interface might look and function.

http://innovationportal.org

What ⬜ weebly (or any other hosting service) doesn't offer?...but could...

Time Stamping
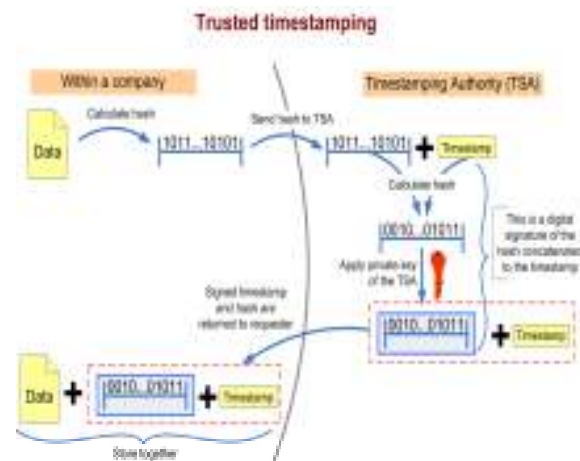
Trusted timestamping

When you time stamp a file, your computer creates a unique identifier, or *fingerprint*, for the file (a SHA-256 Hash). The fingerprint is a unique number calculated from the file's contents. Mathematicians call this a Hash function. If the file's contents were to change by even one character, a different number would be calculated. This accepted technique provides a design whereby it is computationally infeasible to find two different messages which produce the same number. Your data remains private in this process: Only the evidence (a document fingerprint) is transmitted. No one but the user ever sees the actual document. None of the content of the data can be determined from the fingerprint, so reverse engineering of the fingerprint into the document is not possible.

e-TimeStamp®

16 MAR CREATED

An Internet Notary

Strong legal evidence
Certified, Audited, Reliable

A web-based security service
for data authentication

A digital time stamp gives you unequivocal proof that the
contents of any data file existed at a point-in-time and
that the contents have not changed since that time.

Prices

http://www.digistamp.com/

Charges occur when you create a time stamp for a particular computer file or when you time stamp a digital signature. **The charge for a single time stamp is 40 cents** (USD $ 0.40).

☑ **Create an account** ($10 provides a credit balance for 25 time stamps)
☑ Add money / maintain your existing account

There is no charge to download the software that you use on your computer. You download our desktop software application, IP-Protector, or use the developer toolkits for no charge. You also have the option of using other products that support standard time stamps; for example, Adobe, eLock, etc.

Verifying the authenticity of an existing time stamp or signature is done without accessing our service and therefore, there is never a charge.

Non-profit organizations that are performing medical or environmental public research can use the service at 30 cents per time stamp. The DigiStamp company's founders are scientists themselves.

◉ **Volume users of the service**

Volume discounts begin if you use 1000 time stamps in a year, or a... you access to both of our Internet-based server locations (Dallas a... separated locations to ensure continual access to DigiStamp's servi... locations is built into our software.

Annual Volume Level	Cost per Time Stamp	Annu Fee
1,000 - 9,999	0.32	
10,000 - 59,999	0.26	

This is one of the time stamping services that we have spoken with about the iPortal. Please note that as you research time stamping you may want to explore integrating it into your curriculum on your own or in addition to what we plan to offer students through the iPortal.

As mentioned at the Innovation Portal Pilot Project web site, we are working with a team of programmers to bring all of these ideas and "puzzle pieces" together in one online location. That will take some time. What we can however begin now using the Weebly Education Campus service is get students and teachers a secure environment and tool that will allow them to build portfolios and not have to "lose a year" as it were. With your help this year can truly be a pilot year for the project with students having the possibility earning recognition for their work yet this year as discussed throughout the presentation.

What can begin right now – (student portfolios)

What we are in the process of building (the iPortal connection Site and partnering to build "Opportunity Modules")

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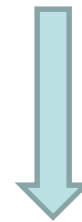
Conversations to continue

Los Angeles Times

weebly — web creation made easy™

e-TimeStamp

Digistamp
(Information Technology and Services industry)
2000 — 2005 (5 years)
Trusted Time Stamp Authority that provides digital fingerprint of any electronic file. Startup, web-based service that provides transaction based service to e-commerce and institutional market segments including B2B, healthcare, legal filings, financial, etc.

DigiStamp operates the Internet service from two locations, Dallas and Chicago. The geographic separation has allowed us to provide 24 x 365 reliable operations. Access time stamp server systems by configuring your client software to TSA1.digistamp.com or TSA2.digistamp.com

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As mentioned throughout this introduction, making the Innovation Portal a functional reality involves getting several major pieces to work together;

•A means of creating teacher and students accounts connected to a server side web portfolio building software

•Taking steps to help secure any Intellectual Property

•Connecting the entire process to a system by which students can "enter" their work in a variety of opportunities (competitions, scholarships, etc)

Also as mentioned, the WEEBLY Campus Edition package that includes the ability for teachers to manage students portfolios as they are built is a great way to begin this pilot. We have begun initial conversation about how to either connect this service to the pieces mentioned above **OR** build a process that works in the same way that can be seamlessly connected to the other "pieces" that together would make up the "Innovation Portal"

Question: Can the EDD course and/or this process qualify as an option for the CAS requirement of the IB Programme?

ib International Baccalaureate

Search

In this section
Diploma Programme

IB Diploma Programme recognition

▶ Curriculum

▶ Core requirements

  ⋆ Extended essay

  ⋆ Theory of knowledge

  ▶ **Creativity, action, service**

  ⋆ Group 1: language A1

  ⋆ Group 2: second language

  ⋆ Group 3: individuals and societies

  ⋆ Group 4: experimental sciences

  ⋆ Group 5: mathematics and computer science

  ⋆ Group 6: the arts

  ⋆ Additional subjects

  ⋆ Example subject choices

Diploma Programme curriculum—core requirements

Creativity, action, service (CAS)

The CAS requirement is a fundamental part of the programme and takes seriously the importance of life outside the world of scholarship, providing a refreshing counterbalance to academic studies.

- Creativity is interpreted broadly to include a wide range of arts activities as well as the creativity students demonstrate in designing and implementing service projects.
- Action can include not only participation in individual and team sports but also taking part in expeditions and in local or international projects.
- Service encompasses a host of community and social service activities. Some examples include helping children with special needs, visiting hospitals and working with refugees or homeless people.

Students are expected to be involved in CAS activities for the equivalent of at least three hours each week during the two years of the programme.

Another point that has not been well highlighted yet is that this effort, the Innovation Portal, is meant for ALL students doing original design work. We began with PLTW's EDD course in mind as a way of organizing the conversation but are well aware that there are thousands of teachers from a wide variety of curriculum efforts working on problem solving and original design work with students. The High Tech High school network, the Illinois Innovation Talent Project and the Epics project out of Purdue are just a few examples. All of these efforts have the same concerns and obstacles. If the iPortal can be a tool and a solution for all of these efforts it will, most importantly help students, but will also serve as a very tangible example in the conversation about what STEM education could and should look like.

That is a quick overview of the vision for the Innovation Portal. Thank you again for your interest and energy to help pilot the most important part of the whole process; the creation of student projects using the template and process described at this iPortal Pilot Group web site.

As one professor I spoke with about this project commented;

"If you had just fifty of these portfolios organized in this manner I could build an entire scholarship and recruitment competition around them now…when will they be ready?"

Nice comment… I hope to give him his answer soon… Thank you all again…

Mark Schroll