VMware Digital Backpack Solution for Higher Education
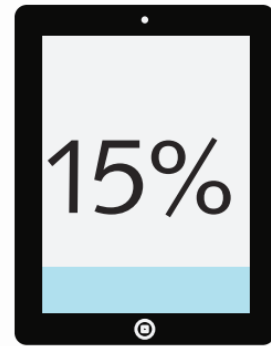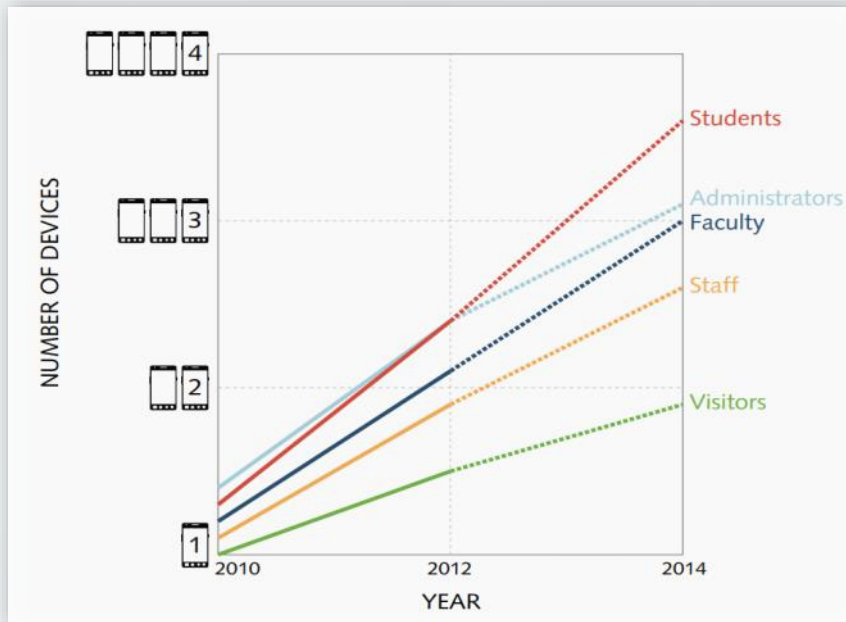
MICHIGAN STATE UNIVERSITY

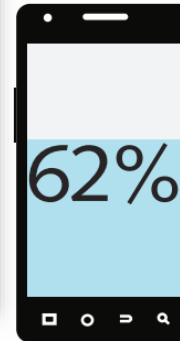**vm**ware®

Higher Education Trend: BYOD

Average Number of Internet-Capable Devices Accessing Institutional Networks

15%
Undergraduates owning an iPad or other tablet

62%
Undergraduates owning a smartphone

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Key Challenges: Higher Ed BYOD

Device Technical Support:
- High number of helpdesk calls
- Difficulty printing from mobile devices

Incompatible Applications and Updates:
- Inconsistent user experience
- Need to install new applications and updates on devices

Ensuring Security:
- Controlling access to sensitive information

Supporting Student Workstyles:
- Limited resources to support extended computer lab hours

Computing Power:
- Mobile devices and older computers have limited processing power

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What if You Could:

- Support access to apps and data from any device?

- Offer a virtual 24 hour computer lab accessible at anytime?

- Deliver the same user experience no matter if it's a 5-year old computer or the latest tablet?

- Add or update applications during the school year and not have to wait until the next break?

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VMware Digital Backpack Solution

Powered by VMware Workspace Suite and NVIDIA or AMD:

- Anytime, anywhere, any device delivery of virtual desktops using Vmware Horizon™

- Mobile device, application, and content management using AirWatch® by VMware

- High performance 3D graphics delivered to virtual desktops using NVIDIA GRID or AMD graphics cards in the datacenter

VMware Digital Backpack Solution

Support for Any Device:
- Leverage existing computers
- Location aware printing

Application Compatibility and Updates:
- Support for legacy applications using ThinApp
- Adobe Flash support
- Deliver new applications during the school year in minutes instead of weeks
- Upgrade and patch applications overnight

Secure:
- Ensure compliance with school policies
- All data stays in the datacenter

