

SW Engineering CSC648/848

Rently

Tool and Equipment Rentals

Section 01 - Team 01

Chase Alexander - Team Lead, full-stack

Benjamin McCullough - Github Master, frontend

Lauren Barer - Scrum master, database, cloud, security

Yu Hang Lee - Frontend lead

Chu Cheng Situ - Backend lead

Milestone One

29 September 2021

Revision History

Revision ID	Revision Date	Revised By
01	10/20/2021	Lauren Barer

1. Executive Summary

Have you ever wanted to participate in an activity that seems like a lot of fun, but requires a substantial upfront investment to get the equipment needed to participate? Or maybe you've tried to take on a DIY project but didn't have the necessary special tools. In these situations, you don't want to dump a bunch of money into getting the necessary equipment just to do a job or activity once or twice. Sometimes you may have even decided that the upfront cost of a specialty piece of equipment was worth it, but the vast majority of the time it's taking up your precious space while not being of any use to you. Our application, Rently, provides a modern solution for everyday people who are owners or would-be renters of specialty equipment.

With Rently, you can open yourself up to more opportunities. You don't have to miss out on fun activities with family and friends just because you don't own the equipment necessary to participate. You can open the Rently app and find someone in your local area with the equipment you need in a matter of minutes. No more worrying about booking rentals in advance from companies that charge an arm and a leg for a one-time use. Our equipment owners have a lot less overhead than traditional equipment rental companies, reducing the cost of your rental. Filter search results by category, distance, or price to find the perfect rental to fit your needs. This rental business is a two-way street, and Rently provides just as many solutions for equipment owners as we do renters. As an owner, you can put your specialty equipment to work for you and flexibly supplement your income. As an owner, you're covered and in control. You can rest easy knowing that your equipment is covered with an upfront security deposit prepaid by your renter. You can even predetermine charges for certain damages that may occur. You also don't have to give up your privacy as an owner. You can set up meeting locations and times with your renters through our in-app messaging service to avoid giving out personal contact information and your address.

Who's the team behind Rently? We're a group of highly motivated individuals ready to dominate the equipment rental market. Each of our members is specializing in a set of technologies that when put together will make Rently the best it can be. Whether it be data management, project deployment, or frontend styling, our team has the skill set to get it done.

2. User Stories and Personas

Persona ID - 01 - Michael



Michael is a 30-year-old auto mechanic working at a dealership in Concord, CA. Michael loves working on and building cars for himself outside of work. He is currently residing in a home he inherited from his parents and lives alone. After deciding it would be worth the investment, he bought a lot of specialty shop equipment that he will need to use several times, but that will be mostly just sitting around. Mark likes being efficient and thinks that all of this equipment and special-case tools could be put to better use for him. He would like to rent them out to people who need them for a single-use but who don't want to own themselves. He doesn't mind dirt or scratches but wants to make sure they're returned in working order. This supplementary income will help him pay off the debt he incurred when purchasing his tools for work/personal use. He needs an easy all-in-one solution that isn't complicated and is easy to pick up because he's not very handy when it comes to computers. He wants something to help him reach a large audience of people who are looking to rent things without having to pay for advertising. He is concerned about people not returning his tools and about having to mess around with a complicated app.

Persona ID - 02 - Martha Holt



Martha is 18 and was a cheerleader for Barton High. Always being in shape Martha relied on cheer as her main form of sport and exercise. As Martha graduated and went to SFSU, she decided to live on campus. School became hectic and time just kept running out. Martha began to notice that she was gaining weight and losing her cheerleader body. In March of 2020 Covid hit and she gained even more weight. Martha became sad when summertime came around and decided now that she has time to lose this weight. Being a college student and not having much money, especially since the gyms are closed due to the pandemic. Loving Sports and exercise Martha would have loved to rent some equipment to use at home and not lose time. She wishes there was a place she could rent gym stuff and not have the commitment of a membership. Martha is looking for a service without commitments and a rental which would save her money.

