DEAP Competencies: Dispositions

Version 1, 12/23/2023

Prepared By Dr. Marisa Exter, Dr. Mihaela Sabin, Dr. Shamila Janakiraman, Deepti Tagare, MS, Ankita Kotangale, MS, Dr. Suzhen Duan
Table of Contents

Introduction
Being Collaborative
  Ability to Navigate Social Dynamics
  Being Helpful
  Being Humble and Respectful
  Being Sociable
  Blending into the Org / Team Culture
  Having Empathy
  Being Independent
  Professionalism
  Being a Team Player
  Valuing Communication and Collaboration
  Willingness to Speak Up
Being Conscientious
  Attention to Detail
  Being Self-driven & Intrinsically Motivated
  Being Ethical
  Perseverance or Tenacity
  Self-management
  Work Ethic
Being Leaderly
  Being Supportive
  Being Visionary
  Being a Team Facilitator
  Willingness to Delegate
Intellectual Openness
  Adaptability/Flexibility
  Being Curious
  Being Open to Critical Feedback and Failure
  Being Open-minded
  Diversity and Inclusion Awareness
  Jack of All Trades
  Passionate
  Manager’s Passion to do Technical Work
  Development & Testing Mindset
  Willingness to Ask for Help
  Willingness to Take on a Challenge
Lifelong Learning Orientation
Self-regulation
  Confidence
  Ego Regulation
  Patience
  Positivity
  Resilience
  Self-aware & Self-reflective
Self-efficacy
Self-identity
Work-Life Balance
References
**Introduction**

Dispositions are personal qualities such as values, beliefs, and attitudes that impact an individual’s actions. A person may have the appropriate skills and knowledge to perform a task, and yet may not be able to perform satisfactorily due to the lack of suitable dispositions. Dispositions help a person identify *why* and *when* things need to be done and motivate them to follow through in action using knowledge and skills.

As part of our initiative to determine competencies important to computing professionals, we interviewed 32 individuals in computing related roles who work in a range of industries and have varied roles, responsibilities, and professional and educational backgrounds. We also reviewed 52 articles that included data from computing professionals related to skills, knowledge, and/or dispositions required on the job (with publication dates from 2010-2021). These data sources were analyzed using a thematic analysis approach adaptation of the Constant Comparative Method for Naturalistic Inquiry (Lincoln & Guba, 1985).

This document is the first draft report of the findings related to Dispositions from across data sources. In each section, you will find:

- A general description of the category of dispositions
- A nested list of related competencies. Under each, you will find a description and one to three illustrative quotes. Note that the description is based on themes in the data—it is *not* a definition or set of criteria for assessing this competency.

For tips on navigating this document, take a look at the Using the DEAP Competency Documents document.
Being Collaborative

Competencies in this section relate to outward behaviors that favor social interactions and working with others. Depending on the work context, several or all of these qualities may be required to survive and thrive in a social work environment and foster constructive cooperation.

While there may appear to be some overlap between these competencies and those in other groups, the competencies in “being collaborative” focus on social aspects.

**Ability to Navigate Social Dynamics**

**Description**
- Being able to work with difficult people or people with different styles
- Navigating non-conducive work environments, able to survive uncomfortable situations

**Quotes**

Sometimes we are working in a high energy environment and where you know there are emotions flowing through and everything. Sometimes it, it all depends how other people take it. You know, understand the situation context, how a person is behaving in certain context and high energy environment. (Interview)

**Being Helpful**

**Description**
- Helping other people improve (e.g., improve their coding style, understand organizational culture, etc.)

