Mobile Learning: Getting Started

edChunk White Paper

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May 2014

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Strategy

Executive Summary

Your learners want to access training and education content on their mobile devices. Your organization will need to develop a mobile learning strategy. To do this, your training department should:

- Assess, analyze and determine device or delivery platforms for content
- Inventory existing content and determine new content types (both formal and social learning)
- Chunk it out – match content types with delivery devices
- Prototype a chunk
- Implement the prototype
- Evaluate strategy

Enable

Introduction

Begin with the end in mind. I'm one of those people who like my world tidy and organized. I'm fixated on making lists and planning. When it comes to web and learning projects, I like to base my strategy on a vision of the final product.

For courses, I will often work with clients to draft a final exam before I begin development. The final exam lets me know which content is important to the organization. I can then build the course emphasizing the important learning points.

In much the same way, when I build a website, I exchange wireframes and prototypes with our clients to establish a final look and feel before we choose a technology or begin development.

With a few enterprises, mobile learning can be well defined; the delivery device is mandated, the requirements distinct and well documented, the final look and feel envisioned.

For many organizations however, the mobile learning space is still forming and at least a few years away from consistent structure.

Reply hazy.
Try again.

The challenge for organizations without structure in the mobile space is to discover what mobility features, functions and products might address the needs of their business and learners.

Imagine your child at the dinner table announces he would like to build his own computer. Now I don't know much about building radios, but I think this project would be good for my child in many ways. He would acquire skills, experience, build self confidence and self worth and perhaps the family would end up with an extra computer. So while I cannot necessarily guide him in building the computer, I can take steps to enable and support him. I can find tutorials online, help him find parts and tools or perhaps even a "Build Your Own" computer kit.

If an employee has a question about her company's new compressor, she should be able to quickly find an answer in a readable format on her mobile device.

If an employee has a few minutes while waiting at the dentist and is curious about best practices or his colleague's approach to writing a proposal, he should be able to access that content on his mobile device.

If an employee who supports the enterprise network wants to revisit her company's course on fiber optic signaling, she should be able to locate and access that content on her mobile device.

With many enterprises, creating a strategy for mobile learning is often both an enablement and a support endeavor. With new mobile devices such as Google glass and wristwatch phones constantly popping up in the marketplace, it is difficult to predict all the mobile devices that will require content. Yet we can predict that content will be needed for mobile devices and take steps to be ready for current and future mobile devices.

Delivery

Determine Delivery Platforms

BYOD

When I first saw the acronym BYOD, I was really hoping it meant Bring Your Own Donuts. But I knew better. "Bring Your Own Device" is a phrase spoken softly inside many organizations. When IT managers hear BYOD, they rush to the nearest, highest window to throw themselves out of it, only to find a long line of other IT managers there for the same reason.

IT does not want to support every mobile device on the planet, nor should they. So what are the options?

1. The company purchases each employee her own tablet or smartphone.

Pros	• Concrete set of device and delivery platforms • Lower Costs
Cons	• Support • Cost of devices • Plans and maintenance • Learning will only take place on the company's mobile device, not the individual's personal mobile device – the one she has with her all the time

2. Employees brings their own device as long as it is one of the approved devices on the list.

Pros	• Concrete set of device and delivery platforms • Lower Costs
Cons	• You can have any color you want as long as it is black. • Users may already own devices that are not supported. *This strategy is tested when due to certain features, a division decides they need a tablet, smart phone or other device your organization does not currently support. Or when a Vice President walks in carrying a new smartphone her daughter gave her for her birthday and lobbies to have her device added to the list of approved devices.

3. Employees bring any device, organization has a list of recommended devices.

Pros	• Employees can receive content on any device. • No hardware costs for company • Employees can learn anywhere, anytime on their device
Cons	• Your organization cannot possibly tailor delivery of content to every device on the planet

If your organization fits into the first option, a defined, company purchase device, that's terrific. For example, lets say a company outfits all its salespeople with iPads. You can then center your mobile learning strategy for sales training around iPad delivery.

If your organization chooses the second option, a version of BYOD with only certain devices supported, again you have a prescribed delivery platform.

Purchasing, prescribing and supporting specific devices establishes welcomed scope.

