Using Cloud Based software with Blackboard
## Ivy Tech, Northeast – Engineering, Andrew Bell

Abstract - The use and integration of software packages such as Multisim and LabView in technology courses are essential to help prepare students for jobs and other degrees. These software tools provide students with essential job skills and facilitate the learning of complicated subjects. However, these software packages can strain the resources of both the computer networks and IT resources. In 2011, Ivy Tech Northeast was contacted by Toolwire, Inc. and we began to develop a remote desktop "cloud based" solution for using software tools in the engineering courses. Currently, Toolwire is integrated into Blackboard and is being used in our capstone courses. Multisim, LabView and Ultiboard as well as other software packages are loaded on the Toolwire remote desktop and students can get access to this software any place and at any time.

This presentation will describe the approach used to integrate Toolwire (a cloud based service) into Blackboard. This gives a student access to Multisim, LabView and Ultiboard as well as other software packages at any place and at any time.

The need: Students and staff both need access to the engineering software.

History
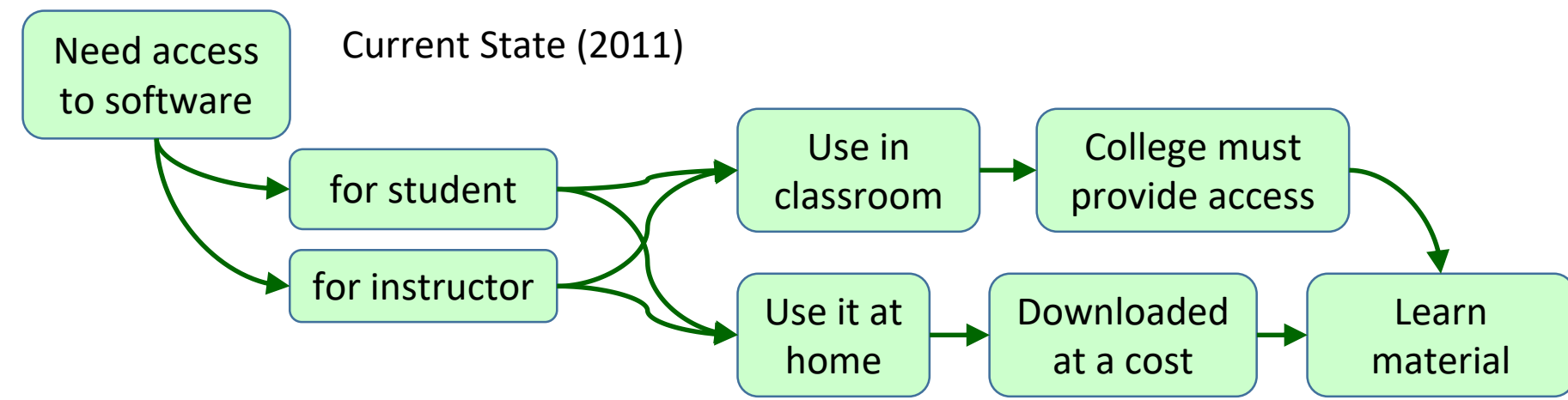
Timeline for Cloud Based Solution

Date	Event
10/11	Introduced to Toolwire
12/11	Remote desktop install aproval from NI
1/12	Approval for Beta test on EECT 111 class
2/12	Desktop enviornment & Multisim setup
10/12	Presented at STEMtech
10/12	SOW for EECT 101 and EECT 111 classes
11/12	Presented at New Conference
12/12	Idea to run Toolwire under Blackboard
3/13	Submitted for ASEE Southeastern Section Conference
5/13	Sought regional MSA approval - No more Toolwire
11/13	Tried to get Toolwire in Bookstore
12/14	Got Toolwire added to Book list for ENGT 279
1/15	Toolwire used in ENGT 279
8/15	Toolwire integared with Boackboard
1/16	Toolwire/Boackboard used in ENGT 279 and EETC 279
1/16	Expanded potential use for many other courses

Current State (2011)

