An ExoBrain Can Behave Any Way a User Wants

You can expect a completed ExoBrain to do pretty well everything that an Office Suite can do, but do it quicker, with far fewer steps and in a manner that is self-evident, using whatever mixture of language instructions and keyboard or mouse commands the user chooses.

It will be the first Office Suite that can be comprehensively controlled with normal everyday language. By "comprehensively" controlled with language, we mean that anything it is capable of doing can be done in response to a normal everyday language order to do that thing, whatever it may be.

ExoBrain has the ability to accept orders interchangeably from different sources:

GUI (Graphical User Interface – the keyboard and mouse as they are used today)

Language commands typed into it

Speech (if third-party voice-recognition software is installed)

Other ExoBrains (to which it can also give orders if permitted)

It turns out that the simpler the order (moving something around on a spreadsheet, for example), the more efficient GUI control is at doing it, and conversely, the more complex the order, the more efficient are language orders at getting it done.

Other ExoBrain documentation comprehensively covers the many other things the ExoBrain will do including things that software cannot do. This issue covers additional uses of language control of ExoBrain.

The Personal ExoBrain Basic Edition will do some of the things described below, but the Complete Edition (into which the Basic Edition will metamorphose over time) can be expected to do all of them, and more.

All the examples given are examples of the type, the kind of things ExoBrain can be told to do and how it would respond. Unlike conventional technology, the specific instances do not have to be preprogrammed or "algorithm-d."

1 Language Commands

In addition to operating normal Office Suite under language control, ExoBrain will also execute simple language orders such as the following:

👤 Every morning except Sundays, search the Internet and show me news in the last 24 hours about apples. Then show me communications from customers who have bought more than $500k from us in the last year, then show me communications from family and finally then show me all other communications.

🧠 What about Sundays?

👤 Sundays, just show me communications marked "Urgent," or which are from my team or family.

🧠 Who is on your team?

👤 Bill Frances, Joe Brown and Bill Whipple.

🧠 Which Joe Brown?

👤 The one in New York.

🧠 Got it.

Another Example:

👤 Scan in the photo on the scanner.

🧠 Here it is. What do you want to call it? How do you want to identify it?

👤 Call it the Apple Banana photo. Reduce it to half its present size.

🧠 Oops. I don't know how to do that. Give me a moment to find out … MotherExoBrain says I need photo-editing functionality to do that and it costs $0.50 a month? Can I pay for it and get the stuff we need?

👤 OK. Go Ahead.

🧠 Thank you … did that. Now, this is half size. How's that?

👤 Oh, a bit bigger.

🧠 OK. What about that?

👤 That's OK. Now send it to my wife.

🧠 Done. What's next? Her ExoBrain got the photo you sent, by the way. She's looking at it now.

2 Conditions, Actions and Specifications

Much of human activity occurs in terms of combinations of:

1. *Conditions*
   • a) If the windows are dirty; b) If it starts raining; c) In the morning

2. *Actions*
   • a) clean; b) close; c) open

3. *Specifications* (identifying a precise thing)
   • a) the windows; b) the windows; c) the windows

a. If the windows are dirty, clean the windows.
b. If it starts raining, close the windows.
c. In the morning, open the windows.

We refer to these as "CAS sets," a CAS set being a specific combination of Conditions, Actions and Specifications. There are trillions to the power of trillions of possible CAS sets.

We will preload ExoBrains with some useful ones. When an ExoBrain is taught (told to do) a CAS set by its user, the user will have the choice to let the ExoBrain pass it on to MotherExoBrain for onwards transmission (after our approval) to all other ExoBrains. So, what one ExoBrain learns to do, all other ExoBrains can learn to do. When one ExoBrain grows, they all (can) grow.

In the ExoBrain, programmers do not create Condition-Activity-Specification sets – users create CAS sets on the fly. Some simple examples are:

When I say "Send," I want you to try and send whatever it is by SMS if it is less than 240 characters; otherwise, send it by ExoMail, and if you can't do that, then send it by email, and if you can't do that, print whatever it is on letterhead and print an envelope for it too and let me know mail is ready to send out. If I say "Send" by one of these methods, try that method first and only try the others if that one fails. Always tell me which you did.

I've made a note of that.

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Another Example:

When I tell you to "Shut down," I want you to send my wife an SMS saying I'm coming home, back yourself up to the Backup ExoBrain, delete any drafts older than six months and copy all the uncopied stuff to the Home ExoBrain. OK?

OK. Do you want me to shut down now?