Persona ID - 03 - Victor



Victor is a 30 years old male that working as a financial advisor in Chase Bank. He has a great sense of humor, and he likes to watch comedy shows after work to chill for the night. He is good at communication and likes to share his experience after he went camping or hiking at different locations. He likes hiking, camping, kayaking, and any

outdoor activities during his off day. So, he will have a lot of equipment for different activities. He thinks that he could not use all his equipment often and he wants to rent it to other people who need it and at the same time, he can make some money from it. Victor does not want to store the equipment in the garage because it takes up a lot of space. So, Victor thinks that an application would be a perfect choice to make some money and clear the space for a short time.

Persona ID - 04 -Travis



Travis is a 25-year-old male. He is a full-time musician who currently resides in Berkeley, California. Travis uses his bass guitar and amplifier on a daily basis for practicing and playing shows with his local band. Because of the constant usage of his gear, he will occasionally need to make repairs to keep them in good condition. Travis has become interested in repairing his own gear, as repairs done by the local guitar shop near him are outside of his budget. Travis is not fully sure of what tools will fit his needs and does not want to buy expensive tools for repairs that he will only make around twice a year. Travis does not want to spend hours looking for the right tools for his job and wants an interface that can help him find such tools. Travis is also concerned with the reliability of the tools that he will use for his repairs, as he does not want to be held responsible for expensive tools if they were to break while they are under his use.

Persona ID - 05 - Maya



Maya is a 36-year-old female. She is an accountant and a mother of two kids, a six-year-old son, and a nine-year-old daughter. She has recently been interested in camping and now feels that her children are old enough to go with her and her husband on a camping trip. Maya is unsure what to expect from her first trip and needs to get a lot of equipment. Maya does not want to invest a lot of money into equipment because she is unsure how her family will like camping trips. Maya wants to rent equipment for her family's first trip, then purchase equipment later once she knows she will get a lot of use out of it. Maya is concerned with her liability towards the equipment rented, as with raising two kids she knows that accidents are bound to happen. Maya wants to know the terms and conditions of the rental upfront without any confusion.

3. Data Definitions

Name	Definition	Usage
Equipment Category	The type of equipment the user is looking to rent/lend (e.g camping, hiking, tools, gym equipment, etc)	A category to make it easier for users to find what they are looking for
Pricing & Penalties	The cost associated with a rental	The price of the rental per unit of time and the associated costs of damages
Time	The time that the equipment will be rented out for. A deadline for the return time	To let renters and owners keep track of the days they want to rent.
Registered_User	A person who signed up on the application must fill in their name, date of birth, address, payment method.	The necessary information of the registered users is collected and stored in the database. The address will display only if the users are going to rent out the equipment.
Private Chat	Direct messaging to renter or tenant.	This is to keep up the information between the renter and tenant.
Location	To instore the location for renter and owner	To be able to filter results within a certain distance of the renter
Delivery Address	The address to deliver to if delivery was a selected option	Provide a drop off location for the owner

4. Initial list of functional requirements

1. User Accounts(*)
 - a. First-time users can create an ID.
 - b. Users can log in to their ID.
 - c. If you would like to be a renter you can select that option as well.
 - d. Just like on facebook you have one account but within your account can post items. Dont need 2 separate accounts.
 - e. Users can log out.
2. Result Filtering(*)
 - a. Users can filter the equipment they want to rent by category. (Example: hiking, camping, gym)
 - b. Users can filter the distance that they can go to pick up the equipment.
 - c. Users can filter the price as well to see what's in their budget.
3. Price and Date(*)
 - a. Users can choose how many days they want to rent it
 - b. Users can see the rental price of the equipment
 - c. Users will get a penalty if they return equipment late or damaged, which will be specified in the renters profile description.
4. Chat Box(-)
 - a. Users can create a new conversation with the owner of the equipment to confirm the rental
 - b. There will be a chat option icon where one renter can communicate with the rentee for further information or questions.
5. Posting(*)
 - a. Users can rent out their equipment with the information of pickup location (1)
 - b. Users can set the prices for certain kinds of damage (1)
 - c. Users can select the amount for the security deposit (1)
 - d. Users can decide if they want to offer delivery for an extra fee (3)
6. In-app payment processing (3)
 - a. Each renter will receive stars and reviews after each transaction, these reviews can be accessed by the rentee, if a renter has too many poor reviews they will be blocked from the app.
 - b. Each person must do an email and phone verification for safety.