Agility to Support Student Workstyles:
- Enable access to applications at any time from any location

Access to Computing Power:
- Computing power from the datacenter
- A range of 3D graphics acceleration options delivered to any device

Laptops	Tablets/Phones	Chromebooks	Desktops	Thin & Zero Clients

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Supporting Student Workstyles

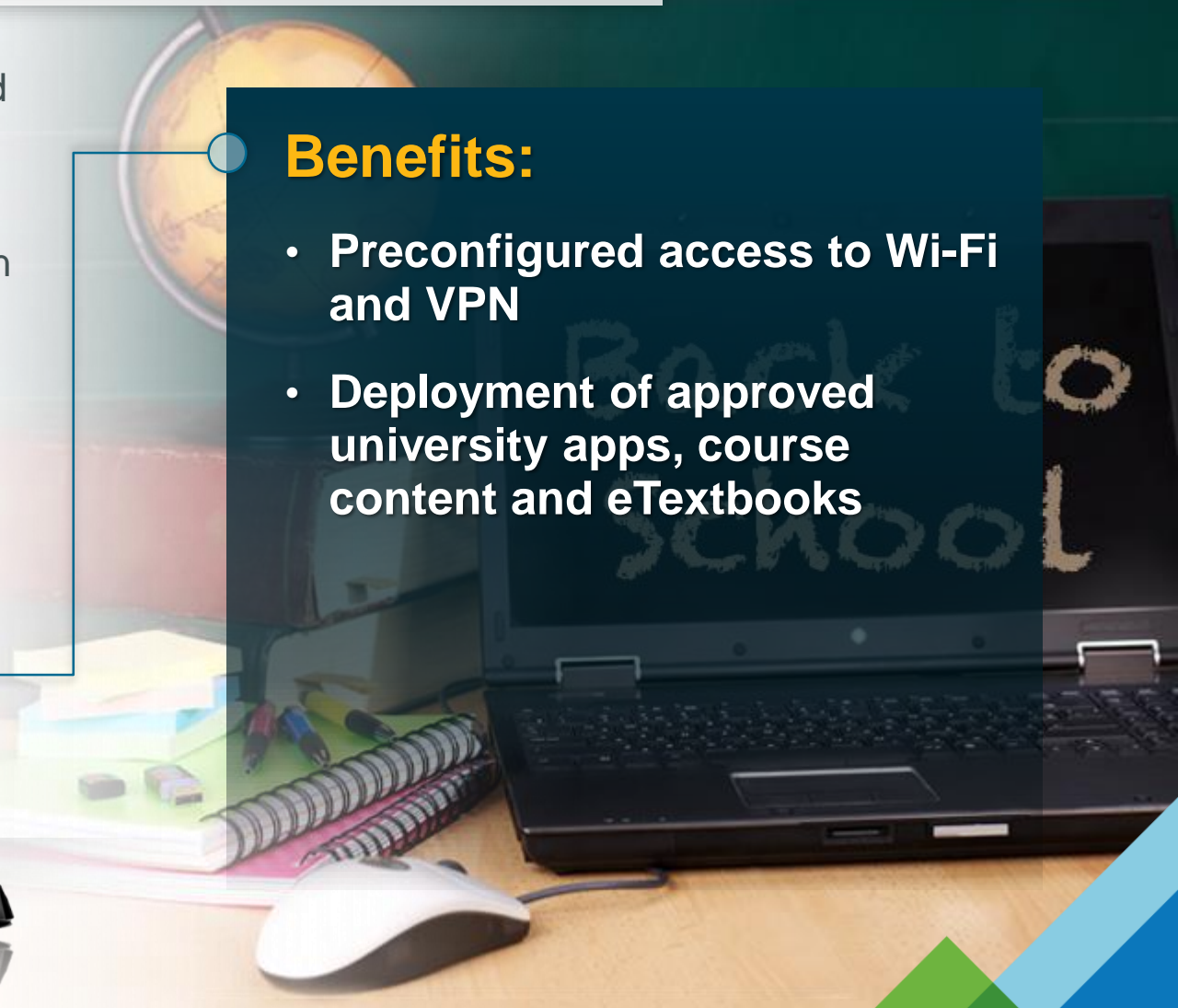A Day in the Life

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Use Case:
A Day in the Life of Campus IT Director Nick

As summer comes to a close, Nick needs to configure and provision applications and content for incoming freshmen and faculty.