Now let's look behind door #3, a full blown BYOD. It seems ridiculous to try and support every device. And it is. But what happens when devices age or less expensive devices with better features become available? In a long term view, when you consider a mobile device's half life, mobile devices may come and go and your requirements for purchasing devices (Option 1) or supporting only certain devices (Option 2) will need to change. Yet the policy of supporting any device the employee brings to work (Option 3) will never change.

Action Steps

Establish device and delivery platforms for the organization or each audience within the organization.
- Survey the organization to determine the numbers or percentages of each device by department or roles. Count both personal and professional devices. Yes, professional devices are meant to be used at work, but personal smartphones are available everywhere, including work.
- Make a list of screen sizes for each of these devices. These screen sizes will come in handy in our next steps.
- This survey information should give you the information you need to begin establishing target device platforms if they are not already mandated.

Sample Data of Existing Devices by Area

Role	Mobile Devices	#	% of Role
Engineers	iPhone	67	22%
	Droid	58	19%
	Windows Phone	43	14%
	Blackberry	12	4%
	Google Glasses	9	3%
	iPad	52	17%
	Windows Surface	17	6%
	Samsung Galaxy	34	11%
	Other	8	3%
Sales	iPhone	46	15%
	Droid	72	24%
	Windows Phone	39	13%
	Blackberry	21	7%
	Google Glasses	10	3%
	iPad	37	12%
	Windows Surface	28	9%
	Samsung Galaxy	42	14%
	Other	5	2%
Customer Service	iPhone	35	18%
	Droid	41	20%
	Windows Phone	33	16%
	Blackberry	20	10%
	Google Glasses	8	4%
	iPad	12	6%
	Windows Surface	9	5%
	Samsung Galaxy	36	18%
	Other	6	3%
Totals	iPhone	148	19%
	Droid	171	21%
	Windows Phone	115	14%
	Blackberry	53	7%
	Google Glasses	27	3%
	iPad	101	13%
	Windows Surface	54	7%
	Samsung Galaxy	112	14%
	Other	19	2%

Table 1: Mobile device types utilized across three departments

Mmmmmm …. that's good data. A chart like this is valuable for lots of folks inside your organization – Executives, HR, IT…

Content

Content Inventory

Existing Content

You need to take an inventory of all your content. Online courses, manuals, classroom instruction, quick reference guides, videos, podcasts. Whatever your organization offers as training, instruction, education and performance support should be inventoried along with its current format and source.

With this inventory, you will be able to evaluate which existing content or parts of existing content will play in a mobile environment. If your current learning lessons have audio and video snippets, include them separately as you might be able to repurpose these items separately as mobile learning chunks.

You will also be able to determine if content is no longer useful or relevant.

Think of it as cleaning out your training closet and seeing what you will still be able to wear in your new, leaner, more mobile version.
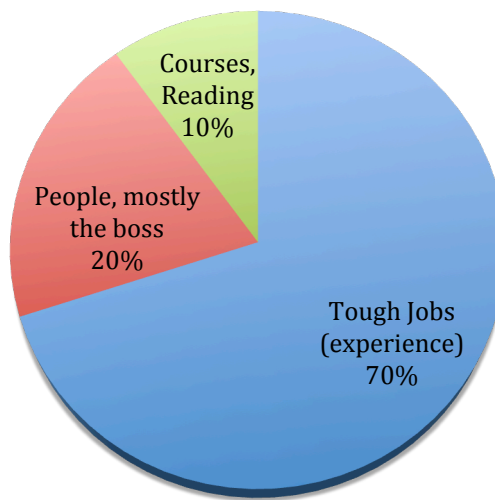
Sample Inventory Data