**Quotes**

People that are willing to help others. Lend a listening ear, be there when there's hard times or there's problems to solve. Those are always very good qualities that helps. (Interview)

**Being Humble and Respectful**

**Description**
- Acceptance of one's mistakes
- Keep ego in check and respect others

**Quotes**

Humble... I need to be proud of what I'm doing. That doesn't mean that I don't acknowledge some mistakes that I make, or the flaws that exist in this product. (Interview)

**Being Sociable**

**Description**
- Being approachable, friendly, pleasant, and polite
- Having a sense of humor
- Not being crude or unfiltered in what you say/do

**Quotes**
Generally, I want to look for someone not very aggressive because everybody in my team is very nice. (Interview of a Manager)

When you're building code on top of somebody else's code, you should either use their code or give them constructive feedback about what they need to change in order for it to be useful. [What a non-sociable team member] would do instead is just like re-write stuff without telling anybody here… then the person who owned it would come back and be like, What the heck just happened? (Interview)

Blending into the Org / Team Culture

Description
- Getting along with team members and the overall culture in the team
- Demonstrating how you can add value to the team and how you have unique skillset that can help the organization or team

Quotes
In in-person interview it is about how they interact with the team. If you hire someone that doesn't fit the culture of your team, it's just it's a hindrance no matter how talented they are (Interview)

Having Empathy

Description
- Showing empathy towards others (e.g., customers and co-workers)
- Putting yourself in others' shoes

Quotes
Empathy is really important, so sometimes I talk to people, while imagining that I'm in their shoes. I think empathy is really, really important, not just for designing the products for our customers, but also during the work collaboration. (Interview)

I think it's important to develop empathy… to learn to understand where somebody else is coming from. The customer from hell, they're probably really not out to make your day miserable. They're frustrated they're having a problem. You can understand why they're upset, why they're having problems. And try to give them solutions for that. (Interview)

Being Independent

Description
- Working without supervision

Quotes
Can work independently (Literature – Berkling et al., 2019)
Can work individually (Interview)
**Professionalism**

**Description**
- Being able to present oneself in a respectable manner
- Avoiding inappropriate conversations
- Meeting project timelines and prioritizing work when necessary
- Showing ownership of one's work
- Upholding values

**Quotes**
Software engineers accept responsibility for others and for joint projects. Software engineers are working thoroughly and handle their responsibilities carefully. (Literature – Sedelmaier & Landes, 2014)

We had another example with the guy who's like, 24, and I think he was just, like, still in his frat boy stage. We basically just let him go, we tried to lay out pretty clear metrics for success, he stopped hitting those metrics, he also just became less professional overall, like showing up hungover to work and all these other things. So he didn't want to play by the rules of being a good teammate. (Interview)

**Being a Team Player**

**Description**
- Seeing oneself as a member of a team
- Willingness to contribute to the team’s efforts
- Willingness to help team members when needed

**Quotes**
Team-related soft skills such as teamwork, team-player and team-oriented seem to be the most important, as they appear in 105 out of 132 jobs advertisements, including instances where the word team was used to imply team-related skills. This represents approximately 80% of the job postings. (Literature – Nwokeji et al., 2019)

[When interviewing] we look for someone that can work on a team. You know, teamwork is very important in our group. So certainly would look for someone that had that teamwork. (Interview)

Just being there for your team members when you know they're in a crunch, let's say, like one of my coworkers is having an issue with some code. You just need somebody to look at it to help him get out of that pinch. So being there to help in that regard. (Interview)

**Valuing Communication and Collaboration**

**Description**
- Willingness to have a conversation and being collaborative
- Realizing that a conversation does not imply judgement
- Avoiding being dictatorial - consider the needs of all members of the team (especially for managers)

**Quotes**
There are a lot of meetings that you go to and people are just so afraid to say anything because they're afraid it's the wrong thing. But if you can establish an atmosphere of collaboration, an atmosphere where it's OK to be wrong with each other, then you can sort of push each other up and say, well, that's not exactly right. This is how you would do that and that's not seen as an insult. It's seen as a collaborative activity. (Interview)

**Willingness to Speak Up**

**Description**
- Willingness to bring to attention to a problem
- Willingness to offer new ideas

**Quotes**
You may be wrong, doesn't matter, speak about it because if you don't speak it today then if the damage is done and then you realize that, oh I should have spoken at that particular point in time. You never know how important your comments are. So, if you have any doubts or anything to say, just talk about it honestly, let the people know, don't be shy about it, don't be embarrassed about it. Put your ideas through. (Interview)

**Being Conscientious**

Competencies in this section relate to attributes that impact the quality and timeliness of an individual’s work output. These attributes, although not all necessary at all times, are important for an individual to be able to deliver satisfactory performance at work.

