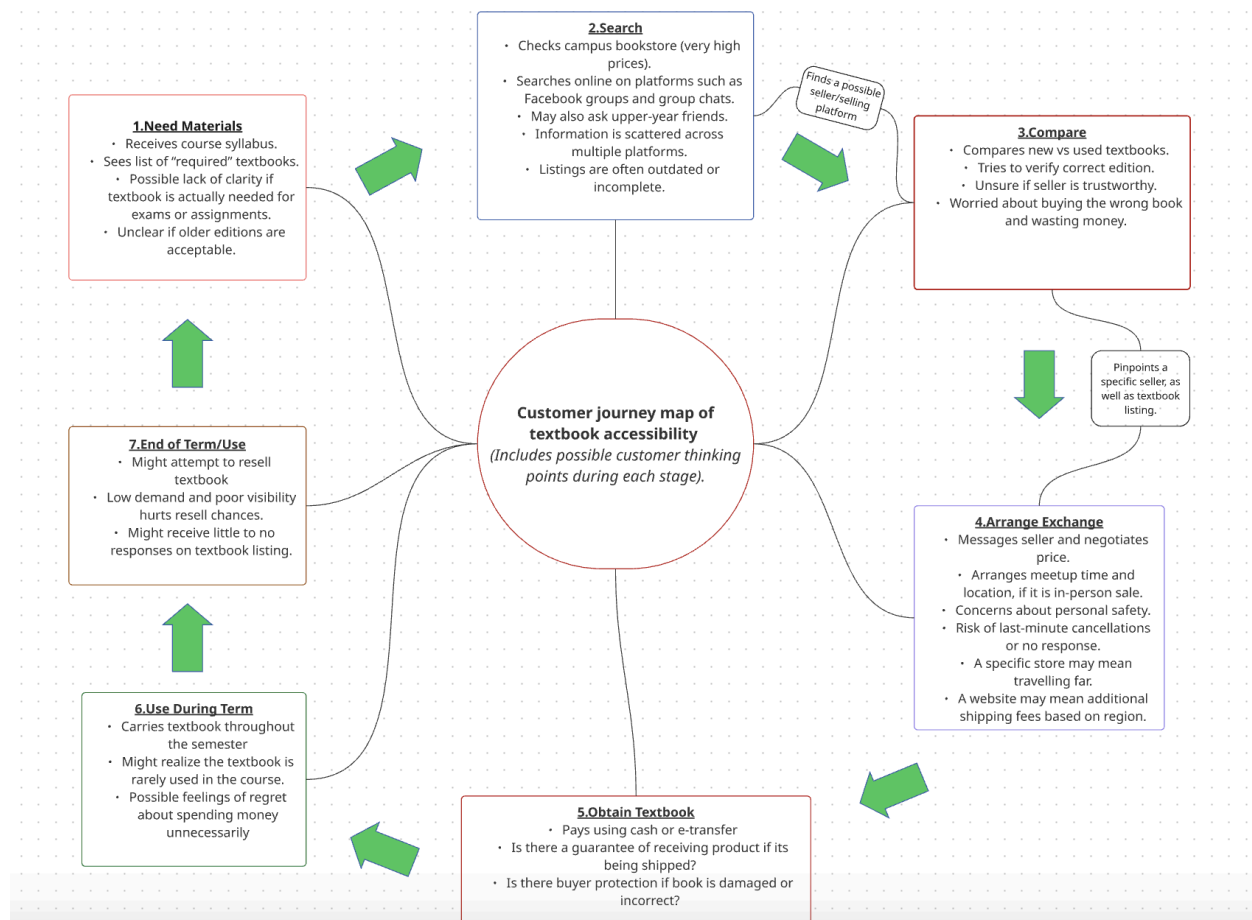


Assignment #1
Glen Crossley
Innovate 2Z03
Design Sprint Problem Mapping and Solution Sketches
Group 14

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1) A problem/customer journey map that illustrates how your customer or the various customers use/interface with your proposed product or service OR a map that illustrates how they currently address the problem with pain points or uncertainty identified on the map (10 marks)



2) A list of at least ten “How might we?” questions that address the pain points or uncertainty in your proposed solution (or the current customer journey) sorted into themes and then voted on by your group to determine the focus of your sprint (10 marks)

How Might We (HMW) Questions – Grouped by Themes

Theme	Votes
Theme 1: Cost & Affordability - How might we reduce the cost of required textbooks for students? - How might we help students avoid buying textbooks they rarely use?	Isabella Gulbinski Jasraj Johal Ameet Singh Aditya Lahiri Avyya Singh
Theme 2: Information & Clarity	

