

User Story

Grammar and Spelling

While responding to an email from his manager, Andrew types quickly, resulting in several spelling errors and grammatically incorrect sentences.

For example, Andrew types:

“the testing ophase is mostly ifnished, we need to check last moduel and wait for feedback from desgin team.”

After Andrew finishes the sentence and presses the Return key, SPARK automatically analyzes the completed line. Within less than 2 seconds, the device replaces the original sentence with a grammatically correct version:

“The testing phase is mostly finished; we still need to check the last module and are waiting for feedback from the design team.”

The correction preserves the original meaning and technical content while fixing spelling, grammar, and punctuation. No user selection or manual editing is required. The system performs correction without interrupting Andrew’s typing flow.

Later in the day, Andrew meets his friend David, who has aphasia. David often knows what he wants to say but struggles to form grammatically correct sentences and spell words accurately. In the morning, David uses the keyboard to write a short message to a coworker about a meeting.

David types:

“meeting move tomorrow i cant come morning”

When David finishes the sentence and presses Return, SPARK corrects the sentence:

“The meeting has been moved to tomorrow. I can’t attend in the morning.”

The correction helps David express his intended message clearly without requiring him to fix each error individually and reduce effort and frustration.

Context Switching

- Being able “read” other articles, papers etc and integrate quotes

Andrew is a student creating a report for history course. He has various websites open with articles as well as downloaded pdf's of sources. Andrew has also uploaded handwritten notes that he had taken from the course.

He's overwhelmed and struggling to synthesize his thoughts and the sources he has acquired. Using spark he creates multiple context windows, his notes the assignment page and an abstract blurb he has created with his idea. Using the outline suggestion button on the spark pad takes in the context of the notes and blurb to create an outline for the paper, that aligns with the course as well as blurb and report guidelines. When Andrew starts to type his body paragraphs referencing a source the reference suggestion will appear on the spark pad. When pressed the spark pad will directly quote a section from one of the many sources open in Andrew's tabs/ and or the pdf sources using the citation style referenced in mla like the write up suggestion.

While writing Andrew gets a text from his classmate asking for clarification on the project guidelines. As Andrew starts to message his friend he presses the autocomplete button. With the context of the assignment it sends a short message with the guidelines

Andrew "Hey! For the project, we need to submit a 5-7 page research paper in MLA format by Friday. Make sure you include at least 5 academic sources, a works cited page, and follow the thesis-driven structure we discussed in class. Let me know if you need anything else!"

When writing the conclusion a the concluding suggestion pops up on the pad taking in the context from the paper to make a concluding paragraph taking away the minutiae of summarizing. Using the spark pad Andrew has cut down redundant tasks such as citing stitching between tabs will leverage the context of the spark pad in other functions.

Privacy

As a creative writer, John routinely uses GenAI to help with his writing. However, after signing a contract with a publisher for his new piece, he worries about uploading his content, which presents legal and financial risk to him and the publisher. He's heard about using localLLMs but it seems a bit complex to him. He just wants a simple plug-and-play device that provides local GenAI capabilities and focuses on writing.

Andrew is a student working on a history report for his course. He has various websites open with articles, downloaded PDFs of sources, and uploaded photos of handwritten notes from class. Overwhelmed and struggling to synthesize his thoughts and sources, Andrew turns to SPARK.

Using SPARK, Andrew creates multiple context windows containing his notes, the assignment page, and an abstract blurb outlining his initial idea. He clicks the **outline** suggestion button on the SPARK Pad, which analyzes the context from his notes and blurb to generate a structured outline that aligns with both the course requirements and report guidelines.

As Andrew writes his body paragraphs and references a source, the reference suggestion appears on the SPARK Pad. When pressed, it directly quotes relevant sections from his open browser tabs or uploaded PDF sources, automatically formatting citations in MLA style as specified in the assignment. This eliminates the need to constantly switch between tabs and manually format citations.

While writing, Andrew receives a text from his classmate asking for clarification on the project guidelines. He begins typing a response and presses the autocomplete button. Drawing from the assignment context, SPARK generates a short message:

"Hey! For the project, we need to submit a 5-7 page research paper in MLA format by Friday. Make sure you include at least 5 academic sources, a works cited page, and follow the thesis-driven structure we discussed in class. Let me know if you need anything else!"

When Andrew reaches his conclusion, the concluding suggestion appears on the Pad. It synthesizes context from the entire paper to generate a summary paragraph, eliminating the tedious work of manually summarizing his arguments.

While responding to an email from his other friends about the project, Andrew types quickly, resulting in several errors:

"the projet is mostly ifnished, I need to check last sectction and wait for feedback from the ta."

After Andrew finishes the sentence and presses Return, SPARK automatically analyzes the completed line. Within less than 2 seconds, the device replaces it with a grammatically correct version:

"The project is mostly finished, I need to check the last section and wait for feedback from the TA."

The correction preserves Andrew's original meaning and technical content while fixing spelling, grammar, and punctuation, all without interrupting his typing flow or requiring manual editing.

Later that day, Andrew meets his friend David, who has aphasia. David often knows what he wants to say but struggles to form grammatically correct sentences and spell words accurately. Using SPARK's keyboard, David types a message to a coworker:

"meeting move tomorrow I cant come morning"

When David presses Return, SPARK corrects the sentence:

"The meeting has been moved to tomorrow. I can't attend in the morning."

The correction helps David express his intended message clearly, reducing effort and frustration without requiring him to fix each error individually.

Andrew's friend John is a creative writer who routinely uses generative AI to help with his writing. However, after signing a contract with a publisher for his new piece, John worries about uploading his content to cloud-based AI services, this presents legal and financial risk to both him and his publisher. He's heard about using local LLMs but finds the setup complex. He just wants a simple plug-and-play device that provides local generative AI capabilities focused on writing.

SPARK addresses John's concerns by processing all content locally on the device. His manuscript, drafts, and creative work never leave his hardware, eliminating the legal and privacy risks associated with cloud-based AI services. John gets the AI-powered writing assistance he needs without compromising his intellectual property or contractual obligations.

By leveraging SPARK Pad's context-aware features, Andrew cuts down on redundant tasks like citing sources, switching between tabs, and manual grammar correction. SPARK helps David communicate more effectively despite his aphasia. And for John, SPARK provides the AI writing tools he needs while keeping his valuable intellectual property secure and private on his own device.