Nick configures the necessary profiles within the AirWatch admin console to provide students and faculty using their own devices access to campus resources before they arrive on campus. He pushes out a link to all student and faculty to enable enrollment in mobile device management (MDM).

Benefits:

- **Preconfigured access to Wi-Fi and VPN**

- **Deployment of approved university apps, course content and eTextbooks**
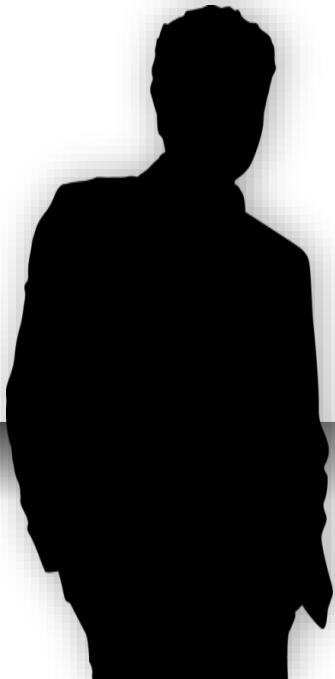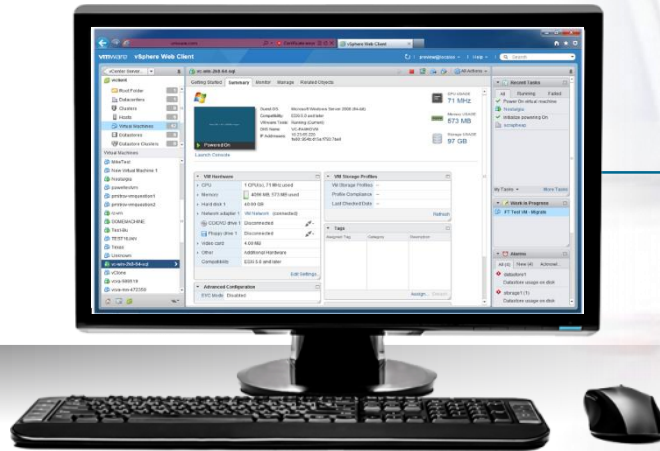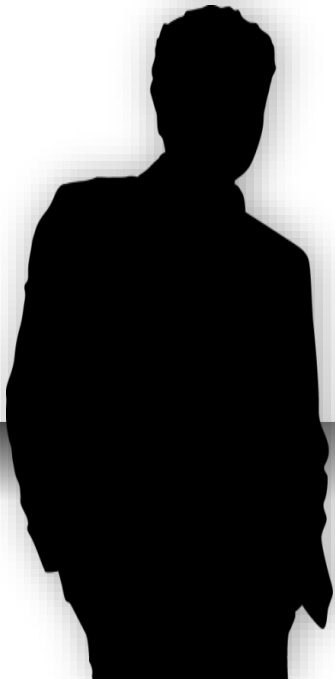
Use Case:
A Day in the Life of Campus IT Director Nick

As the school year progresses, Nick receives a call from Professor Plumb from Engineering 101. He needs to enable access to the latest release of Autodesk AutoCAD to his students for his afternoon class.

Nick logs into VMware and updates the Engineering 101 golden image to include Autodesk AutoCAD 2014. The new image is made available to all students in Engineering 101.

Benefits:

- **Fast rollout for applications**

- **Enables application flexibility for classes without having to wait until the end of a school term**

- **High performance 3D graphics from the datacenter**

A Day in the Life of Campus IT Director Nick

On a typical Monday morning, Nick receives a call from James in the computer lab asking for help with one of the lab computers that crashed.