eLearning	Risk Management Course		
	Video	Assessing Risk	.mp4 2:30
	Video	Mitigating Risk	.mov 4:15
	Audio	Risk Management Plan	.mp3 2:17
	Audio	Risk Identification Techniques	.mp3 4:34
	Video	Qualitative Risk Analysis	.wmv 3:40
	Audio	Quantitative Risk Analysis	.mp3 4:25
	Audio	Risk Response Planning	.wav 3:19
	Doc	Qualitative & Quantitative Risk Checklist	PDF
	Quiz	Risk Management Evaluation	Flash
	Records and Information Management		
	Video	Introduction to Records and Information Management	.mp4 3:45
	Audio	Tax & Litigation Holds	.mp3 4:40
	Video	Records Destruction	.mov 4:15
	Audio	Records Coordinator Role	.mp3 4:50
	Video	Best Practices	.mp4 4:14
	Doc	Records Retention Schedule	PDF
	Doc	Records Destruction Policy	PDF
	Quiz	Records and Information Management Quiz	Flash
	Security Awareness Training		
	Video	Security Message from CEO	.mov 5:09
	Doc	Seven Effective Security Habits	PDF
	Audio	Confessions of an Identity Thief	.mp3 4:24
	Quiz	How Secure Are You?	Flash
	Interaction	What's wrong with this picture?	HTML5
Classroom Instructor-Led Training	Ethernet 101		
	Video	IP Routing Basics	.mp4 4:58
	Video	Know Your VLAN	.mp4 4:45
	Doc	OSI Model	PDF
	Doc	Anatomy of a Packet	.xlsx
	Win-Win Negotiation		
	Video	Demonstrative Listening	.mp4 3:49
	Audio	Gaining Commitment	.mov 4:40
	Audio	Mastering the Silence (Podcast)	.mp3 3:25
Video	Diversity in the Workplace		.mov 4:48
	Choosing the Right Product for Your Client		.mp4 5:02
	Paint Mixer Safety		.mp4 4:30
Quick Reference Guides	Inserting Media Into Your PowerPoint		
	Filling Out Your Timecard		
	Reporting Expenses		

Table 2:Existing Training Content by Media Type

Say, there's some good content here. And with a little bit of work, some good mobile content as well.

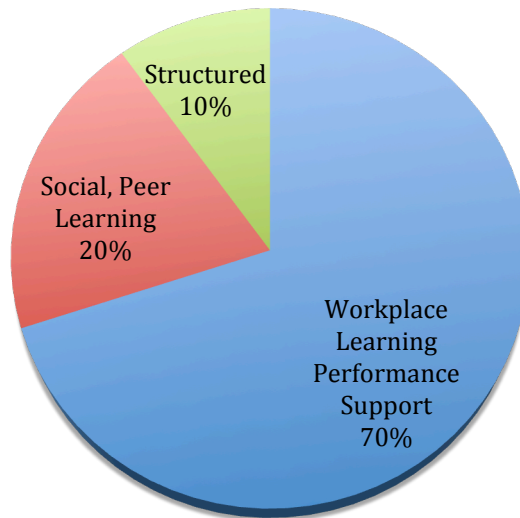# How Learning Occurs

Social Content

The 70:20:10 model in Learning & Development reveals how learning occurs:
- 70% through experience working on projects
- 20% from others (your peers, mentors, your supervisor)
- 10% from formal sources (reading and taking classes)

This model provides a framework for extending learning into the mobile space:

- 70% refers to just-in-time workplace learning. Learning at your fingertips the moment you need it. Sometimes called 'performance support' , examples of this include videos, quick reference guides, podcasts, blogs, forums, collaborative workspaces, and apps
- 20% refers to 'social learning'. This includes sharing images, videos, conversations, tips and tricks, and ideas. Unified Communication and Collaboration (UC&C) games and apps also promote social learning.
- 10% refers to 'structured learning' . Examples include TEDTalks, prepackaged presentations, games, videos, and mLearning.

Mobile Learning

This vision of learning and mobile learning supports the 5 Moments of Need:

1. When Learning For The First Time
2. When Wanting To Learn More
3. When Trying to Remember and/or Apply
4. When Things Change
5. When Something Goes Wrong

The first moment of need may be well served by formal training. The remaining moments are ideally served by access to content from a device that's always with you.

Mobile devices are social tools. Facebook posts, twitter, SMS, blogs, wikis, sharing videos and photographs. This is not eLearning where content is pushed to a captive audience. This is more like a coffee house where people share information and ideas. And in that sharing is 90% of how people learn – workplace learning plus social learning. So as a learning and development organization, you'll want to foster and moderate that activity.

Mobile devices also have capabilities desktops and laptops do not have including geolocation, cameras, video cameras, compass, speech recognition and barcode scanning.

