

## Futurecast: Personality, Energy and Learning with Phil!

Hi, this is Lee Ackerman, and in this Futurecast I want to introduce you to Phil, a new bot that is the intelligent interface for a personality aware, energy management learning system. Research and experience focused on impact in software-driven business innovation over the last 20+ years has taught me to recognize key and fundamental aspects of enterprise success. As I worked with more and more clients I realized that “people” and how they learn were the critical success factors. Business, technology, and markets change fast – people need to be able to learn, share and adapt and they need to do so as quickly as possible.

Agile and Lean values and principles have been promoted as approaches to meet these learning needs. These approaches encourage us to: “amplify learning,” “see the whole,” value “individuals and interactions”, prefer “face-to-face” collaborations, support “motivated individuals”, pursue “technical excellence”, operate with “transparency,” and pursue “simplicity.” Ceremonies and techniques are also part of the mix including stand-ups, retrospectives, pair programming and open office layouts – everyone works together, all the time. However, there have been bumps in the road. According to Bernstein and Turban, open office layouts reduce productivity, reduce in-person interactions, and lead to increases in email and instant messaging. Many Agile transformations have frustrated employees, stalled or found success only by moving the goal posts.

Challenges and disappointments have arisen as the industry has too narrowly viewed how people work and collaborate. Learning via Agile and Lean approaches are typically interpreted through the lens of the extroverted “ideal.” As Cain notes, one-third to one-half of the workforce are introverts, as such, we need to be more thoughtful about how introverts are supported. We need to account for both extroverts and introverts – recognizing the interconnectedness between personality, tasks, energy and innovation as noted by Zhang, Zhou and Kwan.

Recall that introverts typically find their energy depleted in group settings, they are more sensitive, prefer to listen and think before talking, and prefer deeper, more intimate and thoughtful discussions to small-talk, and some solitude never hurts. In contrast, extroverts’ energy gets restored in group settings, they like small talk, and prefer to talk out ideas rather than waiting. As highlighted by Cain and Little, an individual can participate in activities in ways that are atypical for their personality – but there is a cost, doing so typically draws upon their energy. In contrast, as people align with their personality traits, they can find their energy levels being recharged. And a person that has had their energy levels diminished is less likely to learn, is less creative and less likely to have an impact. These “restorative activities” as named by Brian Little are key to helping the individual restore depleted energy levels.

Phil helps users manage their energy levels based on their personality and the modality and context of their activities. Upon registering for the service, users are given a personality

assessment based on the “Big Five.” Phil draws upon capabilities from the mobile learning ecosystem including cloud computing, big data, analytics, natural language processing, mobile device sensors (such as motion, proximity, and sound) and a whole range of apps and API-based services such as maps/GPS, calendar events, Twitter, Foursquare, and SnapChat. This mobile learning ecosystem is broad, deep and interconnected and is where Phil’s intelligence arises.

Phil continuously measures user’s energy and summarizes its current view via the “ME-ometer”. The ME-ometer uses the metaphor of a battery – similar to what your mobile device would use for its energy. Full and green is good. Low and red means that the user needs to find a quick way to recharge. Phil always provides users with the ability to course correct and train the system – so if a user’s self-assessment doesn’t align with what’s displayed – they can tell Phil how they really feel.

Users can also ask Phil questions such as:

- “How’s my energy trending?”
- “How can I recharge?”
- “Can you recommend alternative approaches to completing this task?”

Users can even give Phil direction to adjust the day ahead to better align with their energy needs by issuing commands such as:

- “Adjust my schedule to include some alone time”
- “Find me a quiet place to work”

Phil builds on research and experiments related to IBM Watson, Siri, Alexa, and apps such as Zara the Supergirl, StudentLife and Track Your Daily Routine. Zara, Track Your Daily Routine and StudentLife illustrate that bots can be empathetic, smart, and have deep learning capabilities covering workload, stress, modality, sociability, personality and mental well-being and the relation of these measurements to performance.

Behind the scenes, Phil is supported by an ever-updating catalog that is populated with insights about activities and energy impact. This activity catalog denotes activity duration, size of group, intimacy, level of stimulation, and energy impact as it relates to personality. Building on this initial set of information, the app learns about each individual user and also from all users. Phil notes users’ movement, location, and interactions via the mobile device’s microphone, gyroscopes and GPS, online social interactions, and proximity to other people.

Phil needs to have a very deep and personal relationship. The more that is shared, the more helpful Phil becomes. Phil strives to be a guardian of data and privacy and takes significant steps toward this goal. Phil utilizes the Privacy Model for Mobile Data Collection Applications as introduced by Beierle et al. This model is broad and thorough as it covers nine mechanisms supporting privacy. In addition to this model, Phil incorporates standard best practices utilizing encryption, authentication and secure communication.

Thanks for listening – and have fun learning with Phil!

## References

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