Nick logs into VMware, finds the machine, and simply re-provisions it with a fresh desktop. James logs out of his session and logs back in and it returns to its original state.
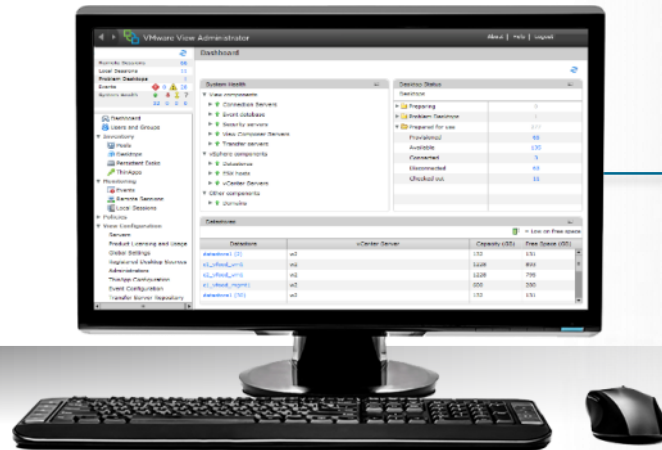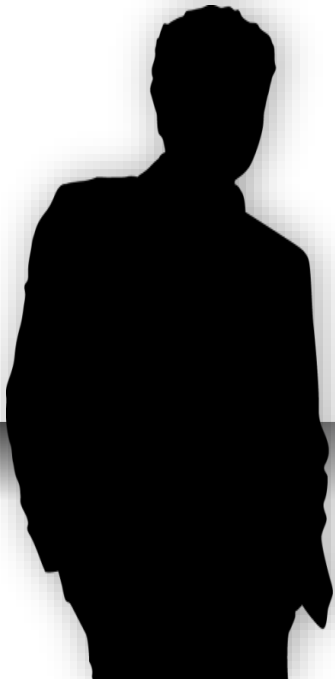
Benefits:

- **Remote management of desktops**

- **Enables fast resolution to troubleshooting and eliminates time and cost required to travel around campus**
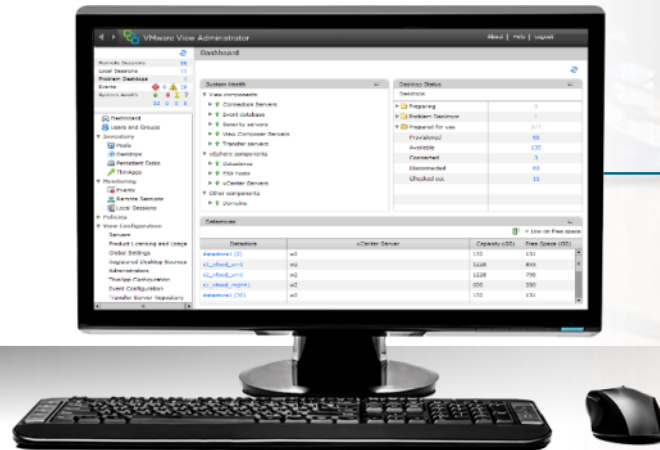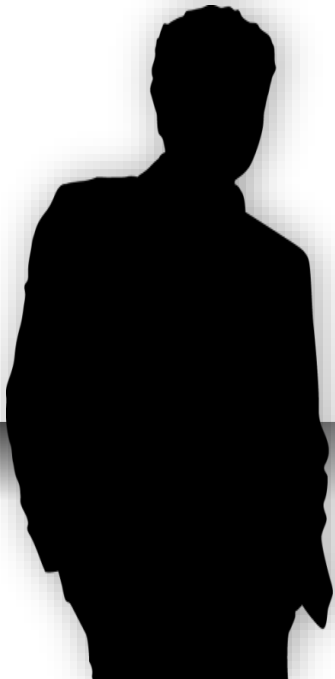
Use Case:
A Day in the Life of Campus IT Director Nick

At 5:00 p.m. Nick locks up the computer lab for the day and goes home to his wife and kids.

Nick no longer has to physically support the computer lab during off hours because students have remote access to applications and computing power using virtual desktops.

Benefits:

- **Anytime, anywhere, any device access to computer lab applications**

- **Remote support if needed**

Sorry, we're CLOSED

Use Case:
A Day in the Life of Student Jennifer

At 6:59 a.m. Jennifer's wakes up in her dorm room and forgot that her mechanical engineering design is due today at her 9:00 a.m. class.