(*) - Priority, (-) - Low Priority

5: List of Non Functional Requirements

1. Ideally, our application shall run in any web browser and any operating system but also be used on any mobile device through any browser.
2. The users' passwords and usernames will be encrypted with the Advanced Encryption Standard method, possibly using an AWS Lambda.
3. All data will be completed in the MySQL Workbench and stored in the Amazon AWS RDS server
4. The website/app would be very easy to access, meaning we would have clear icons and not too many options so people can navigate through the site easier.
5. The expectancy of our website is a 2 second launch time
6. When switching from one window to another, the switch time should be roughly 2 seconds as well.
7. The goal is to make the website an easy experience, meaning getting people to their transaction as quickly as possible, so people get what they want, have a good experience, and leave a good review for the app.
8. Navigation will be clear, payment processing and information will be secure, and communication between people will be trouble-free
9. Our code will be processed in the Git Repository and managed not only by the git master but also by every team member. Each push will be discussed in the team. Git Repo will be cleaned and organized before each submission.

6. Competitive Analysis

<u>OTHERS:</u>	<u>US:</u>
HOME DEPOT: <ul style="list-style-type: none">- Rents only tools- Some home depots are far in location- Does Not offer drop off	RENTLY <ul style="list-style-type: none">- Rents anything people would find useful to others- Location can be as close as your neighbor- We offer to drop off at your house for an extra fee
FRIEND WITH A: <ul style="list-style-type: none">- Here people can make money renting things- They only offer limited things to rent specifically in California- Too many options, a bit all over the place	RENTLY <ul style="list-style-type: none">- People also make money renting things- We offer anything possible in our rent- We will be specific to CA for now
BABY QUIP <ul style="list-style-type: none">- They only rent unused baby items -- Get paid for renting these items	RENTLY <ul style="list-style-type: none">- We rent everything but I think some things are too personal to rent
CORT <ul style="list-style-type: none">- Rents our furniture for homes and offices- Useful for home selling and staging	RENTLY <ul style="list-style-type: none">- We can also rent furniture- Not only furniture but other things, we aren't limited.
RENT GYM EQUIPMENT <ul style="list-style-type: none">- You can rent gym equipment, any that you would need, without contracts- Expensive- Commercial rentals	RENTLY <ul style="list-style-type: none">- We rent gym equipment too, without contracts and for as long as needed- Better priced
RENTAL SHOP <ul style="list-style-type: none">- Rents shop equipment and specialty tools- Have to pay people for working there	<ul style="list-style-type: none">- Don't have to schedule in advance- Don't need to pay people for work

7. High-Level System Requirements

Server Host: AWS EC2 - m6g.medium, 4 GB of Memory, 1 vCPU, EBS only, 64-bit Arm platform Operating System: Ubuntu 16.04

Database: Amazon RDS/MySQL

Web Server: NGINX 1.12.2

Server-side Language: JS

Web Application Framework: ExpressJS

9. Checklist

DONE - Team found a time slot to meet outside of the class

ON TRACK - Scrum Master shares the meeting minutes with everyone after each meeting.

DONE - Github master chosen

DONE - Everyone sets up their local development environment from the team's git repo.

DONE - Team decided and agreed together on using the listed SW tools and deployment server

ON TRACK - Team ready and able to use the chosen back and front end frameworks.

- React - YuHang/Ben
 - Output: Create a sample page with working links
- ExpressJS - Chu Cheng/Chase
 - Output: Pass some data from Express to the frontend and display it
- Database Technologies (AWS/RDS/MySQL) - Lauren
 - Output: Populate a data table with sample data
- JS - Everyone

DONE - Team lead ensured that all team members read the final M1 and agree/understand it before submission