Personas

Sarah Garrell (20)

Job Title: 1st year HR student
Education: High School + CEGEP
Experience:

- Starbucks Barista
- Summer camp counselor
- Plays piccolo

Goals:

- Get her degree and work in recruiting
- Pass accounting and finance

Goals and Tasks user accomplishes

Mostly she is worried about her finance class so anything that would help her with that would be appreciated.

Problem calculator solves

She needs a calculator to calculate the equations for finance class. Her school does not allow her a programmable calculator so she will need to memorize the equations. She would definitely appreciate a it if she could enter the equation from left to right just like she memorized them.

Interview Q&A

What do you use a calculator for?

- Almost exclusively for her accounting and finance classes
- Most of her usage of the calculator is for simple lightweight math used in accounting and finance.
- She does not use it extensively, mostly for exams and homework.

What would you like your calculator to do? Or what is the ideal calculator for you?

- She likes her calculator to be simple
- Prefers a calculator that has its function symbols identical to the ones in the books
- She would like her calculator to display the answers in a human readable form (5x7 Matrix numeric representation), and not the digital form (7-segment numeric representation)
- In the future she would like to see a calculator network system, similar to that of the iclicker, where the professor would give you a password, which after inputting it into the calculator, downloads a custom function from the professor's base station, or unlocks/locks some of the pre programmed functions in the calculator.

What kinds of calculators have you used? (physical, apps, online, etc.). Hardware or Software?

- Uses both a physical calculator as well as a calculator app on her phone.
- Mainly uses the calculator application because its always available.
- Prefers the physical calculator since she enjoys the tactile feel of the buttons and because phones are not allowed during exam time.

What functions do you use most often? Which ones do you use the least?

- Most of the time she uses functions such as: addition, subtraction, delete (backspace) , 10^x, Ans function for retrieving the previous answer , exponential and square root.
- Rarely, if ever, uses logarithms or any of the trigonometric functions.

What features did you like most about your calculator. What do you not like about your calculator?

- She feels indifferent about what she likes in her calculator. All she cares about is that the calculator gives the right answer.
- The only thing she does not like about her calculator is that it displays numbers in a digital format (7 segment numeric representation)

Are the aesthetics of your calculator important? What matters most (shape, color, personalized themes, etc.)?

- Most of the physical aesthetics are of little importance to her. What matters the most is that the calculator gives an answer.
- She claims that the physical aesthetics would be merely a perk and would not pay extra for them.

If youre using a keyboard, how would you map the keys to functions, numbers, etc. ergonomics?

- She would like her calculator to have some shortcuts to common functions such as percentage
- Prefers the shortcuts to have their own dedicated buttons on the calculator instead of having to press multiple buttons at once.

Thoughts on making a calculator that has customizable capabilities?

- She would like to have the ability to program functions into the calculator, but only if academic establishments would allow it.

Kevin Donnavan (23)

Job Title: Engineering Student
Education: 3rd Year Mechanical Engineering
Experience:

- 3rd Year Mechanical Engineering
- Summer internship as a junior structural engineer
- Army reserves - Infantry

Skills:

- Problem Solving, Mathematics
- Programming in Java, C#, and C++

Goals:

- Obtain a good GPA and find a job in his field.

Goals and Tasks user accomplishes

Kevin says he just wants to get through his classes and get a decent GPA. Like everyone, his hardest classes mostly have to do with math (although he feels he is better than average). Kevin will be happy with anything that can make his math calculations easier.

Problem calculator solves

The calculator helps Kevin get fast answers to difficult math problems he sees in class. Without a calculator, he is not sure how he would calculate the various functions that he sees on a daily basis. The calculator has to be precise enough so he can get the right answer to complex solutions of differential equations but he is not willing to wait - calculation must be near-instantaneous.

Interview Q&A

What do you use a calculator for?

- University studies
- Mostly finds himself using it for mathematical purposes.

What would you like your calculator to do? Or what is the ideal calculator for you?

- His ideal calculator would not be missing essential functions like plus, minus, multiplication, exponents, and the basics. Other common functions he mentioned from University, include logs, derivatives, e, integrals, roots, square roots, and more. He believes its a must to have the ANS (answer button), and calculation history included too.
- The calculator should be lightweight and portable.
- In the future he would like to see more calculators that provide more support for polar coordinates. Lastly he would like to have access to shorter readable manuals or video content to quickly go over all of the calculators features and how to implement them.
- Believes It would be great to have the answer button, calculation history, polar capability and a shorter readable manual!

What kinds of calculators have you used? (physical, apps, online, etc.). Hardware or Software?

- Both softwares and physical.
- Prefers physical calculator more than software-based because he has become used to it since his High School years.
- He doesnt mind using software calculators as long as it has useful shortcuts. He defined a simple software calculator as something that can open and run quickly on a computer or any other device.
- Kevin also mentioned he uses software calculators mostly for basic problems but not derivations and more advanced operations because it becomes too tedious to work with. He would much rather use the physical one.

What functions do you use most often? Which ones do you use the least?

- Addition, subtraction, multiplication, division, exponents, roots, converting to fractions, sin, cos, tan, exponents, logs, and mod.

What features did you like most about your calculator. What do you not like about your calculator?

- He liked Hexadecimal conversion, octa, binary conversions, derivations, and integration functions because theyre relevant to his engineering courses.
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- Kevin doesnt like using the mouse pointer on his computer to input the values and functions on his software-based calculator. He would much rather use the computer keyboard. He mentioned the clicking option should be removed completely to encourage others to use the keyboard.

Are the aesthetics of your calculator important? What matters most (shape, color, personalized themes, etc.)?

- Easy to fit in your palm, portable, not too colourful (greyish, black). It should also be key mappable if it is a software-based calculator.

If youre using a keyboard, how would you map the keys to functions, numbers, etc. ergonomics?

- He would use the numbered keypad for inputting numbers
- Any symbols that are already commonly found (+,-,;etc.) on both computers and physical calculators should be included.
- Assign important features and functions to large buttons, like the space bar or return key.
- Include a shortcut to quit
- Use the first letter of functions to input them into calculator. Ex: C for cos, S for sin, T for Tan, etc.

Thoughts on making a calculator that has customizable capabilities?

- Doesnt think it is necessary. He usually uses google to help solve complex problems and inputs the simple calculations on the calculator to double check his work and find the final answer.
- He believes it would be great to include physical skins to personalize the calculator but it is not a must.
- In the future he would like to make it customizable by being able to download packages for calculator functions that can easily be added or removed to the device.

Tarek Ghamzi (23)

Job Title: 3rd year Electrical engineering student
Education: High School + CEGEP, currently in Electrical Engineering
Experience:

- Subway
- Pharmacist assistant

Skills:

- Problem Solving, Mathematics
- Programming in C++ , and arduino

Goals:

- Finish his degree with a good GPA
- Find a job in his field

Goals and Tasks user accomplishes

Tarek claims that his main priority in life at the moment is to get his degree in Electrical Engineering. He claims that his field is heavily based on math, which he struggles with. He aims to graduate with a higher than average GPA to gain an edge over others in his highly competitive field.

Problem calculator solves

His calculator helps him in computing the high level mathematical functions that would take hours to solve by himself. It also helps him double check his answers for simple calculations. Tarek claims that his calculator is with him at all times. Its accuracy, speed and comfort are of highest value to him.