From this model, consider that 90% of learning takes place without any need for a training department. Even the 5 moments of need are addressed without a training department. Remember your friend who started her job where she received no training other than shadowing her boss or coworker around for 2 weeks? Sure, your friend would have benefited from a formal program, but after a month, your friend was up to speed. Conversations that occur over a cube wall, "Hey Justin, on the response to the proposal, how do we characterize our services?" may be inefficient and Justin may not have the correct information, but training occurs just the same.

Learning can and does happen without learning and development departments. Your mobile learning strategy is a chance for your training department to play a larger role in facilitating and improving informal knowledge sharing and social learning.

Find a Champion and Early Adopters

If possible, find a champion, preferably a heavy hitter. This champion can provide funding and resources necessary to conduct your inventory as well as implement a prototype or pilot project.

Finding early adopters will help you in locating and defining useful mobile products and features, promote your efforts and serve as participants in your initial pilot projects.

Consult With Your Audience

You are building mobile learning to improve the productivity of the learners in your enterprise or to meet some business need. It is important to be aware of the types of learning they would like available on their mobile devices. You'll want to ask them what information they would like to access on their mobile devices and what types of media and apps they would like.

There is both a science and art to gathering this information. Many organizations simply send out a web survey using Survey Monkey.

While a survey gathers good quantitative information, it often leaves gaps in explaining user thinking and behavior. Focus groups can fill in those gaps clarifying the answers in the survey and sometimes contradicting them. Software development has shown that features users ask for in surveys are not always features they use or envision once they are implemented, so that's why when you begin to implement and test your mobile strategy, you need to start small – see next section on Design.

Keep in mind that different departments or roles within your organization may be looking for different solutions.

Define Business Metrics

Define ways in which your mobile learning initiatives will benefit the bottom line.
- 5% less mistakes
- 10% faster response time
- 10% less truck rolls
- 20% better accuracy in first attempt

Draft your Return On Investment (ROI) to show that certain mobile tools and features can impact the bottom line.

Security Concerns

Some of your content is proprietary and should only be accessed and shared in a secure way. This is a double edged sword for many organizations. The organization would like to have some of their content more readily available, but they also do not want their secure content reaching unwanted or unintended locations. Work with your organization to identify content considered secure and determine how to securely deliver this content in a mobile world.

Formal Requirements Gathering

Depending on your organization's level of commitment, you may want to conduct a more formal requirement gathering process.

During this process, the organization agrees on several types of requirements:
- Technical requirements
- Naming conventions and definitions
- Functional and data requirements
- Usability requirements
- Performance requirements
- Maintainability and portability requirements
- Security requirements
- Legal requirements

This process involves identifying stakeholders and subject matter experts (SMEs), defining usability, reaching consensus on functional and technical requirements, identifying risks, estimating costs and evaluating off the shelf solutions.

If you're involved in a formal IT development project, many of these types of requirements may be documented already. Check with the Project Manager to see what's available so you're not reinventing the wheel.

If your organization is new to mobile learning, this formal requirements gathering may be a lot to tackle this early in your organization's evolution into mobile learning, since the organization doesn't currently have mobile learning. It's more productive to define requirements once you have some experience with how people in your organization access and share learning content on their devices.

Sample Mobile Learning Tools and Products

Informal		Collaboration
		Knowledge base - Wikis and Blogs
		Conferencing
		Podcasts – Drive time learning
		Video - Vodcasts
		Slideshow Presentations
		Assessments
		Surveys or polls
		Padlet
		Stormboard
		Twiddla
		MindMup
		Coggle
		Communication
		WordItOut
		Google Hangout
		TodaysMeet
		Qu-Vox (polling tool)
		Social Media (Twitter, Facebook)
		Blogs
		Other
		Doodle for Scheduling
		Blendspace
		Flipgrid
		Easel.ly
		Evernote
		Games
		Search engines
Formal		Performance Support
		Video Tutorial
		Audio Tutorial
		Slideshows
		Field Guides
		Job Aids
		Alerts/Reminders
		Forms and Checklists
		Personal Organizers
		Decision Support
		Knowledge base – Wikis and Blogs
		Learning Modules
		Micro-Learning Modules
		eBooks
		Translation
		Other
		Lynda.com
		Youtube.com

Action Steps

- Inventory existing content and its formats

- Survey and conduct focus groups with employees to compile a list of learning activities your employees can and want to accomplish on their mobile device

- List the types of content and media deliverables including social content, apps, websites of other platforms which need to be built to facilitate these activities (posting videos, posting images, searchable forums, searchable blogs, podcasts)

- Locate a project champion

- Gather early adopters

- Define business metrics that you expect to impact

  You will have a list of where you are and where you need to go.