**Attention to Detail**

**Description**
- Feeling a thorough concern for all aspects of a project

**Quotes**
Computers do exactly what you tell them to do. A computer will not interpret what you're telling it and figure out what you mean. It'll just do it. So I think attention to detail is one of the important skills that any IT professional needs. (Interview)

**Being Self-driven & Intrinsically Motivated**

**Description**
- Being self-motivated by the work, or working in this domain
- Taking pride in one’s own work
- Being self-directed
- Being proactive

**Quotes**
Some of that depends on the organization you are in. For my organization, you have to be a self-starter. Nobody told me to go take a course. Nobody told me to go look in a codebase, nobody. I mean literally. What I saw was hey, I have a job to do that’s in something I've not done before
and I need to go find a way. I want the product to be successful. I want to be proud of what I'm doing. I think that is something that is driving me to do what I have to do. (Interview)

Software engineers are capable of motivating themselves to contribute their share, even in complex workflows, in complex team structures, and over an extended period of time. Software engineers are capable of accepting responsibilities and of solving problems in a self-directed fashion, even without external push. (Literature – Sedelmaier & Landes, 2014)

**Being Ethical**

**Description**

Note – This is tentative description based on the themes in the data. We will provide refined definition in a future version.

- Honesty and transparency
- Discreet
- Sustainable computing orientation (also known as green computing)

**Quotes**

You may be wrong, doesn't matter, but you know, speak about it, you never know how important your comments are, you know. So if you have any doubts or anything to say just talk about it honestly, let the people know. (Interview)

Software engineers are capable of gauging the consequences of their activities and of behaving according to social and ethical norms. (Literature – Sedelmaier & Landes, 2014)

Care about environmental problems caused by IT. (Literature – DuBuisson & Naidoo, 2014)

**Perseverance or Tenacity**

**Description**

- Having “grit”
- Continuing to work on a difficult problem
- Getting things done even you find them dense or boring

**Quotes**

Tenacity to get it working. I was working probably 12 hours a day at that point trying to get things fixed. I would not like to do that again, but…. if you just give up nothing, nothing has been gained or achieved. I think there's nothing that you can't eventually figure out. It's just finding the way to the keys to unlock the doors. (Interview)

Uh, persistence. It's probably the biggest thing. I'd say just because there's always going to be something, some road block and you gotta get through it one way or another. So being able to not be frustrated and just keep moving is very important. (Interview)

**Self-management**

**Description**
- Time management
- Regulating one's emotions, thoughts, and behaviors effectively

Quotes

[In software development] steady development instead of sporadic development would be a good. (Interview)

Work Ethic

Description

- Willingness to work hard
- Being accountable for one’s own work

While professionalism is the outward sign of your respect for your work, work ethic is the driving force.

Quotes

Being able to perform action items and being held accountable for it. You do have people that are depending on you to do your job. (Interview)

Willingness just to put in hard work... the biggest thing is you know we're always looking to hire people, that's willing to put extra time in going above and beyond are usually very successful. You don't want someone who says well that's not my job. I'm not doing it. (Interview, Manager)

Being Leaderly

Competencies in this section relate to traits of leaders. While they may be similar to those in other sections, they are from the point of view of someone who is leading others (whether in upper-management, middle-management, or as a tech lead). We do believe these are important for students to begin developing.

Being Supportive

Description

- Supporting supervisees to take make decisions and design judgments individually or collaboratively

Quotes

I think this Tech Lead role... instead of managing, it's more about supporting. So I have to be supporting everyone, like my peer UI engineers, my back end engineers, my QAs... So I have to be supportive to them as well... like the decision making, so sometimes they have an idea. They just need a back up. (Interview)

Being Visionary

Description

- Being able to see the big picture or the future of organization

Quotes
Within one of the studies that made part of our systematic literature review, they summarized statements made by their own interviewees:

Ten interviewees described the importance of this competency with statements such as “it’s getting people to look at the big picture” and “can see things broadly and strategically” and “has this vision about going ahead and doing things that I think is really good.” Another interviewee said that it was important that an IT architect had the vision of what we were trying to achieve. One interviewee noted that vision is associated with influence: to influence things you need to have the longer vision. (Literature – Ho & Frampton, 2010)