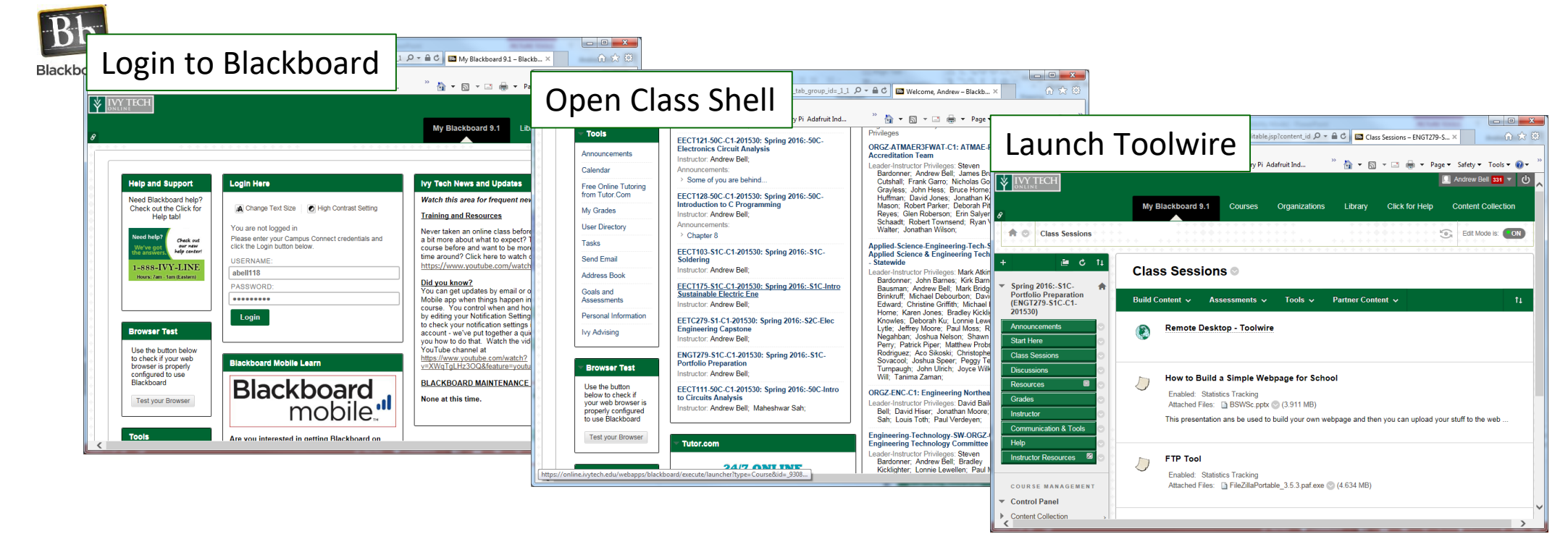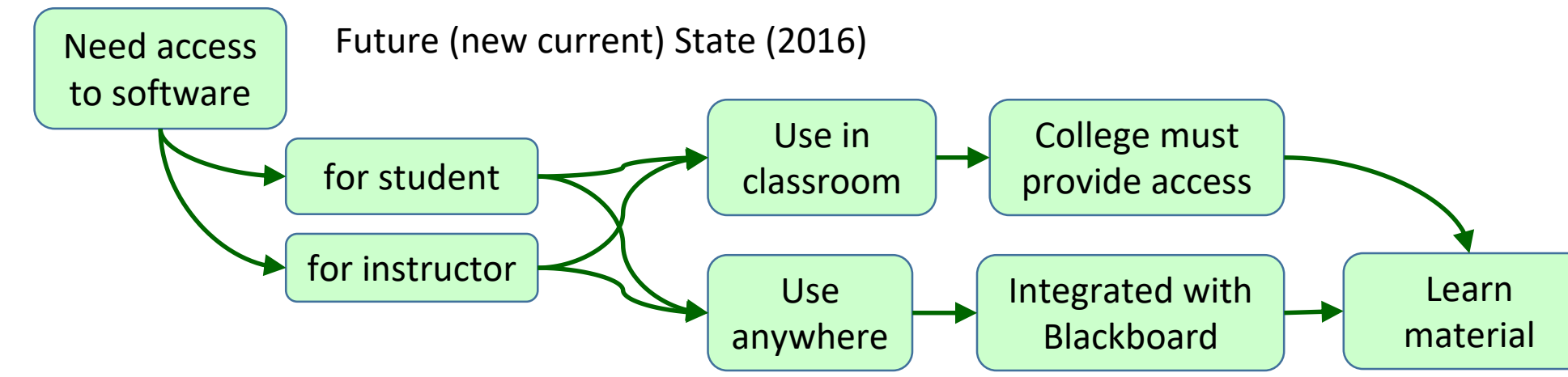
NATIONAL INSTRUMENTS