  There are also many side benefits to the inventory process. You will discover resources previously not known or used as well as duplication of effort and content across the enterprise. A colleague I spoke with recently, in his inventory, discovered his company had 93 courses on how to operate a forklift.

Design

Design Your Mobile Learning System(s)

Find a Direction

While it's important to get input from your audience on what they want, what your audience says it wants versus what they actually will use may be different. So start small. Determine what platforms, technologies and media are popular. Envisioning a mobile learning solution is great, and by all means capture that vision in wireframes and mockups. Yet building that all encompassing solution without testing to see that its individual components are capable of achieving business and training goals, can be disastrous.

Start Small

You've established your delivery platform(s). You've inventoried the content you have and its formats as well as content you believe people will use on their mobile devices. Yet you don't know how well mobile learning will be received by your organization until it is implemented. So start small and with a limited audience.

Pilot an idea and see what your audience thinks of it. Start with a series of drive time podcasts about selling techniques or a series of 2 to 3 minute videos about diversity in the workplace. Introduce a product knowledge game. Create a forum where people can post videos and photos regarding troubleshooting tips.

Much of the content can be repurposed from existing content. Pull videos out of existing LMS eLearning courses and package them in short 2 to 3 minute chunks. Reformat quick reference guides into more easily readable mobile device formats. Trial, evaluate, revise.

Prototype

Pencil and paper are cheap. For each design, you will want to start with a prototype. HTML5 and mobile friendly web pages with simple links is a great way to trial ideas.

Apps

Apps are often the best solutions for training, performance support and other mobile needs. Yet an app that runs on an iPad will not necessarily run on an iPhone, much less a Droid or a Windows tablet as they all run on different operating systems. Developing apps can be expensive and time consuming, especially for multiple devices. That's why it's a good idea to prototype and confirm your proof of concept before progressing to app development.

Be Agile

When you get started, don't limit yourself to one specific platform or method for delivering mobile content. You are not looking for a single system. You are looking to enable learning. There are a lot of existing mobile apps and websites that have tools and platforms you can incorporate into your mobile strategy. While you may not necessarily know of them, your learners and peers can help suggest sites, apps, blogs, wikis and various content and containers for content. Establish a forum or feedback mechanism for your learners to help you learn.

Chunk It Out

In the mobile world, our world, we communicate in small discrete chunks – text, tweets, videos. As much as possible, you'll want to divide your content into discrete chunks that can be delivered and accessed on demand, when and where the mobile user requests it. Let's say you have a 45 minute lesson on how to set up and repair a pole mounted transformer. When a lineperson is up on the pole and needs a refresher on how to replace a particular part, do you think he is going to attempt to navigate into the LMS, locate the

course then go through most of the course just to find the tap changer? But if the course content were chunked out into 2 to 3 minute "How To" videos, the lineperson could pull the pertinent video up on his iPad, watch the video and begin to replace the part. While long form, contextual training is and always will be an important part of training, chunking content into small manageable, meaningful pieces to support performance is more important in a mobile environment (and while 30 feet up in a cherry picker).

Search

Your content should be well organized and accessible. Still, each learner has his or her own way of thinking. A search function is extremely valuable, practically essential on any platform, especially platforms where screen size is limited. Search functions may not be viable for all your training content from the start, but putting all your training and support content including social content like blogs and wikis, in accessible locations (not the LMS) where they can be searched and indexed is a goal worth working towards. This search functionality may also enable tagging by learners and contributors.

Integrated Interface

> "Here's a cartoon that tried to make learning fun! Sorry about this, kids. But stay tuned! We've got some real good toy commercials coming right up, I swear."
>
> Krusty the Clown

Learning is part of everyone's job. Learn how to use a new PowerPoint feature. Learn more about your company's new product line. Learn not to ask your boss a question before she gets her morning coffee. Employees want to stay informed about their company. So why separate learning from their everyday job. Why make learning an event? Why not fold learning into their everyday work life?