Jennifer logs into her Horizon virtual desktop from her Chromebook in her dorm room and launches the Solidworks Windows application that is available for her to use for her assignment. She completes the assignment on time!

Benefits:

- **Remote access to applications**

- **Windows applications available while using Chromebooks**

- **Access to 3D computing resources in the datacenter from any device**
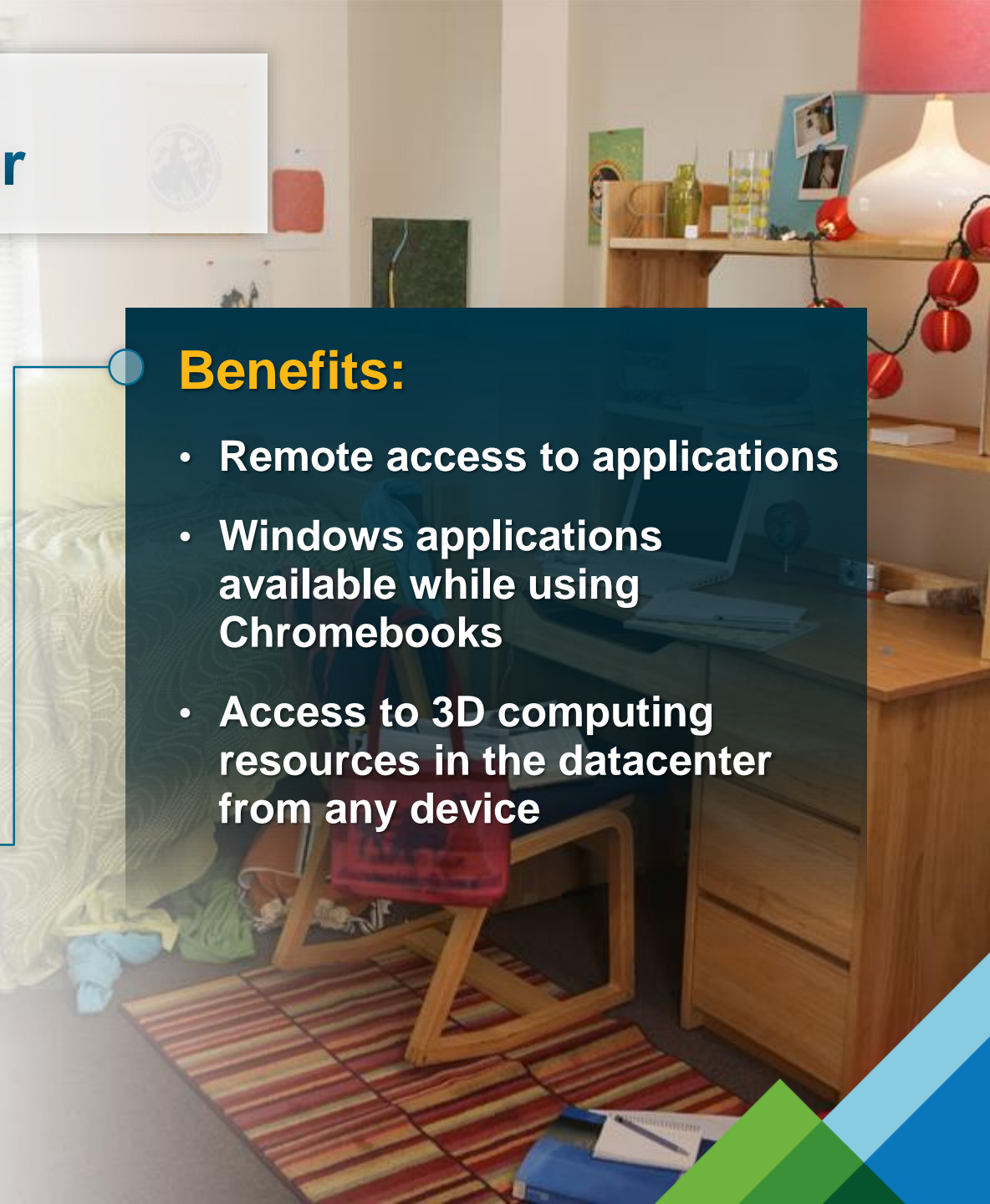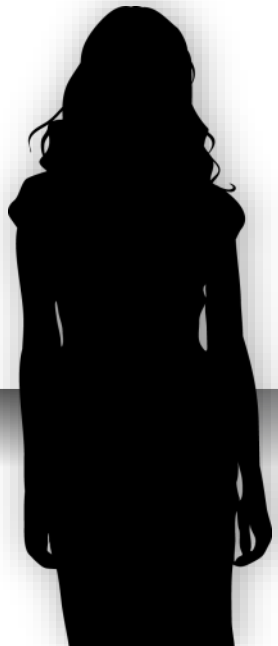
Use Case:
A Day in the Life of Student Jennifer

