Study Space Booking System

User Research & Requirements Gathering Report

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Problem Domain

Accessible study space is a requirement for students. A study space offers a private, and quiet location suitable for learning, working, and communication. Spaces are primarily used by groups working on projects or coursework, performing study sessions, and having meetings.

Students may not have access to suitable study space off campus and due to the space requirements of study spaces, there is a limited number of them on campus. In order to provide fair access to study spaces a booking or scheduling system needs to be implemented.

The primary users of this system are Students from the Okanagan College that are actively booking rooms. Secondary are the teachers assistants, professors, and administrators that may book rooms on occasion for student use. Finally the Librarian staff are the tertiary users, facilitating the booking of the rooms by signing out the keys for the rooms to the students.

Project Goals

- Ability for users to book a study space for a specific date, time, and duration.
- Simple and efficient booking process
- Allow the users to manage and review their bookings

Requirements

Functional

- View spaces that are available for booking
- Book spaces for a specific date and time
- Book spaces up to a week ahead
- View space bookings
- Cancel space bookings
- Edit space bookings
- Display information and photo about the study space
- Inform the user how to use the system

Non-Functional

- Support multiple users logged in at once
- Support multiple room bookings at once
- Data store for space availability and bookings
- Accessible on mobile phones, computers, etc
- Pleasing/Easy to use GUI

Competitor Analysis

Our main competitor will be the Okanagan College Student Room Booking system found at
https://webapps-5.okanagan.bc.ca/ok/StudentRoomBookings/Booking. All analysis will be performed against
this solution.

Heuristic Evaluation

Rule of Thumb	Is this rule being applied? How so?	Is this rule violated? How so?	How can this rule further improve usability, utility, and desirability?
1. Visibility of system status	Instantly applies your booking to the table allowing you to see that the room is reserved. Figure 1	The rule is not being violated, the system status is perfectly visible	The system itself seems to be fairly visible to each user
2. Match between system and the real world	Information is provided on the meeting rooms. A picture, description, location, and notes are given to identify each meeting room.	The system and the real world are quite clear and thus the rule is not violated	Rather than the button used to book the room saying "Create", it could say "Book". A better signifier should be added to view room information. In all of our testing a very low percentage of users actually found this information. When on the my bookings page there should be an indication that the red x will cancel the booking.
3. User control and freedom	User can cancel a booking right away if they made a mistake.	Doesn't confirm if the user wishes to delete their booking, deletes it immediately.	Force the user to confirm if they want the booking to be deleted. Double check that the user wishes to book the room for the specific time frame chosen.
4. Consistency and standards	Color scheme is standard across web-pages.	The rule is perfectly adequate for the site	Change the color scheme into something more visually pleasing, keep the visual elements consistent.
5. Error prevention	Error messages but nothing breaks.	The rule holds up for error prevention	There doesn't seem to be any major errors in the system. All user errors through testing are caught and displayed to the user in a understandable manner. Figure 4 & 5

6. Recognition rather than recall	Allows you to pick the meeting room, rather than remembering which rooms exist, also allows you to pick the campus. Displays what times are unavailable.	Recalling all of the instructions and booking constraints on the first page is impossible unless you study them for a short period of time. Figure 1.	Making the system more generic with button icons and placement would make the system easier to recognize rather than recall. Provide the instructions in a more efficient way allowing the users to not have to recall everything from the first page, maybe include more instructions within the bookings tab.
7. Flexibility and efficiency of use	There are no flexibility features that are live on this site.	There are no flexible properties for a novice or an advanced user	Implement some flexible features as well as features to make it more efficient
8. Aesthetic and minimalist design	The site itself is not very minimalistic, there is a lot going on and can be confusing for a user to use the booking system for the first time. There is a lot of information, and directions given to the user on the landing page.	The initial page is full of text which is not quick to follow The booking page is cramped with lots of information all at once. The week tab has so much information it is not identifiable.	Home page should be simplified and a help button be added to the booking table. Colors and sizing are very off.
9. Help users recognize, diagnose, and recover from errors	There are error messages that appear and explain the error	The errors are explained in a way that makes sense, thus the rule is upheld Figure 4 & 5	It does not explain if someone tries to "drag" book for more than two hours instead it just forces two hours.
10. Help and documentation	There is help and explanation on the first page that are thorough	There is adequate information for help, however the instructions are large and could be	The help should be accessed from the booking table not just from the home page. Instead of blasting the user with instructions at the start provide a friendlier way of providing the user with instructions and directions when they want it.

		simplified. The system should be simple enough to use without any instructions but new users find themselves flipping back to the main page for instructions on how to perform basic tasks.	