**Being a Team Facilitator**

**Description**
- Being able to keep the team engaged
- Being able to foster accountability

**Quotes**

[It’s] important is to keep your team engaged, 'cause otherwise I'll just lose interest. They'll get complacent. They'll lose focus and ultimately make a mistake, and [that] is something that we should try to avoid at all costs. But they do happen and it's just makes it a lot more stressful for people when there is no interaction with anyone to when you do make mistake. (Interview)

**Willingness to Delegate**

**Description**
- Realizing willing to delegate work to others
- Being willing to let others to take the lead on tasks

**Quotes**

I cannot exhaust myself and I have to learn how to delegate the work. I cannot say, ‘OK, I’m the Tech Lead, I need to take the most fruitful work’… I cannot take it on. I think you do need to. Give up the fact that you're….You can still be a smart person in the room, but you shouldn't be the smartest person in the room about the problem. You should give up fun stuff and give that to your team. You shouldn't be in critical path.

**Intellectual Openness**

Competencies in this section relate to a motivated mindset that is amenable to change, new ideas, as well as new people. To navigate the changing and fast-growing nature of the computing field, professionals need to leverage one or more of these attributes for a steady career growth.

While some of these may appear to overlap with *Being Collaborative* competencies, the focus of those competencies is on how individuals interact with one another, while these are internal. Therefore, “Valuing Communication & Collaboration” and “Willingness to Speak Up” in *Being Collaborative* relate to how and when individuals communicate with each other. “Willingness to Ask for Help” and the aspect of speaking up within “Ethics” in *Intellectual Openness* relates to how one thinks about the tasks they are working on, and what motivates them to talk with others.
Adaptability/Flexibility

**Description**
- Willingness to change course or adapt
- Willingness to compromise in interest of other priorities

**Quotes**
Software engineers exhibit openness towards others and towards novel situations. They are willing to and capable of getting involved in unprecedented and unplanned situations and of responding to these situations flexibly and appropriately. (Literature – Sedelmaier & Landes, 2014)

Being Curious

**Description**
- Being inquisitive
- Understanding that there is always more to know

**Quotes**
[describing an ideal employee: ] I mean, he was just curious. Like he just, he was never willing to say like, oh, that's how it works. And it's not like I am perfectly happy to take a tool and use it as it's intended to be used. I think maybe that's what sets them apart is like they want to dig into it. (Interview, Manager)

Curiosity, that is more important. You have to be curious to know how things work how things are, of how things are put together [and] have curiosity you will dig into it… because lot of things are born out of experiments. You know you keep doing a lot of experiments. Try different things (Interview)

Being Open to Critical Feedback and Failure

**Description**
- Being able to take feedback constructively
- Being unafraid of failing; seeing mistakes or failures as a learning opportunity

**Quotes**
Software engineers are capable of handling criticism, i.e. they are capable of appropriately advancing their point of view, of contributing objectively to discussions, and of providing and receiving feedback. (Literature – Sedelmaier & Landes, 2014)

I am looking for people who are willing to admit they made a mistake…. So people who can't come up with like things that they've done wrong and how they've learned from them is a huge red flag. (Interview, Manager)

Being Open-minded

**Description**
- Being willing to consider different perspectives and solutions (even if different from your own)
- Avoiding fixating on a specific technology/language you are familiar with; use problem-solving first
- Not being judgmental

Quotes

[When hiring,] if I feel like if someone comes in and says ‘this is on my resume, I know how to do this’ and that's all they're focused on, they're less interesting me to me than someone who comes in with enthusiasm about learning excitement about learning that. (Interview, Manager)

[In article reviewed that summarized their own interview findings: ] Eleven of the fourteen interviewees stated that open-mindedness was important and described it as being ready and able to entertain and generate new ideas… “you've got to be really up for someone else having a better idea.” Another said that s/he would not hire candidates if they weren’t open to new ideas and possibilities. (Literature – Ho & Frampton, 2010)