TOOLWIRE
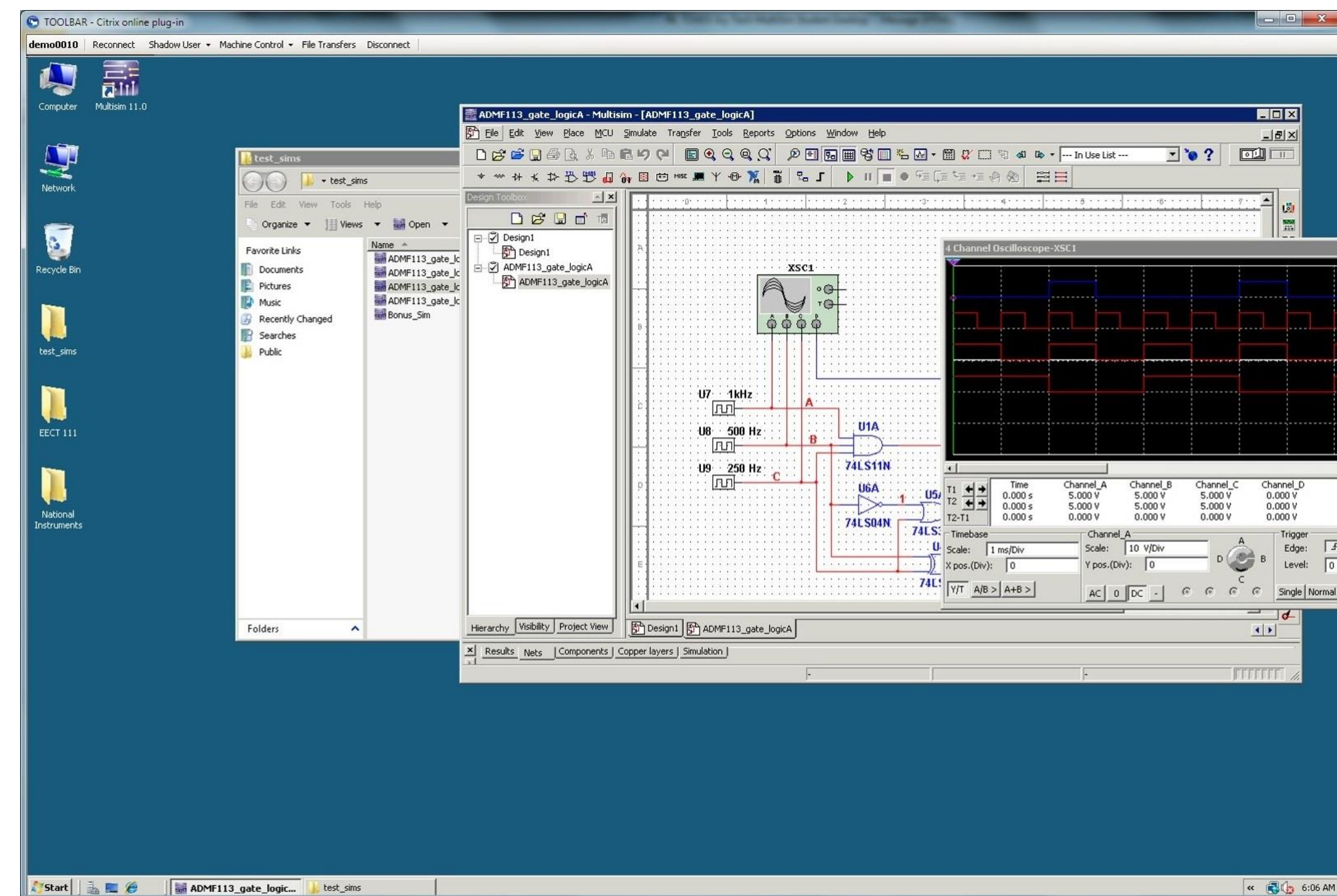
Bring Virtual Learning to Life at the Point of Need in Electrical Engineering