Figure 1 - Landing page with wall of text for instructions.
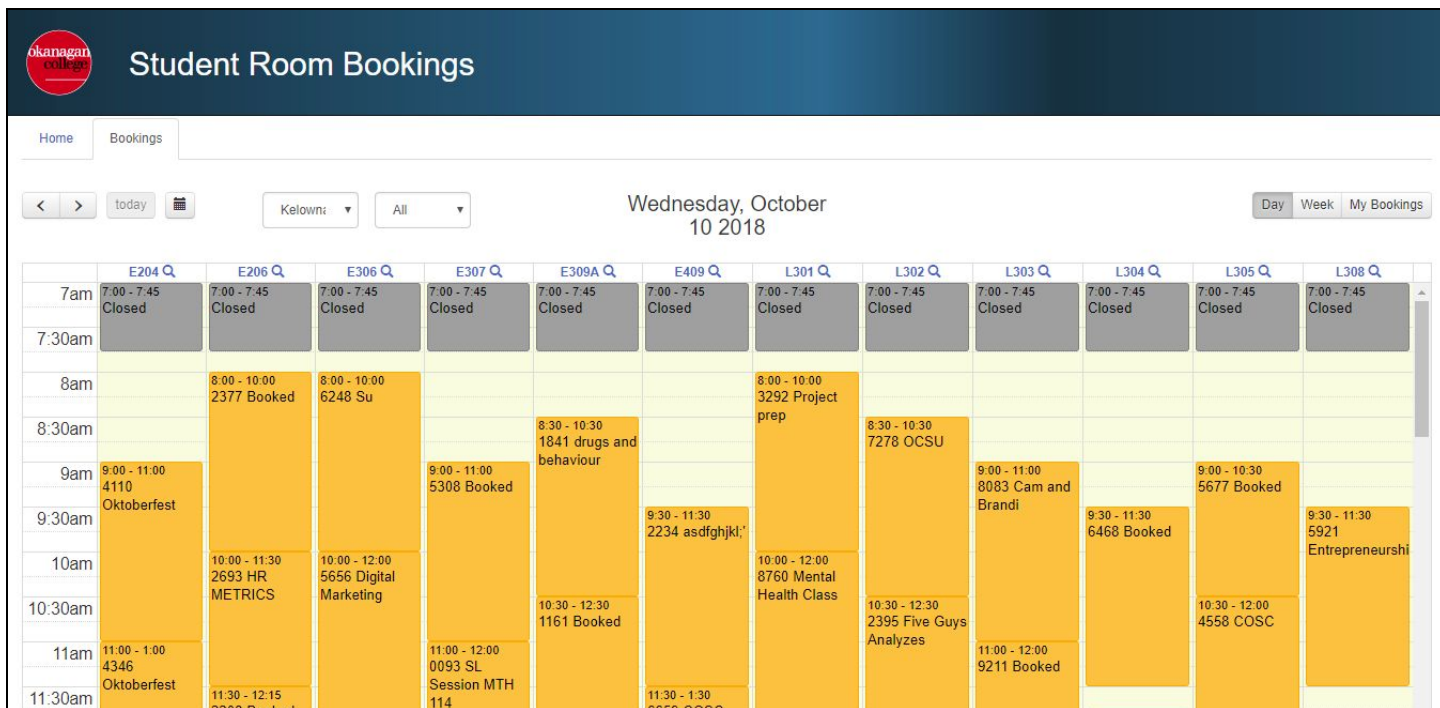
Figure 2 - Calendar day view.
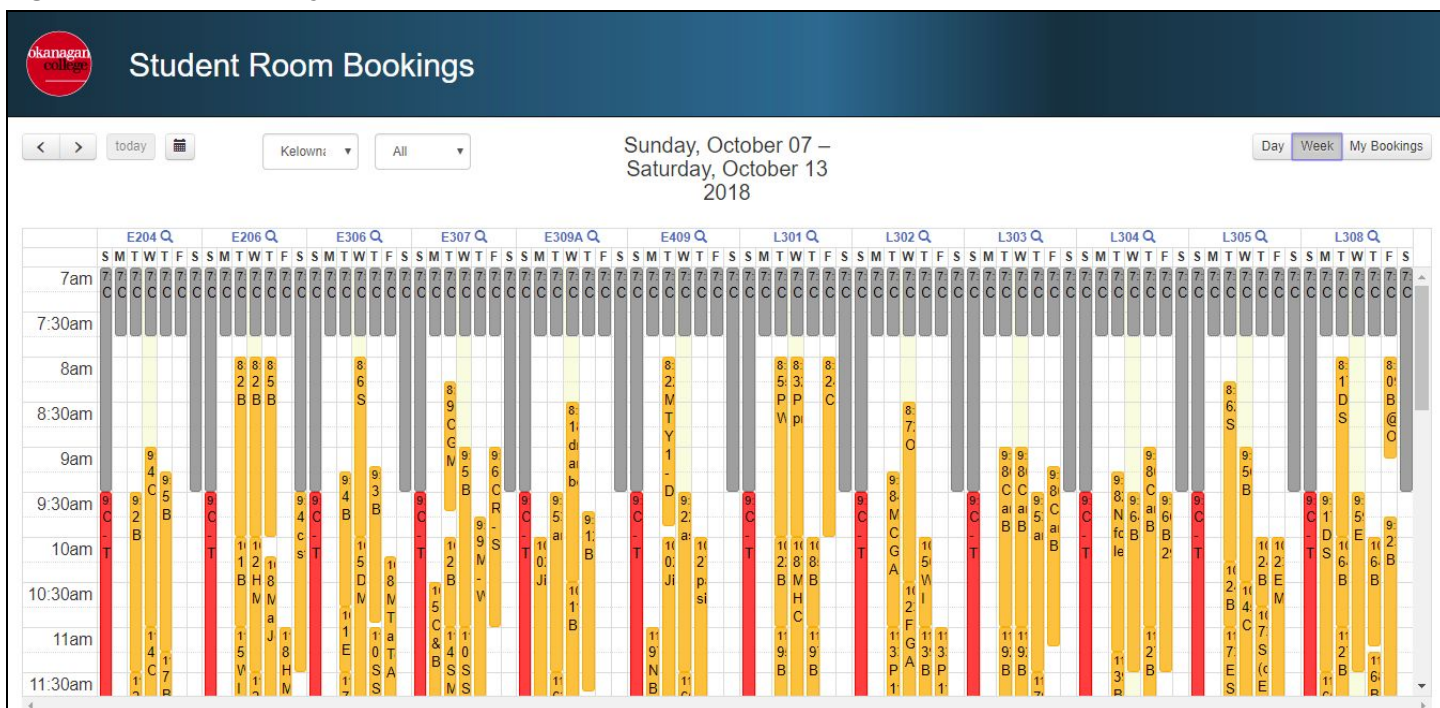
Figure 3 - Calendar week view

