Deliverable E - Technical and Budget Feasibility

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TooliЄShed

MAY 30

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1. Technical Solutions and Requirements Assessment

Executive Summary

TooliEShed requires a peer-to-peer sharing platform for renting a broad range of home and auto tools and small appliances. In addition to the core ability to search for tool and small appliance rentals, it must be able to offer online advice and tutorials for Do-It-Yourself (DIY) projects. These will include lists of tools needed for a specific project and will allow the user to easily search for tools to rent.

TooliEShed will need to support:

- Building brand awareness and driving user and owner engagement.

- A fee-for-transaction (commission) business model.

- The US market at a minimum with potential for global expansion.

- Allow owners to list tools and appliances for rent with availability dates, price per day, a description of the tool and location.

- Allow users to search for tools and appliances for rent with typical filtering capabilities such as category, dates, price and location.

- Facilitate renters to book, checkout and pay (integrated) for the rental.

- Facilitate payment disbursement to owners.

- Provide a built-in or customizable section for articles/blog/videos that offer online advice and tutorials.

- Nice to have: Facilitate dispute resolution between owners and renters.

The following sections analyzes potentials solutions that meets the business requirements, gives an outline of the technical capabilities and provides a recommendation for the best option.

Analysis

A non-exhaustive search of marketplaces, especially peer-to-peer sharing, that offer rental services natively or as extension was conducted.

Given the nature of this ECT455 project, we are operating under a set of significant constraints. These constraints include:

1. <u>One week</u> to have a running prototype of the website
2. No budget
3. Limited existing infrastructure
4. Limited technical resources (people, systems)

In examining the available solutions, we evaluated them against these constraints and against the high-level requirements outlined above. The most critical criteria (near term needs) used were:

1. Price - free or free trial
2. Platform - Solution must be hosted so we don't need to stand up our own server and database
3. Integrated Payments
4. Built for peer-to-peer sharing
5. Customizable front-end

The top two options to emerge are solutions from Arcadier and ShareTribe. Both met the high-level business requirements, and both are a Software-as-a-Service technical solution that makes it easier to manage our significant constraints.

High Level Solution Comparison

	Service Name	Recommend?	Designed for Rentals?	Key Features	Integrated Payments?	Reviews & Ratings?	Hosted Solution?	Layout Editor?	Revenue Models Supported	Pricing
1	Arcadier	Yes	Yes	Multi-vendor product catalog marketplace & Rental marketplace	Yes	Yes	Yes	Yes (+ HTML, CSS & Javascript editor)	Commission	$79-399 + 30 day free trial
2	ShareTribe	Yes	Yes	Rental and Product Catalog marketplace	Yes	Yes	Yes	Yes (CSS)	Commission	$79-239/month + 30 day free trial
3	Apptha	Yes	Yes	Multi-vendor product catalog marketplace & AirBnB Clone rental marketplace	Yes	Yes	No	Yes (details unknown)	Commission	Magento is open source. Apptha script pricing is free. Tech support I believe is not free.
4	RentALL.com	No (high fees, no hosting)	Yes	AirBnB Clone rental marketplace	Yes	Yes	No	Yes	Commission	$899 one time + tech support fees
5	Yo!Rent	No	Yes	Rental Marketplace	Yes	Yes	No	No		$999
6	ExlCart	No	Yes	Rental Marketplace (India based)	Yes	Yes	No	Yes	Unknown	Quote to Price
7	Online Marketplace Software	No	Yes	Designed for multiple marketplace including rental	Yes	Yes	Yes	Unknown	Commission fee, subscription fee, lead fee	Quote to Price
	Near Me	No	Yes	Multi-vendor product catalog marketplace & Rental marketplace	Yes	Yes	Yes	Yes	Unknown	$1000/month
	Marketer	No	Yes	Multi-vendor product catalog marketplace & Rental marketplace	Yes	Yes	Yes	Yes	Unknown	Quote to Price
8	Woocommerce	No	Yes	Single vendor product catalog marketplace built on Wordpress. Has a Hotel extension option but can't be customized for tool rentals nor is it multi-vendor.	Yes	Yes	Yes			
9	Purchase Commerce	No	No	Multi-vendor product catalog marketplace	Yes	Yes			Commission or Subscription	$1500 / year
10	Big Commerce	No	No	Single vendor product catalog marketplace	Yes	Yes			N/A	$30-250 / month
11	cs.cart	No	No	Multi-vendor product catalog marketplace	Yes	Yes		Yes	Commission	$1450-3000 / year
12	AuctionSoftware.com	No	No	Auction marketplace e.g. eBay	Yes					
13	yo!Kart	No	No	Multi-vendor product catalog marketplace	Yes	Yes				$1300-7000