<ul style="list-style-type: none"> - How might we help students identify if the textbook is really required for the course? - How might we communicate clearly which edition of the book is acceptable? - How might we consolidate the information about textbooks and course materials, which are currently spread out among multiple platforms? 	
<p>Theme 3: Trust & Safety</p> <ul style="list-style-type: none"> - How might we increase the level of trust between the student buyer and the student seller? - How might we make the exchange of textbooks safer and more reliable on campus? - How might we minimize the risk of scams, wrong textbooks, and so on? 	<p>Rayan Mohammad Jasraj Johal Ameek singh Aditya Lahiri</p>
<p>Theme 4: Convenience & Resale</p> <ul style="list-style-type: none"> - How might we make it easier for students to arrange the exchange of textbooks so that cancellations and no-shows are minimized? - How might we make the resale of textbooks more convenient for students so that they can maximize the value of the textbook at the end of the term? 	<p>Isabella Gulbinski Ameek singh Avyya Singh</p>

3) A short discussion of at least 5 ideas of how others have tried to solve this general problem (10 marks).

There are some ways that others have tried to solve the general problem of lack of textbook access, along with the other issues that stem from it such as affordability, efficiency, safety, etc. However, these solutions are scattered in terms of actual effectiveness in solving all of the issues with textbook accessibility, and offer only temporary or selective solutions. One of the major

ways that this problem has tried to be solved is through commercial textbook rental services. This also includes campus bookstores as well. These services can reduce the upfront cost of buying textbooks, as well as being convenient, especially for on-campus residents. However, rental prices are still rigid, which may not work for everyone. Moreover, access to the learning materials is only temporary, which is a burden to cumulative or intensive programs. One other way is through digital textbooks or eBooks. These can be convenient for some who do not have access to physical copies, and also for those who prefer not having to carry around a physical copy. This solution also takes into account generally being more affordable. However, these usually come with limited access (unless paying), a dependency on a specific platform, and the online nature affects reselling once the user is done with the textbook. Thirdly, there are peer-to-peer exchange platforms for textbooks. This solution also reduces pricing and helps with an opportunity for reselling. However, these platforms usually do not have a rigid verification system as well as safety measures. Because of this, scams can be an issue. Moreover, it can also lead to inconsistent availability of certain textbooks, as well as unreliable sellers. One other way is through "Open Educational Resources," or OERs. These are free and easily accessible licensed textbooks and learning materials made available and developed by institutions and even individual educators. However, this brings its own set of issues as well. The open, customizable nature means that anyone can create or even modify OERs, so accuracy, quality, and alignment with specific curriculum varies, rather than just getting a ready-to-use textbook. Moreover, OERs require updates to keep up with changing curriculums, so this can cause outdated materials if they are not updated frequently by individual instructors or institutions. Overall, it takes significant time and effort for instructors and faculty to adapt, implement, and find OERs, rather than just using ready-to-use textbooks. Lastly, there are library-based textbook solutions. These offer loan and reserve copy opportunities at a reduced cost. However, this is limited in quantity and is also temporary. Moreover, especially in peak academic periods during the year, quantity, quality, and diversity of textbooks can be an issue with this solution.

4) A short summary of at least 5 ideas from other industries that might be helpful for coming up with solutions to your problem (10 marks)

1. Certified Quality Assurance (Automotive Industry)

The automotive sector's certified pre-owned model demonstrates how rigorous inspection and warranties build consumer trust in used goods. Mercedes-Benz's Certified Pre-Owned program exemplifies this approach with a comprehensive 169-point inspection, warranty coverage extending up to seven years or 160,000 kilometres from original in-service date, and coverage of critical components including engine, powertrain, suspension, brakes, steering, electrical systems, and climate control. This structural guarantee reduces buyer anxiety by institutionalizing quality standards rather than relying on seller reputation alone. For our

textbook platform, implementing a "Certified Used Textbook" program would involve standardized condition verification (with photographic documentation), guaranteed edition correctness, and a defined return/replacement policy if the textbook doesn't match its listing, directly addressing the pain point in our customer journey where students worry about buying the wrong book or one in poor condition.