Figure 3 - Booking form

Figure 4 - Error message feedback

Figure 5 - Error message feedback 2

Figure 6 - Booking cancellation, no clear instructions.

Guerrilla Usability Testing

As a group we found individuals with little or a lot of experience with the Okanagan College Student Room Booking system. We asked them to navigate to the landing page and to repeat out loud whatever they were thinking about the UI/UX.

Results

User 1

- Colors bad
- Cluttered

- No restrictions on form input
- Weird start and end times
- Week view is dense
- Horrible format does not show

User 2

- Too many words on landing page
- Hard to see availability when all booked
- Small font
- Nifty drag time selection
- Week view is terrible and generates scared feelings
- Medium satisfaction, could look better

User 3

- Trouble finding the link to book meeting rooms
- Bookings tab not obvious to find
- Not obvious that you can drag select time
- Week view is disgusting
- Booking room information is nice, but hard to find. Includes room amenities in information

User 4

- Not visually pleasing
- Viewing a specific room on a specific day is ugly, same goes for week view for specific room
- No reason to show old bookings.
- Should show the closest booking first on the my bookings page

Analysis

The UI of the Okanagan College Student Booking Room system was deemed visually appealing with bad coloring and too much information. The calendar component was not intuitive enough. Week view contained too much information and users would shy away from it.