Creativity

Description

- Thinking outside the box
- Having unusual ideas and innovative thoughts
- Being able to put things together in new and imaginative ways

Quotes

One interviewee stated that - just about every solution they must provide is always going to be unique, regardless of whether you can take some previously known solution, you still have to modify it and make it suit what it is the client is asking for. Two other interviewees were very succinct, simply stating, - I don’t want textbook answers,‖ and —Absolutely, definitely, they have to be creative. (Literature – Ho & Frampton, 2010)

Dealing with ambiguity

Description

- Dealing with uncommon circumstances
- Dealing with vague or inconsistent information

Quotes

Testing assumptions and investigating vague or inconsistent information and questions statements and assumptions. Identifies and detects problems and is not intimidated by business language and complex formula, and does not hesitate to check with the customers about business aspects. E.g., Although the business had reassured us that no current processes would be impacted by the current project, we investigated the current process nonetheless and it was found that there was impact. This led to scoping of the project to include additional processes. (Literature – Klendauer et al., 2012)

Diversity and Inclusion Awareness

Description

- Having awareness of diverse and underrepresented populations
- Being aware of the need to understand unconscious biases regarding gender, race, ableism and so on
- Understanding and respecting others’ approach/culture
Quotes

There's some amount of gender and racial barrier to getting people fully involved…. Like we're filtering out a ton of smart, interested people. (Interview, Manager)

I have not been able to teach myself to not interrupt, but I've been able to teach myself to notice immediately when it happens and then back off and tell them to continue. That's something that I try to model, especially knowing that men tend to interrupt women in meetings. (Interview)

I think it's always like understanding people understanding their culture. Respecting it actually helped me build my relationship with that particular business. And build that business. That's like one of my earliest jobs right out of school, but it's kind of just adapting to that, like after I came here, it's pretty much like each person seems to have a different take on how they want to approach things. So basically recognizing that has helped me. (Interview)

Jack of All Trades

Description
- The ability to play multiple roles or draw from multiple skillsets

Quotes

Most of the stuff we're doing is higher level like that…So when it comes to like raw skills for me, 'cause, I'm not in the product development thing, it's not as vital for my role that you need to have one deep like set of skills. You kind of need to be the jack of all trades, master of none or hopefully master of all. (Interview)

Having comprehensive knowledge was far more important than being an expert in a few forms of technology or problem domains. One interviewee commented, “so staying within the one business unit, within the one style of solution, sticking with your own solutions and extending it just a little bit all the time. It's eventually not a recipe for a successful architect.” (Literature – Ho & Frampton, 2010)

Passionate

Description
- Having a deep interest in the field, job, specific work, technology
- Fostering passion for what they are doing

Quotes

A graduate’s interest in the field was mentioned as a very important factor for hiring. Graduates should “convey their interest in the field, an interest in developing themselves in the field in which they have taken their education.” (Literature – Lundberg et al., 2020)

Manager’s Passion to do Technical Work

Description

Managers we interviewed indicated that they continued to enjoy technical work. This allowed them to be able to solve technical issues when team members were stuck, to understand projects they manage, and to remain
passionate about their work. Managers described taking on their own pet projects to retain their interest, as well as using their technical ability to mentor others.

Quotes

I like to sit with the developers, not just the project manager. Actual developers and see if they have any debug issue because I like to do that. I'd like to sit with them line by line, debug the issue, find out what's the cause of the problem if they're trapped into some of the issue for more than a week. (Interview)

Development & Testing Mindset

Description

- Having a programming-oriented mindset, which may impact the way one approaches problems, as well as one’s enjoyment in development work
- Having a testing-oriented mindset, which may impact the way that one approaches problems, development practices, and quality assurance approaches

Quotes

…natural aptitude” for programming or a “personal interest” in the subject, rather than coding experience (Interview)

[One company] was specifically interested in the mindset of testing with the suggestion that developers are inherently bad at writing tests because they do not consider it important enough or do not enjoy doing it… three companies mentioned that the importance of testing is conveyed to the students. Another organization also mentioned that understanding testing results in cleaner code: “I get the feeling that [support, testing and documentation] are the things that the developers don’t really like doing very much, but they’re actually really quite key things…” (Literature – Barr & Parkinson, 2019)