2. Peer-to-Peer Trust Systems (Online Marketplaces)

eBay's reputation system demonstrates that trust mechanisms centered on transparent, verifiable behavior outperform generic brand assurance. Research by Hui, Saeedi, Shen, and Sundaresan (2014) quantifies this effect: eBay's Top Rated Seller badge raises average sales prices by 4% and conversion rates by 3%. Rather than relying on brand reputation, the platform creates structural incentives through transparent feedback histories where both parties are rated and these ratings permanently influence future transactions. The badge requires 100+ transactions, \$3,000+ in annual sales, and maintained low dispute rates, turning trust into a measurable, verifiable track record. Applied to textbooks, our platform should require bidirectional ratings (sellers rated on item accuracy; buyers rated on reliability), display these ratings prominently on user profiles, and allow students to filter by seller reputation score. This directly addresses the "worried about trusting the seller" pain point in our customer journey by making accountability structural rather than aspirational. [2]

3. Subscription & Rental Model (Media and Services)

Cengage Unlimited demonstrates that the subscription model successfully addresses the textbook affordability crisis by decoupling access from ownership. Launched in 2018 at \$119.99 per semester or \$179.99 per year, the service provides access to 20,000+ digital materials across 70 disciplines, plus up to four physical textbook rentals (paying only shipping and handling), a direct adaptation of Netflix and Spotify's model to education. By year two, Cengage had sold over one million subscriptions, proving that students prefer affordable, friction-free access to ownership at premium prices. Our platform could layer a subscription option alongside buy/sell/exchange: a campus-wide textbook subscription for \$150 per semester might include unlimited digital access to the top 500 course materials, with the ability to rent physical copies at below-market rates. This addresses both the "affordability" and "scattered information" pain points by consolidating access. [3]

4. Guaranteed Buyback/Trade-In Programs (Retail Tech Industry)

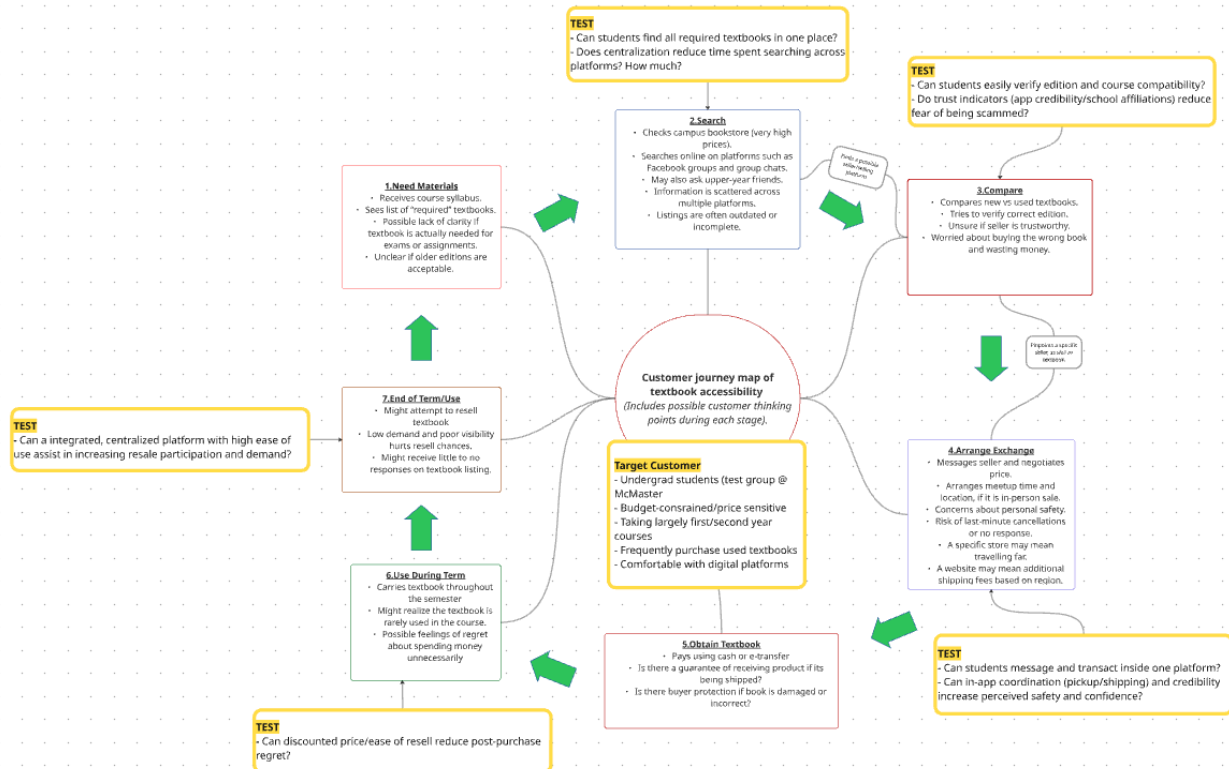
MBS Direct's Guaranteed Buyback program reduces buyer risk by quoting and locking in a resale price at the time of purchase, mirroring trade-in programs in automotive and electronics retail. The program displays the buyback value upfront so students know their net cost of ownership before committing; prices remain valid for the entire academic term, and returning customers receive an additional Customer Loyalty Bonus. This eliminates end-of-term uncertainty, students no longer wonder if a book worth \$80 will fetch \$40 or \$0 when they try to