Alternatives and Options

Given the significant time and cost constraints, we did not consider building the platform ourselves or having a customized version of an existing platform (e.g. RentAll) built. A tailored site would allow for additional fine-grained control of the user experience and could potentially lower ongoing operating costs if the platform scales large enough.

Recommendation and Conclusion

As a team, we selected Arcadier. Compared to ShareTribe, it offers standard tools (HTML, CSS, JS) to customize the front-end.
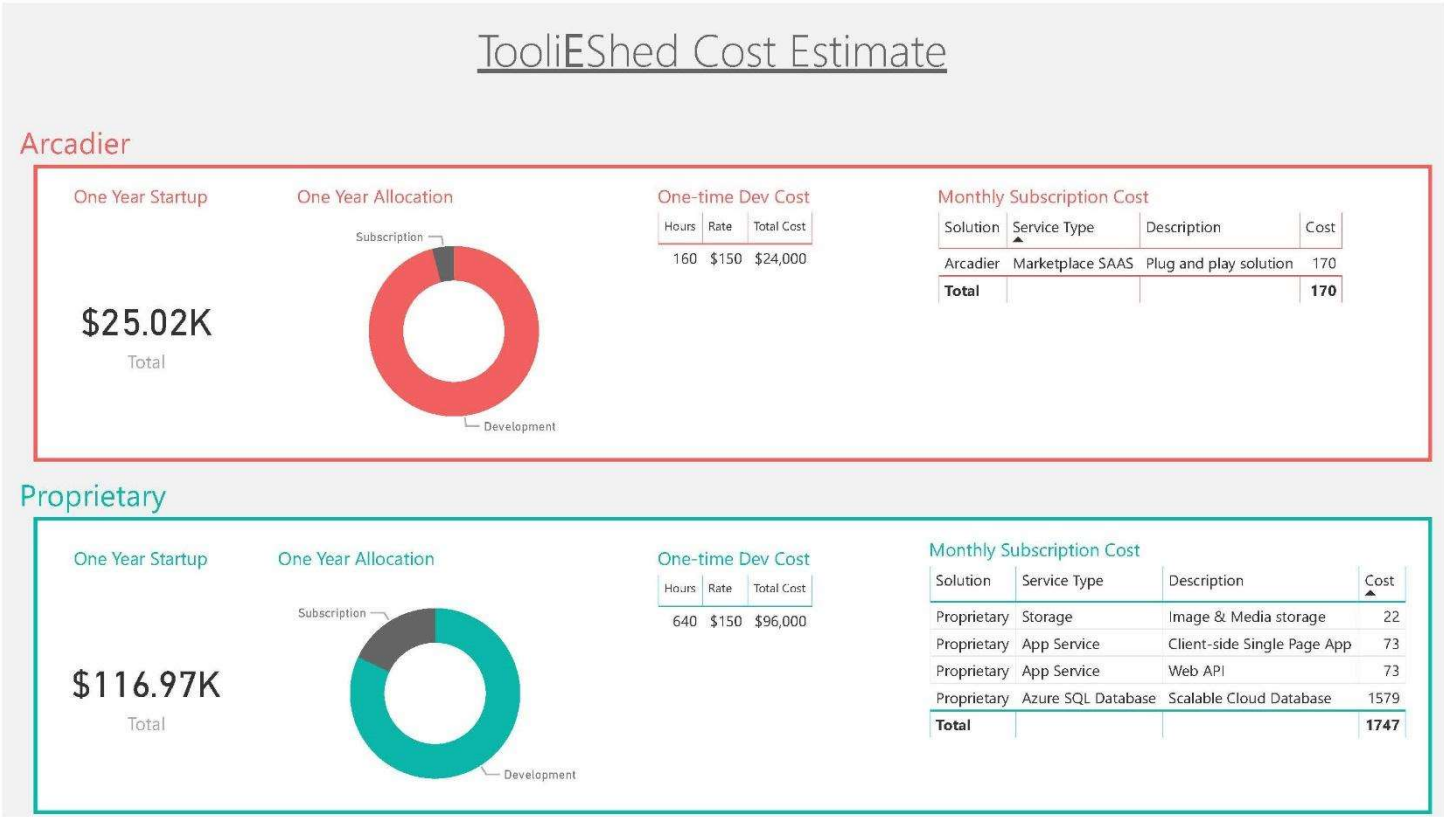
Pricing at the low-end was identical, however, Arcadier offers more features as standard whereas ShareTribe requires additional costs to extend the feature set.