At 11:45 a.m. Jennifer is eating lunch and runs into Lucy, a classmate who wants to discuss their mechanical engineering project.

Jennifer logs into her virtual desktop from her iPad and is able to access the 40GB file she needs without having to download it.

Benefits:

- **Remote access to files and applications from any device**

- **No need to download and upload files**

- **Enables faster collaboration**
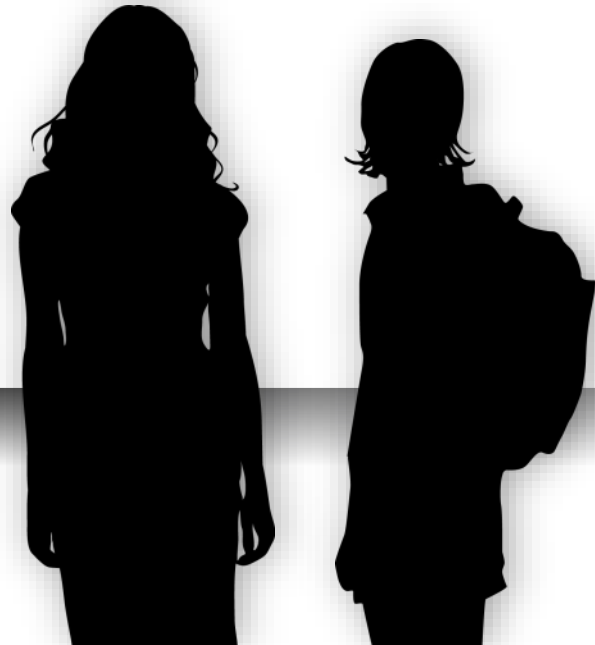
Use Case:
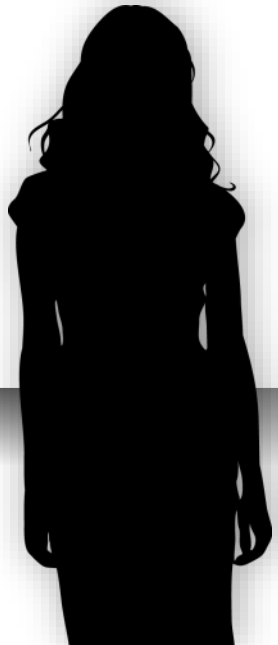# A Day in the Life of Student Jennifer

At 3:20 p.m. Jennifer is in a chemistry lab and needs to print a set of directions on how to mix Hydrogen with Oxygen.

Jennifer logs into her virtual desktop from her iPad and her print job is automatically routed to the chemistry lab printer based on her location.

Benefits:

- **Location based printing**

- **Enables any device to print on a networked printer**
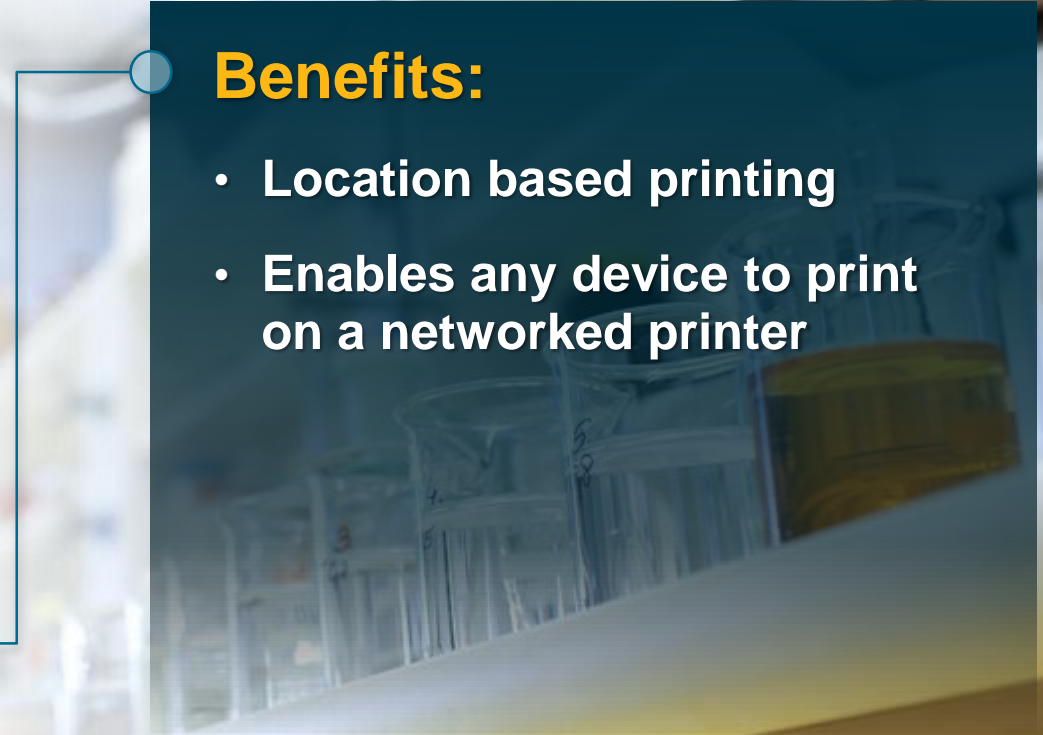
Use Case:
A Day in the Life of Student Jennifer Clark

At 9:24 p.m. Jennifer realizes that she forgot her iPad on the bus. For a moment, she's concerned about the files from a classified project she's assisting her thesis advisor with for the government.

All of Jennifer's work is preserved and she doesn't have to worry about data loss because she's using desktop virtualization.

Benefits:

- **Security**
- **All data is stored in the datacenter**

NC State University Case Study

Background:

- NC State University has over 33,000 students and nearly 8,000 faculty and staff

Challenges:

- Enable information and application access for students, faculty, and staff—anytime, anywhere, across devices.

- Support more devices without increasing IT staff.

Solution:

- The Digital Backpack solution reliably delivers desktop services anywhere they are needed—on or off the NC State University campus on any device

Outcome:

- Leverages centralized university computing resources

- Delivers consistent access to information and applications for students, faculty, and staff across computing devices

- Significantly reduces IT help-desk load

> "We never know who is going to walk up and use a desktop, so any given day, every one of them has to perform. We worked closely with VMware, Dell, Cisco, and NVIDIA to solve challenges we were facing."
>
> —*Maurice York*
> *Head of Information Technology*
> *at NC State University Libraries*

Additional Resources:
- https://www.youtube.com/watch?v=7oZlEggg4kA
- http://www.vmware.com/files/pdf/customers/VMW_5553_EUC_CS_NCSU_BYOD_USLET_WEB_103.pdf

VMware Horizon View BYOD Solution for **North Carolina ...**
www.youtube.com/watch?v=7oZlEggg4kA ▾
Nov 5, 2013 - Uploaded by VMware
North Carolina State University is leveraging **VMware** Horizon View virtualized desktops to help address the ...
► 3:15

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Summary

- The VMware Digital Backpack solution enables students, faculty, and staff to perform their work anytime, anywhere, and from any device.

- Students are no longer limited to specific computer lab hours to get their work done.

- Faculty have more flexibility in how they teach.

- Higher education IT departments can support and manage the computing infrastructure more easily and with less resources.

For more information, visit: http://www.vmware.com/industry/education/higher-education.html

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