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New Conference
Nov 4-7, 2012
Fort Wayne, IN
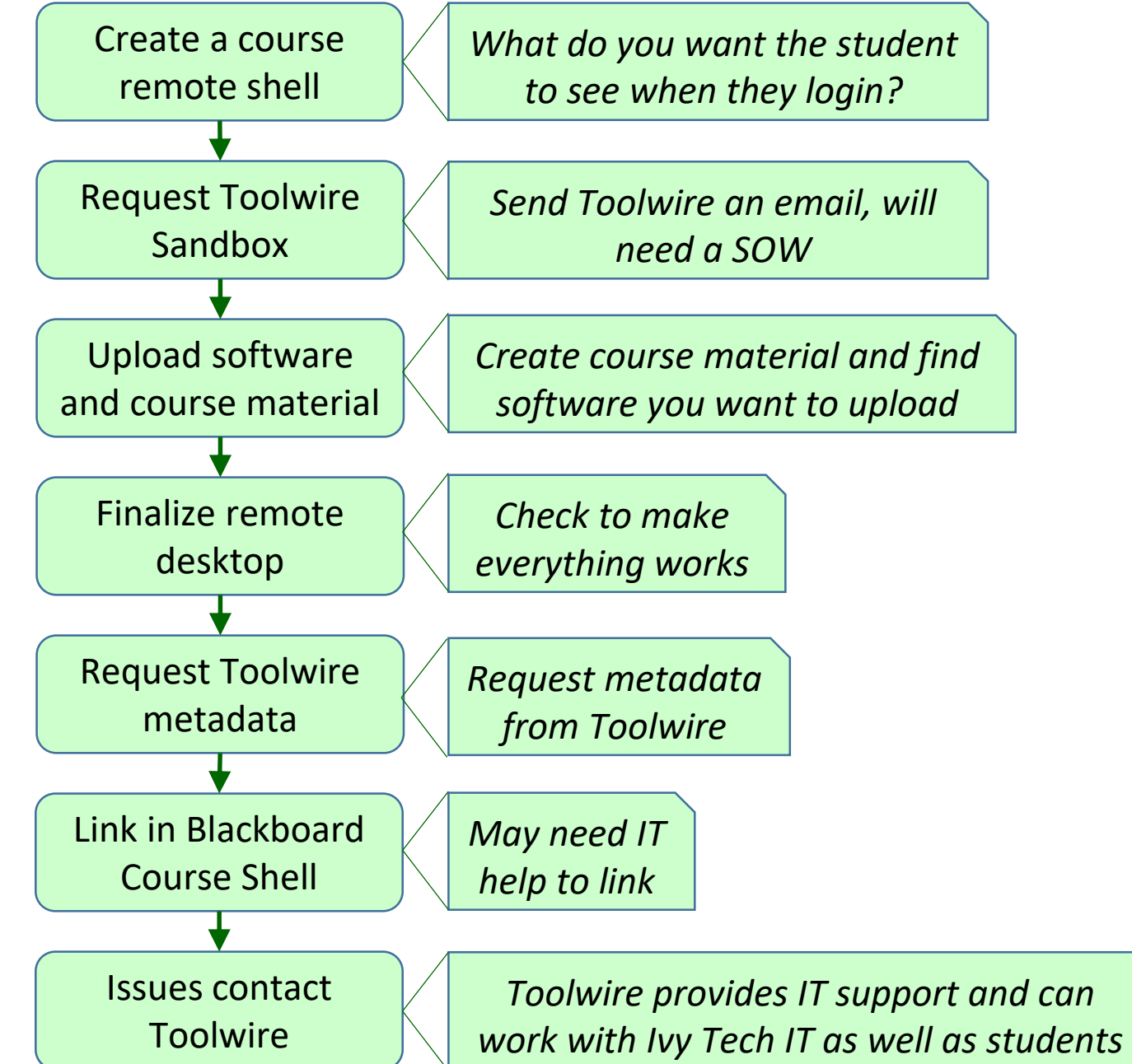
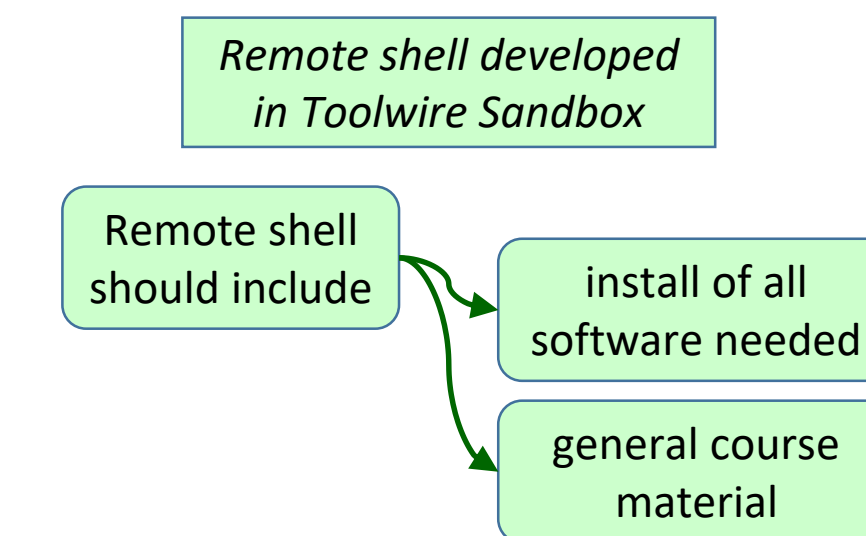---