Willingness to Ask for Help

Description

- Willingness to ask for help when stuck
- Willingness to express uncertainty

Quotes

Often there are roadblocks where there's a simple just ask, and we all have issues with that. People don't want to ask for help… we have to have a willingness to say ‘I'm running into an issue and it's going to cause us to miss a deadline if I if I don't get some help right away’. (Interview)

Willingness to Take on a Challenge

Description

- Willingness to take on a new or challenging role/responsibility
- Willingness to take on the challenge to learn and implement new tools or technology
Quotes

I would say, the new college grads and even people with a few years’ experience, be ready to challenge yourself to new things. People that come in and are willing to volunteer for new roles. (Interview)

Lifelong Learning Orientation

Description

- Being willing and eager to continue learning throughout a professional career
- Being motivated to learn new things for current work needs
- Being motivated to keep up with the field
- Being willing and able to learn how to learn

Quotes

The other thing that is critical is the constant desire to learn and grow up the IT world. When I started my career back in 1990 is nothing like it looks today and now there's for the students that are starting out today, what they're going to see over the next 30 to 40 years as their careers unfold. (Interview)

So there's the ‘I need to learn this to do my job’ and then then ‘I need to learn this because that's going to help me think about my next role’. And I think it's that second one that's harder because you don't necessarily have the resources in place to do that all the time. You kind of got to figure it out for yourself. (Interview)

We do hire some people that don't [know the particular programming language we use]. It basically depends on the role. So as long as somebody is willing to learn, I'm open to hiring most of the time. (Interview, Manager)

Self-regulation

Competencies in this section relate to attributes that are directed inward by a professional to help regulate one’s potential to respond appropriately to any situation. These attributes enable a person to maneuver a difficult circumstance carefully in a manner that allows them to excel at achieving the intended outcome.

While some of these may appear to overlap with Being Collaborative competencies, the focus of those competencies is on how individuals interact with one another, while these are internal. Therefore, Sociability in Being Collaborative may include an outward expression of positivity. Positivity in Self-regulation relates to keeping oneself positive about their work experience, which in turn motivates them to do well.

Confidence

Description

- Being confident

Quotes

I put fearless but cautious so. We had a DB on our team who is very timid. We did everything - I mean, I held him by the hand. He just couldn't take that Step 2. Do the work on his own. He always had too much doubt and it is scary... (Interview)
Ego Regulation

Description
- Being willing to accept a better solution or approach offered by others; avoid insisting on following your own preferred option or opinions without justification

Quotes
Come to the table with a solution and offer it up, but you're also not going to have an ego in the way of caring how it could be improved or what might be a better solution, so that ability to collaborate and bring ideas, but also listen to other people like this and lay them against your own and figure out what might be the best path forward is super important. (Interview)
So, you kinda have to manage the ego. Not too low, not too high. Somewhere in the middle. It's where I tried keep it up, but I think that really you can tell the people that kinda think too highly of themselves and sometimes they're worth it, you know? And sometimes they're their ego is deservedly that large, but sometimes when it's not, it's extremely obvious to people that it's not. (Interview)

Patience

Description
- Having patience with the work process
- Having patience with others and with oneself

Quotes
They can effect positive change, which requires characterizing and understanding the environment, which in turn requires patience. The subject reported that new hires are lacking in the ability to characterize and be patient with the culture they are dealing with, so much to the point of “where new hires get tripped up is by working so hard to become relevant so quickly, they quickly make themselves irrelevant”, where new hires burn bridges and shatter relationships because they do not understand the culture. (Literature – Schirf & Serapiglia, 2017)
I think a great deal of patience is important because many times you're dealing with customers who are already frustrated about something and you can't let them get on your nerves up if you do, things just spiral out of control. (Interview)

Positivity

Description
- Being generally positive about self and work
- Having a ‘can do’ attitude

Quotes
Keeping spirits up. Well, you know you have a lot of things going on, and with stuff like that you know. Sometimes you have people coming in. They're not mad at you, they're mad at the
situation, but sometimes it can look like they're mad at you, so it kind of being able to differentiate that was very helpful for me. (Interview)