Arcadier on a first pass assessment, looks to be the easier of the two options to get started without any involvement of the platform vendor.

If the platform succeeds and grows to a sufficient scale, it is recommended that a cost-benefit analysis be conducted to determine if TooliEShed should continue to operate on Arcadier or if the service should move to a proprietary, in-house solution.

2. Pro-Forma Budget

The budget estimates below illustrate the cost to implement TooliEShed with Arcadier, our initial platform of choice, and as a proprietary solution hosted on Microsoft's Azure cloud platform:

TooliEShed Cost Estimate

Arcadier

One Year Startup

$25.02K
Total

One Year Allocation

One-time Dev Cost

Hours	Rate	Total Cost
160	$150	$24,000

Monthly Subscription Cost

Solution	Service Type	Description	Cost
Arcadier	Marketplace SAAS	Plug and play solution	170
Total			**170**

Proprietary

One Year Startup

$116.97K
Total

One Year Allocation

One-time Dev Cost

Hours	Rate	Total Cost
640	$150	$96,000

Monthly Subscription Cost

Solution	Service Type	Description	Cost
Proprietary	Storage	Image & Media storage	22
Proprietary	App Service	Client-side Single Page App	73
Proprietary	App Service	Web API	73
Proprietary	Azure SQL Database	Scalable Cloud Database	1579
Total			**1747**

The one-year startup cost with Arcadier is significantly lower than building a proprietary solution using Microsoft's Azure cloud platform. As mentioned in the previous "Analysis" section, if our platform succeeds we may choose to build a custom solution and the estimate above helps us budget for its cost.

3. Success Metrics

The following KPI metrics will be used to measure the usage and business success of the TooliEShed website.

1. **Website Traffic**

   The ability to drive traffic to our website is critical to the success of the site; without traffic there won't be a customer base. However, measuring website traffic in general can lead to a sense of false security since stakeholders may inadvertently associate large volumes of traffic with website success. Therefore, website traffic as a KPI metric needs to be broken down into several sub-metrics as well as combined with other KPI's (some listed below) to gain a more holistic perspective about the performance and success of the site.

   When measuring website traffic, it's important to understand where that traffic is coming from in order to optimize the channels that result in higher conversion rates or more qualified leads. Several of these sub-metrics to determine and measure where website traffic originates are:
   a. Organic Traffic - Traffic generated by searching relevant keywords and/or the TooliEShed brand name
   b. Referrals - Traffic that is brought to the site though referrals
   c. Direct Traffic - Traffic generated by directly typing in the TooliEShed URL into the browser
   d. Social Media: Traffic that is generated through the use of social media links

   The ability to know and understand where TooliEShed website traffic is generated allows us to first look at which channels are converting the most customers and then optimize those channels to increase sales, as well as ensure that TooliEShed remains visible to potential / new customers through SEO. Therefore, we can use the metric of Website Traffic to determine if our website is successful by monitoring the channels where traffic is generated and examining which channels have higher conversion rates.