The need: How have we address the need?

Future (new current) State (2016)

Login to Blackboard

Open Class Shell

Launch Toolwire

How to use Remote Desktop

Pick the program to run

Save data to local My Files

Move files via File Transfer

ENGT 279 Remote Desktop

Ivy Tech Remote Desktop

Students and faculty have access to software any place and at any time

How to Develop a Cloud-Based Solution in Blackboard

Step	Note
Create a course remote shell	What do you want the student to see when they login?
Request Toolwire Sandbox	Send Toolwire an email, will need a SOW
Upload software and course material	Create course material and find software you want to upload
Finalize remote desktop	Check to make everything works
Request Toolwire metadata	Request metadata from Toolwire
Link in Blackboard Course Shell	May need IT help to link
Issues contact Toolwire	Toolwire provides IT support and can work with Ivy Tech IT as well as students

Do students need access to software for your class?

Remote shell developed in Toolwire Sandbox

Remote shell should include:
- install of all software needed
- general course material

Our next state

Ivy Tech (IVYTACCT)
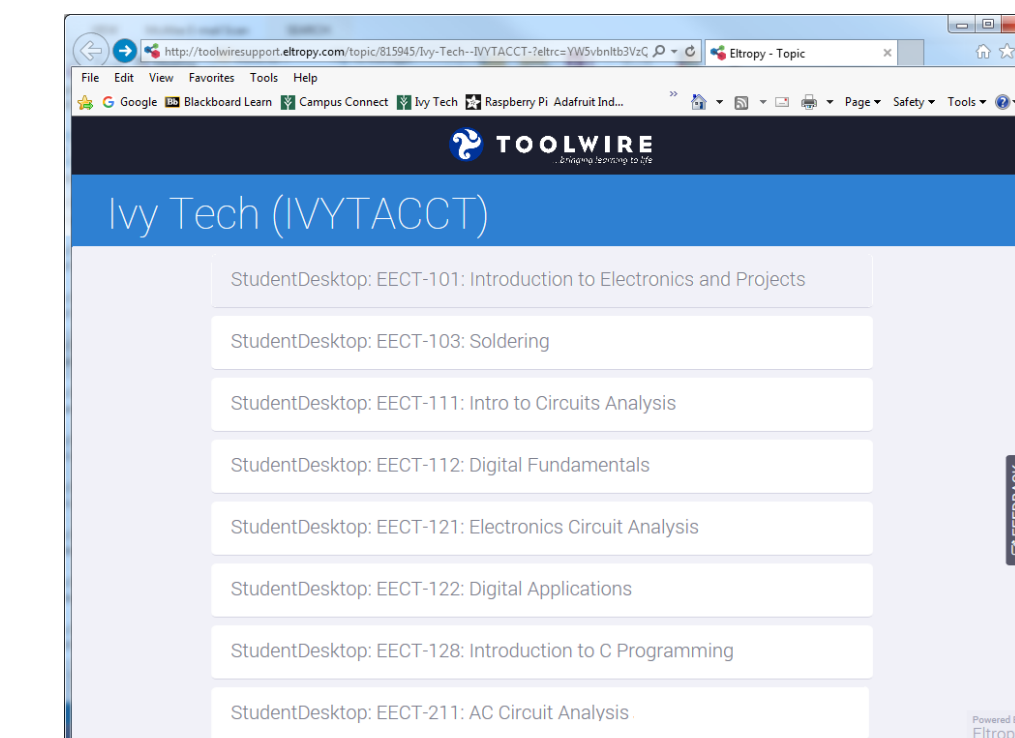
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