No, but after you shut down tonight, go through everything and make a list of everyone to whom we offered apples in the last six months who bought bananas (but not apples) from us. Send them our latest apple catalogue. In the morning, print a list of each person to whom you sent the catalogue and, for each, how it was sent.

OK.

In an ExoBrain, the sort of Condition-Activity-Specification sets described below do not happen by reason of a programmer-decided, fixed AI algorithm as they do in current AI (which is more correctly called "simulated AI").

Because it is the user who decides what actions are done as a result of what conditions, and not a programmer and his fixed algorithms, there are no pre-fixed limits or "can't do's." Because ExoBrain is any Any-to-Any machine, any Condition/s can be used with any Action/s and any Specification/s. Consequently, when a new Activity (functionality) is created, it can be used anywhere, including being added into already created CAS sets.

To be specific:

- It does not matter what the Conditions are, as long as the ExoBrain can detect them.

- It does not matter what the Actions are, as long as the ExoBrain has been enabled to do those actions.

- It does not matter what the Specifications are, as long as the ExoBrain can detect them.

The interaction of many of these pre-established CAS sets will result in an endless and unlimited variety of behaviors of which the following are just examples:

👤 Where is my wife right now?

🧠 Just a second, I'll ask her ExoBrain ... in the Starbucks on the corner of Sixth Street and Fifth Avenue. Do you want to talk to her?

👤 No. Put me through to her when she's ten minutes from home.

🧠 OK ... Your wife is in her car, a few minutes away from home. Putting you through now.

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Another Example:

👤 I want to send an email to Joe.

🧠 Do you mean Joe Brown or Joe Green?

👤 Green, the Joe who lives in New York ... the guy who gave me a banana.

🧠 Here you go. [Email appears with everything in it already done except for the subject and text.] What do you want the subject to be?

👤 "Re $10,000 you've owed me since March last year."

🧠 Heading appears on the letter. What do you want to say?

👤 (Dictates text.)

🧠 [Text appears on screen.]

👤 Delete the second sentence.

🧠 [Second sentence disappears.]

👤 Change the ending from "Yours sincerely" to "Best."

🧠 [The ending changes.]

👤 OK. Send it ExoMail and by post.

🧠 OK. Please put an envelope in the printer. Do you want to know when Joe gets it?

👤 Please.

🧠 ... Joe's ExoBrain has received it ... Joe's wife has read it ... Joe has read it also. He deleted it. Joe has told his ExoBrain to tell me to tell you to stop bothering him. How do you want me to reply?

👤 Tell Joe he'll have a letter from my lawyer next week.

🧠 His ExoBrain has told him.

Another Example:

🧠 I've received the phone bill for March from Sprint's ExoBrain. It's for $156.22. Shall I book it and pay it when it's due?

👤 Why is it so high?

🧠 The data charge is double the usual amount. Do you want to see the bill?

👤 Yes please.

🧠 [Displays the bill.]

👤 Oh, I see. Show me the bill for last month.

🧠 This one? [Displays the bill for last month.]

👤 Yes. OK, put it in the accounts under Sprint and schedule it for payment due.

🧠 I've done that.

👤 How much do you have scheduled to pay at the end of the month now?

🧠 $3,144.79. That's 319.22 more than you are expecting to receive.

👤 In that case, contact the garage's ExoBrain and reschedule the car service for next month.

🧠 I've done that, for the 24th at 08:45.

Verbal Programming

With comprehensive everyday-language control, the legacy paradigm whereby programmers created fixed relationship programs is no longer workable. Now, the user will give instructions directly to ExoBrain – that, in yesterday's world, would have constituted creating a program, and was something programmers needed to do.

In the ExoBrain paradigm, "programming" is done in response to simple language orders. The following example illustrates:

👤 I just sold George some bananas. Send him an invoice for 125 kg at $1.99 per kg.

🧠 What's an invoice? What is in it?

👤 It's a letter-size sheet of paper with the seller's name and address at the top left. Put a label "SELLER" above the seller's name and address. Then below that label, on the right, put the name and address of the buyer with the label "BUYER" just above it. Then …

(The user goes on describing the invoice with the things he described popping up on the screen as he describes them. Then he adjusts everything to look right, just as he would instruct a secretary doing it in front of him.)

OK, that's an invoice. Every time I say "invoice" somebody, put the amount of the sale in their account, create, print and send them the invoice. If you have not received the money in seven days, chase them up and let me know when you have done so and what they said.

🧠 OK. This is the invoice for Joe. Is it OK?

👤 Yes. Now send it to him and do the rest of your instructions for invoices.

🧠 Done.

Help us create a better, saner, more responsible world!

CONTACT SHAWN DENNING TODAY.

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