Interviews

Interviews were focused only on new users of the system. We wanted to determine the overall learnability and usability of the system to see what areas could be improved.

Results

https://www.dropbox.com/s/oik8ji2psxpw1cm/Interview.MOV?dl=0

Interview 1

1. How easy was it to book a meeting room?

   It was easy, after I read all of the instructions.

2. What did you like about the user interface?

I liked that the booking tab was easy to find. Liked that there was two tabs.

3. What did you not like about the user interface?

   There was a lot of information but I didn't like that there was two columns of instructions. I didn't like that there was not a clear instruction on how to cancel the booking. On the My Booking page if there could have been a clear instruction. "To cancel a booking click the red X"

4. In one word how would you describe the user experience?

   Useful (outside of the interview changed to constructive)

5. What would you improve?

   The whole cancel button thing. Show the time available was green or another color that indicated that you could book that time instead of grey. It was not obvious what time was available. If the times were more clear and visible.

6. How easy was it to learn the booking system?

   It was quick to learn after you read everything. There could have been a lot less instructions. More step by step directions with less words. Bullet points.

Interview 2

1. How easy was it to book a meeting room?

   It was a little confusing. The instructions were not very clear to me.

2. What did you like about the user interface?

   I liked how organized it was. It was easy to select a time.

3. What did you not like about the user interface?

   It was not very clear on when I could actually book a meeting room.

4. In one word how would you describe the user experience?

   Confused.

5. What would you improve?

   Less confusing. Make the instructions more clear. User had to read the instructions many times over. Being able to click on your booking on the calendar to cancel your booking and seeing the details.

6. How easy was it to learn the booking system?

Hard to learn, but now I feel like I know how to do it. Easy to operate once I figured out how.

Interview 3

1. How easy was it to book a meeting room?

It was easy.

2. What did you like about the user interface?

Liked the two tabs. Liked that it wouldn't let me book in the past but it should not have even let me try and book in the past. Liked seeing the times on the side and when the rooms was available.

3. What did you not like about the user interface?

How hard it was to figure out how to cancel the booking. Clicking the red X provided no feedback and I had to check the calendar to see if it was cancel? I didn't know I was looking at multiple meeting rooms. It was not clear.

4. In one word how would you describe the user experience?

Average

5. What would you improve?

Did not know there was multiple meeting rooms. It was not clear. It would be nice to see pictures about the meeting room. (There is but the user was unable to find it). Calendar was confusing, it would be better to ask for the day and see that day instead of looking at the whole calendar.

6. How easy was it to learn the booking system?

I didn't really learn anything I just tried to learn it on my own. I went to the calendar and pushed something and it just started. I had to figure out how to cancel the booking room by myself too.

7. Were the instructions clear?

The instructions were not clear. I did not read anything and went straight to the calendar. There was no prompt for what day you wanted to book.

Analysis

The Okanagan College Student Room Booking interface design learnability needs a lot of work. Learning the system at first is not very efficient but once the design and procedures are nailed down a user becomes very efficient. If the user takes the time to read all of the instructions they successfully learn how to use the system, but if the wall of text is too intimidating it can be a struggle. Overall all the first time users interviewed did not have a high satisfaction with the system. It was average and confusing to use but it is a required system to use if you want to book and in that regard it is useful and constructive to the users.