Frankly, we're dealing with a lot of... like office politics between different departments, a lot of passing the blame, navigating that kind of political environment is really difficult, and it's something that. I don't think anybody really learned in in college (Interview)

Avoid complaining (by proposing a solution, fixing the problem, or remaining silent) (Literature – Ruff & Carter, 2015)

**Resilience**

*Description*
- Being able to manage stress
- Being able to continue through adversity
- Being able to work under pressure

*Quotes*

Resilience is the ability to readily recover from adversity, depression or the like. IT architecture is usually a long-term proposition; there are inevitable setbacks and the IT architect needs to be able to rebound. One interviewee said, “I'm looking for somebody who's picked themselves up from a bang”, while another said “a key psychological thing that you need is that sort of resilience that you can bounce back from minor setbacks.” (Literature – Ho & Frampton, 2010)

Learn to control stress, because work does get stressful. There are deadlines and things that need to happen. Yes, most of the time things need to happen yesterday, but. You got to let the deadlines and the pressure drive you forward and not bog you down with the stress of having to do that. And sometimes not worrying about the results. (Interview)

**Self-aware & Self-reflective**

*Description*
- Knowing your strengths and weaknesses with respect to your team
- Being able to self-assess your own technical knowledge and capabilities
- Having emotional intelligence
- Ability to reflect on oneself and one’s own capabilities and skills

*Quotes*

...having enough awareness and introspection to know what your strengths are and what your weaknesses are, and, how to leverage those strengths and weaknesses relative to your team, whether they're whether you're at an engineering level or a managerial level. (Interview)

I am looking for people who are willing to admit they made a mistake.... I used to do a lot of behavioral interviews, ‘tell me about a time where you got negative feedback from a professor or boss’ or ‘tell me about a time you screwed up in a group scenario’ and people can't think of anything or they think of... a time somebody else didn't do their job, and then the team got penalized for it.... That to me says either you're not reflective about your own personal performance, and you're going to be very tough to work with [or] manage, or alternatively like you just never have pushed yourself.... So people who can't come up with like things that they've done wrong and how they've learned from them is a huge red flag. (Interview, Manager)
Here they are looking for someone who has reflected on their own contribution, recognizing they have not done the whole project, and are able to articulate why their contribution as part of a team was crucial to the success of the project (Literature – Hamilton et al., 2015).

**Self-efficacy**

**Description**
- Believing you are good at your job, even after challenging experience
- Valuing your own ability to create an optimum/ good enough solution despite prior mistakes or failures

**Quotes**
I think that's probably one of the biggest things that that's been helpful. It's just to disassociate and say, well, just because that wasn't a good solution, that doesn't mean that I can't come up with a good solution or a better solution. (Interview)
So many times we see these type of fears in in students... student interns, students say, I don't want to touch the database. Can you put somebody with me or can my team lead help me out with it? And I was like, “sure this is a test database. I don't care whether you break it or not”. (Interview, Manager)

**Self-identity**

**Description**
- Having an identity that aligns with the role played (e.g., Engineer Identity)

**Quotes**
It isn't hard for most people to figure out that I'm an engineer. I think I'm proud of being an engineer. I think I'm pretty good at being an engineer. It gives you a way of thinking about most problems. (Interview)
The flip side, though I think of having that sort of engineering view of the world is it's easy to over complicate things. I try to catch myself doing it but. So I mean, just maybe that sense of understanding what is the right way to analyze a problem. (Interview)

**Work-Life Balance**

**Description**
- Ability to balance working effectively during work hours and devoting time to a personal life

**Quotes**
If you don't have balance, that leads to exhaustion. And while you might get a big from a corporate perspective, you might get the bang for the buck initially. You're going to pay for it somewhere along the way. Just even physical exercise and healthy eating. People need to take care of themselves in order to have the energy to think clearly to be sharp. (Interview)
Work hard while you're at work, not all the time. I feel the work life balance is important. I don't check my work email on the weekends. I encourage my team not too. (Interview, Manager)
References