2. Sales Conversion Rate

Sale Conversion is one of the bigger metics that will help determine if the website and business are successful. This metric measures how many TooliEShed site visitors are converted into Customers (this includes both tool owners who will use the site to list their available tools for rent, and tool renters needing to borrow tools).

In order for the TooliEShed website usage and business to be successful, we need to have a balanced base of both tool owners and tool renters. In addition, we need to ensure that customers needing to rent tools are able to successfully navigate the process of renting a tool in order to complete the sale, and generate revenue for both the tool owner and the TooliEShed website. Therefore, as revenue generation is critical to the survival of the business, this metric is important to monitor and ensure no bottlenecks exist which may impede customer conversion.

3. Shopping Cart Abandonment Rate

It's important to keep an eye on cart abandonment rates and, in turn, determine why TooliEShed renters are leaving their cart without completing the rental process. Several areas to take into consideration are the final price which includes the flat rate rental fee that TooliEShed applies when renting an item, the TooliEShed payment process is not streamlined, and/or there's a lack of trust around the rental agreement including the pick-up of the rented item. Therefore, there's a need for clear parameters to be in place to ensure a smooth and trustworthy checkout process in addition to policies that protect both the tool owner and renter and build trust within the TooliEShed community.

Aside from understanding and mitigating cart abandonment rate, successful conversion and revenue generation is key to business success. Including cart abandonment rate as a metric for the TooliEShed website allows us to

determine if we've optimized the checkout sequence/process which can help convert more customers and generate revenue.

4. **Customer Retention / Churn Rate**

Customer retention is an important metric to measure for the TooliEShed website as it will help continue to cultivate relationships with repeat customers (this includes both tool owners who want to lease their tools and tool borrowers). Customers that continue to use TooliEShed to lease and borrow tools are an integral part of the success of TooliEShed as it's often more cost effective to ensure customer retention rather than focus efforts on continually attracting new customers. Therefore, measuring retention rate allows us to determine our repeat customers and create plans to increase retention. Also, generally speaking, customers that continue to return to the site to lease or rent tools serve as a good measure for the success of the site; if TooliEShed has limited repeat customers and a majority of customers are new we would need to determine a better strategy to increase retention as new customer acquisition can be costly over prolonged periods of time and sometimes unsustainable.

In addition, we'd want to measure/monitor churn rate to determine the success of the website as well. We can use churn rate to help us monitor customers that are no longer using the site and/or have idle accounts. If churn rate starts to spike (i.e. people are creating accounts but don't list or rent tools) we would need to understand what barriers are preventing customers from listing their tools or completing a rental. Therefore, monitoring this metric, as well as retention, provides insight into the behavior of our customers allowing us to ensure no barriers exist to using the site to lease/rent tools, and we have a solid customer retention plan in place.

5. Net Promoter Score (NPS)

As TooliEShed is a peer-to-peer lending platform it's important that we measure NPS to determine how many of our customers would recommend our service to other people. Thus, having a high NPS score can help drive more people to use our site to list and rent tools. In addition, we can also use NPS to determine if a customer would use the site again to list or rent tools. NPS can identify our loyal customer base while also revealing who did not have a good experience with the website or leasing/rental process. This allows us to continue to build relationships and retention strategies around our loyal customer base while rectifying any issues with the website or leasing/rental process with customers that didn't have a good experience. Therefore, using NPS to measure the success and usability of the TooliEShed website will help identify customers that are loyal and can potentially be brand advocates while allowing us to reach out to users who may have had a negative experience with the site to rectify any issues (possibly converting them to brand advocates as well).