Survey Statistics

Results

How old are you?
7 responses

- 18-24
- 25-34
- 35-44
- 45-54
- 55-64
- 65-75
- 75 or older

42.9%

57.1%
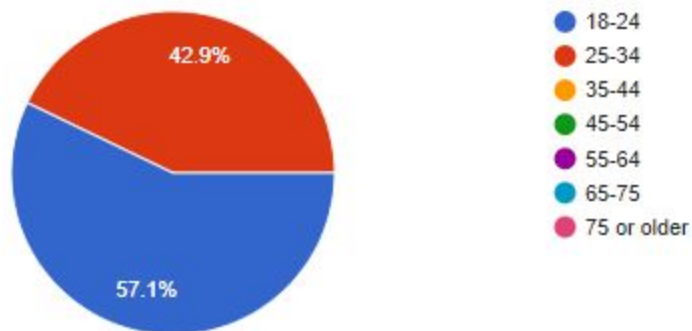
What is your gender?
7 responses

- Male
- Female
- Other

14.3%

85.7%
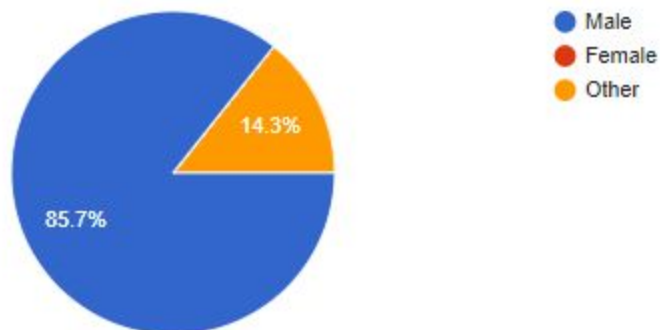
Have you ever booked a meeting room at Okanagan College?

12 responses

- Yes
- No

100%

How often do you use this system?

12 responses

- Often
- Not very often
- Never

25%

75%
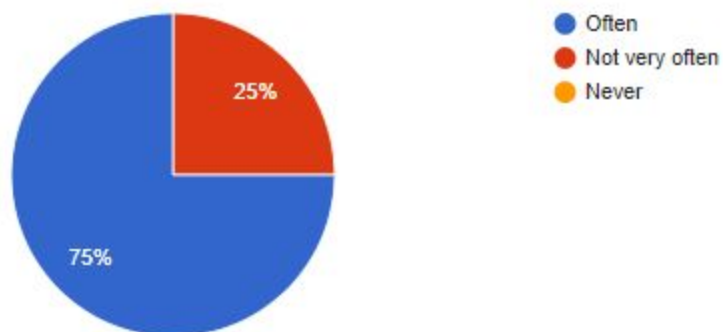
What would you rate the current system to book a meeting room

12 responses

Rating	Count
1	1 (8.3%)
2	0 (0%)
3	1 (8.3%)
4	2 (16.7%)
5	2 (16.7%)
6	2 (16.7%)
7	3 (25%)
8	1 (8.3%)
9	0 (0%)
10	0 (0%)
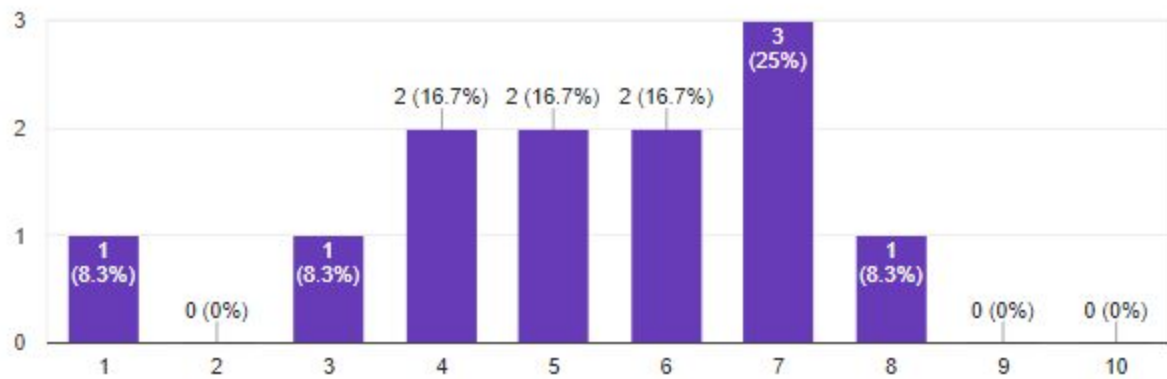
How likely is it that you would recommend this system to others