We have built interfaces for a few enterprises, for specific roles, (mostly sales), that fold news, information and training into one dynamic interface. Sales people anchor their day on this interface reading the latest product updates, playing product knowledge games and trading tips and tricks with other salespeople. The expense and effort of building an integrated interface are high; the

results are a culture where learning is a seamless, painless part of the workday.

While your organization may not be able to provide a single interface, seamless integration of learning, communication and performance support resources is an excellent goal.

Focus on Message

For some traffic violations in California, you can have your fine reduced if you agree to attend traffic school. The traffic schools basically follow the same curriculum. One of my friends said that he attended traffic school which was taught by a comedian. He said the session was humorous and enjoyable.

When I rolled through a stop sign, I too signed up for traffic school. My class was taught by a retired state trooper. Following the same curriculum, my purposeful, serious, retired state trooper instructor punctuated the curriculum, not with jokes, but with personal stories of how when rules of the road were broken, the results were often tragic and heartbreaking. Same content. Different message.

If you're supplying content in tweets, text, podcast or video, consider not just the content, but the message.

Set Your Learning Content Free – Use the LRS

Many corporations and organizations spend hundreds of thousands of dollars and hours creating or acquiring content, particularly eLearning content. The instructional designers go to great lengths to make the content engaging, interactive and easy to access within each course or lesson. The content is then housed (or, more accurately jailed) in a learning management system, often behind a complex navigational system and sometimes a username and password which the learner often has to either lookup or request a new one. Inhibiting access to educational content has been perhaps the greatest disservice to training departments and the learners these departments purport to educate.

A few of our clients have created duplicate versions of their courseware, a version that exists outside the LMS so their learners have easy access to important content. These clients allow access to the training content in locations where users are most likely to access them as part of their everyday performance. When housed outside the LMS, learners can organize the courses and content however necessary, free of the LMS access constraints.

The Tin Can API (sometimes known as the Experience API or xAPI) is a new specification for learning technology that makes it possible to collect data about the wide range of experiences a person has (online and offline). Over the next few years ,Tin Can standards will replace SCORM. Among its features, Tin Can is designed for tracking and reporting training in a mobile environment. A Learning Record Store (LRS) will replace and or work together with an LMS to track and record training information. The LRS is designed so you can host your Tin Can enabled content anywhere that content is accessed and whatever device is accessing the content, the LRS will record tracking, completion and other information. The LRS sets your learning free. Check out http://www.edtotal.com for more information.

One of our clients had a product knowledge course in their LMS that all salespeople were required to take. The average number of times each salesperson visited the course in the LMS? Once. The client took the same course out of the LMS and allowed salespeople to access the course through a customized user interface reporting to an LRS. The average number of times the salesperson accessed the course outside the LMS? Seven.

The time for keeping content in the LMS jail is over. The movement to enable mobile learning is a good time to break out of LMS jail. If you have to track content, going forward, use an LRS and Tin Can. The decision on where to place content should be based on where it can best support your learners, not where it is most easily tracked. With or without mobile learning, giving your audience better access to your content is the single most powerful way to enable your organization to access their content at the moment of need.

Conclusions

The Beginning

Getting started developing mobile learning begins by, setting a establishing a direction to enabling mobile learning.

First you'll need to wrap your arms around delivery platforms. If you have a specific audience who all have the same or similar devices, you can consider building an app or app like platform to enable access to mobile, sharing and social learning content for that specific audience. If you are in a BYOD situation, your role will be to enable mobile learning which could entail supporting several platforms and apps.

An inventory of existing content and future content will be helpful in knowing what you have and evaluating the way forward.

Regardless of your environment, start small, prototype and test with your learners to see which platforms, mechanisms and media are popular.

I purposely left out statistics on numbers of mobile devices, the projection that mobile page views will soon outnumber desktop page views and other statistics showing the importance of accessing content in the mobile space. I guessed that if you are reading this white paper you already determined that dedicating learning resources is or will be compulsory in your organization.

For Learning Directors, the mobile learning space can seem awkward, intimidating, confusing and expensive. Far outweighing these barriers is the opportunity to reinvigorate learning and development to the new realities of the mobile world, and to better serve the 5 moments of need on devices that are attached to your learner. Provide, enable and support.

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Thank You

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