resell. Implementing this on our platform means: at purchase, generate an algorithm-predicted resale value based on course demand, edition popularity, and historical resale prices, then honor that quote at semester-end. This effectively lowers the psychological cost of buying since students see the true net cost upfront. [4]

5. Open-Source Content (Software Industry to Education)

The open educational resources (OER) movement proves that crowdsourced, free learning materials can completely eliminate the textbook cost problem at the source. OER drastic cost savings come from free access to textbooks, lecture notes, and learning materials combined with reduced financial stress for students, enabling them to stay enrolled and complete degrees. One case study showed a class of 21 students saved \$8,635 in a single term by switching from a traditional \$300 textbook to an open alternative, a 100% cost reduction. While our platform monetizes the resale market, recommending or curating OER alternatives within our interface (particularly for courses where free options exist) positions our platform as a student advocate rather than purely extractive. Partnering with faculty to promote OER adoption creates network effects: fewer new textbooks on the market means higher resale prices for used copies, benefiting both sellers and our platform through increased transaction volume. [5][6]

5) The map in question 1 highlighted to show the target customer in your proposed sprint and the points in your customer journey map that will be tested (5 marks)



6) A short summary of the long-term project goal, the questions you hope to answer and who the target of the sprint is. Note: This question is a summary such that if somebody read only this answer, they would know what you are setting out to do. (5 marks)

The long-term goal of this project is to create a campus-specific, student-to-student textbook and course material exchange platform that significantly reduces cost, uncertainty, and friction in how students access required materials. It is about increasing efficiency in accessing course specific textbook materials. The project seeks to challenge the assumption that students must rely on expensive bookstores or individual informal channels by checking whether a centralized, trusted marketplace can improve affordability, accessibility, and confidence in peer-to-peer exchanges.

This design sprint is focused on identifying the most critical pain points in the current process of acquiring textbooks and testing whether targeted platform features can address them. The sprint aims to answer key questions such as: Where do students experience the greatest frustration or risk when sourcing course materials? What signals or mechanisms are most effective in establishing trust between buyers and sellers? How early do students attempt to obtain materials, and what prevents them from doing so? And what minimum set of features would meaningfully improve the experience compared to existing solutions?

The target of this sprint is undergraduate students, particularly cost-sensitive and first- and second-year students, who are required to purchase multiple textbooks each term and currently navigate a mix of bookstores, social media groups, and peer networks to find affordable options. The sprint will prioritize testing solutions that address these users' needs during the highest-risk stages of the journey, such as discovery, verification, and exchange completion.

References

- [1] Mercedes-Benz Canada. *Certified Pre-Owned*.
<https://www.mercedes-benz.ca/en/cpo>
- [2] Hui, X., Saeedi, M., Shen, Z., & Sundaresan, N. (2014). *The Evolution of eBay's Reputation System*. eBay Research Labs / EIEF.
<https://www.eief.it/files/2014/05/saeedi.pdf>
- [3] Rowe, A. (2018, May 18). *Textbook Authors Are Suing The Netflix-For-Textbooks Subscription Business*. *Forbes*.
<https://www.forbes.com/sites/adamrowe1/2018/05/19/textbook-authors-are-suing-the-netflix-for-textbooks-subscription-business-cengage/>
- [4] MBS Direct. *Frequently Asked Questions and Answers*. Trinity Prep.
https://www.trinityprep.org/uploaded/parents/MBS_Direct_FAQs.pdf
- [5] University of Texas Arlington Libraries. (2024, December 2). *Why Open Educational Resources (OER) Are a Game-Changer for College Students*.
<https://libraries.uta.edu/news/why-open-educational-resources-oer-are-game-changer-college-students>

[6] Student PIRGs. *Open Textbooks Guide*.

<https://studentpirgs.org/assets/uploads/archive/sites/student/files/resources/Open%20Textbooks%20Guide.pdf>