12 responses

Rating	Count
1	2 (16.7%)
2	0 (0%)
3	0 (0%)
4	1 (8.3%)
5	3 (25%)
6	2 (16.7%)
7	3 (25%)
8	1 (8.3%)
9	0 (0%)
10	0 (0%)
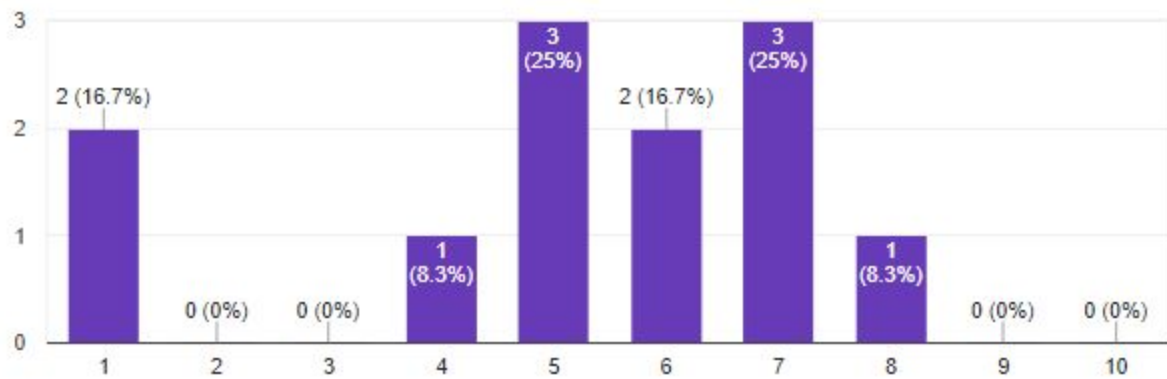
What would you improve?

12 responses

Mobile booking

Weekly view is gross, color scheme could be improved

Better week view

Mobile interface.

The weekly view

Customizable times

Necessary spaces previously available to all students are now only available to a few students. Specifically glass room on third floor.

UI, should only be a couple clicks

The experience

The ability to book

Allow Group-Bookings for more then 2 hours. Have some meeting rooms unlocked and usable by anyone.

Switch to Google Calendar

What year are you in at Okanagan College?

12 responses

- 1st
- 2nd
- 3rd
- 4th
- 5th or more

16.7%
16.7%
8.3%
58.3%
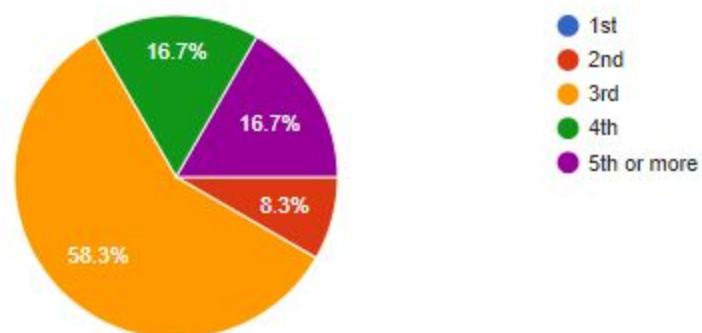
Analysis

- Who:
    - Students aged 18-34 in their third year or greater
- When:
    - Anytime a meeting room needs to be booked
- Where:
    - On campus, at home, off campus
- Why:
    - Study, Group Work, Interviews, Meetings
- How:
    - Web application. Browser interface.

User Wish List

- Improve design of the interface overall
- Increased learnability/Simpler instructions
- Easier to see details about meeting rooms
- Mobile interface or responsive design
- Week view should either be scrapped or redesigned
- Viewing a specific rooms booking for the day/week needs to be redesigned
- Bookings tab has unnecessary information

Personas created from User Research

Cathy

"Life is like accounting, perfectly balanced as all things should be."

- 18 years old
- 3rd year Accounting
- Single
- Likes reading
- Lives in the dormitory

Cathy goes to school full time in the Bachelor of Business Administration program and also works part time in the library as a citation assistant. Cathy is proficient with the Microsoft Office suite and is able to navigate the web. Cathy loves to eat french fries from the cafeteria covered in plum sauce.

Christian Slater

"Life is like, like, like, like..."

- 25 years old
- 3rd year Information Systems
- Single
- Avid computer user
- Lives off campus

Christian sells marijuana on campus and likes eating chicken wings. He is a ninja full stack web developer strictly using arch linux and vi. His condo is outfitted with a cooling tower so that he can keep his lamps and mining rigs running at peak efficiency. Some say that he has a wallet with 160 million dogecoins.

Billy Bob

"My trucks got a lift!"

- 32 years old
- 2rd year Electrical
- Married for 3 years
- Computers are complicated
- Lives on student property

Billy goes to school full time for Electrical and needs to book study rooms to receive private tutoring. He is also on probation for urinating in public requiring him to volunteer 10 hours a week picking up litter. Billy is able to navigate the web, mainly to view content streaming services. Billy likes to work on his truck and to get his truck stuck in the mud.

Hierarchical Task Analysis