Requirements Elicitation

SE 311

Outline

- Elicitation goals
- Sources of Requirements
- Requirements Elicitation Process
- Elicitation Challenges
- Elicitation Best Practices

Elicitation Goals

- Determine sources of requirements and select appropriate techniques
- Elicit information on domain, problem, needs, and constraints
- Produce a *first document*
  - Mainly user requirements and elicitation notes
  - Potentially incomplete, disorganized, and inconsistent but one must start somewhere

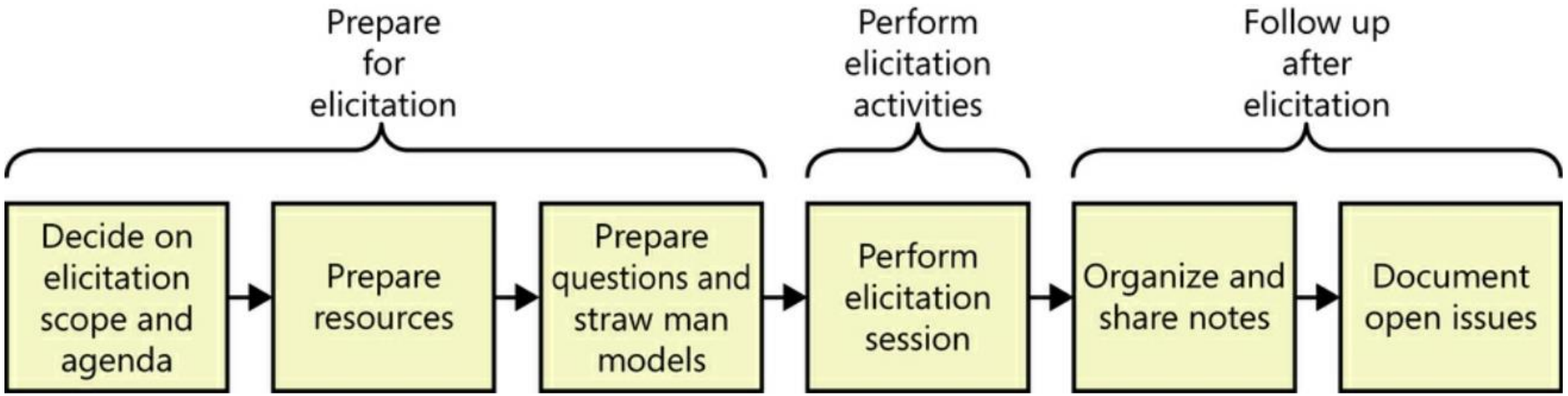
Sources of Requirements

- Stakeholders
- Existing systems
- Existing documentation
- Competing systems
- Documentation about interfacing systems
- Standards, policies, collective agreements, and legislation

Sources of Requirements - Stakeholders

Client	User	Domain Expert	Developer	Others
• Pays for SW • Project sponsor	• Current or future • Various classes	• Familiar with problem and environment	• Technical feasibility	• Project manager • Tester

Requirements Elicitation Process



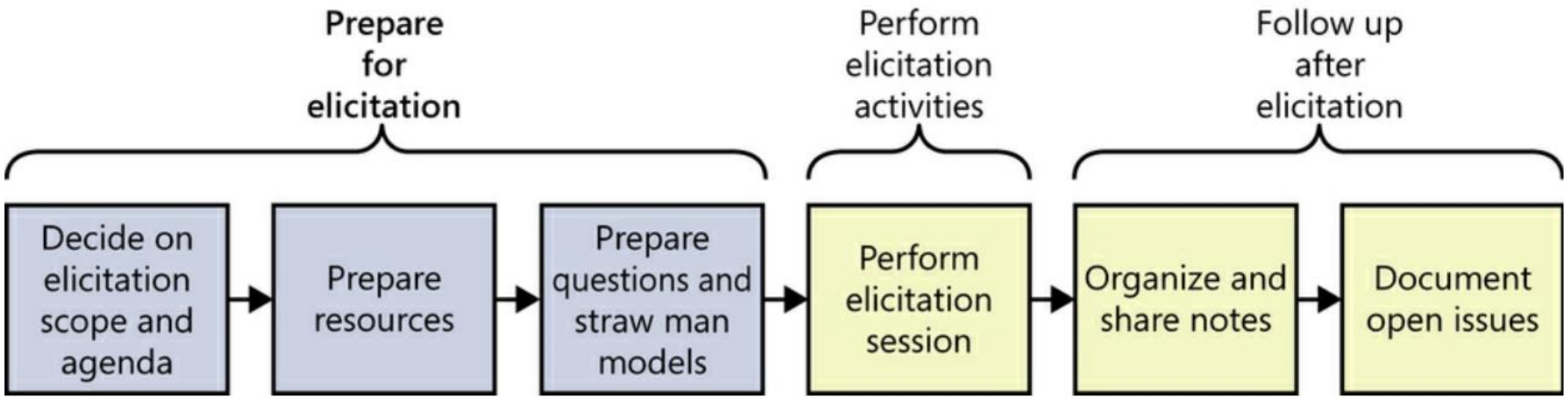
Plan

Planning for Elicitation

Objectives	Strategy & techniques	Schedule & resources	Independent elicitation	Expected products	Risks
• Overall and individual activities	• Stakeholders & appropriate techniques	• Clients/customers & development • Estimates	• Documents & systems	• Use cases, SRS, quality attributes specification… etc.	• Factors and ways to overcome

Resource

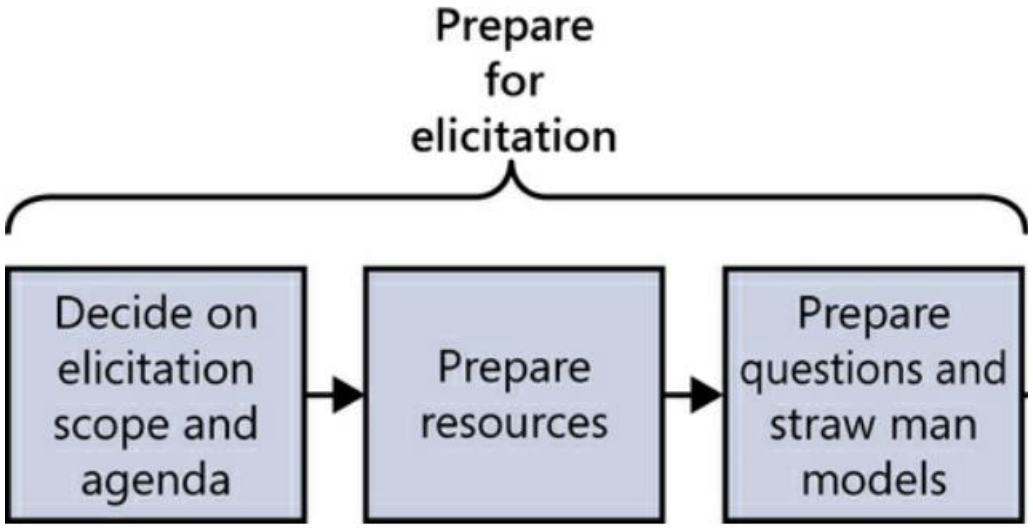
Prepare for Elicitation



Prepare for Elicitation

Scope in terms of topics, questions, process flows or use cases

Agenda lists topics to be covered, assigned time, and objectives



Physical, participants, documentation, and/or system

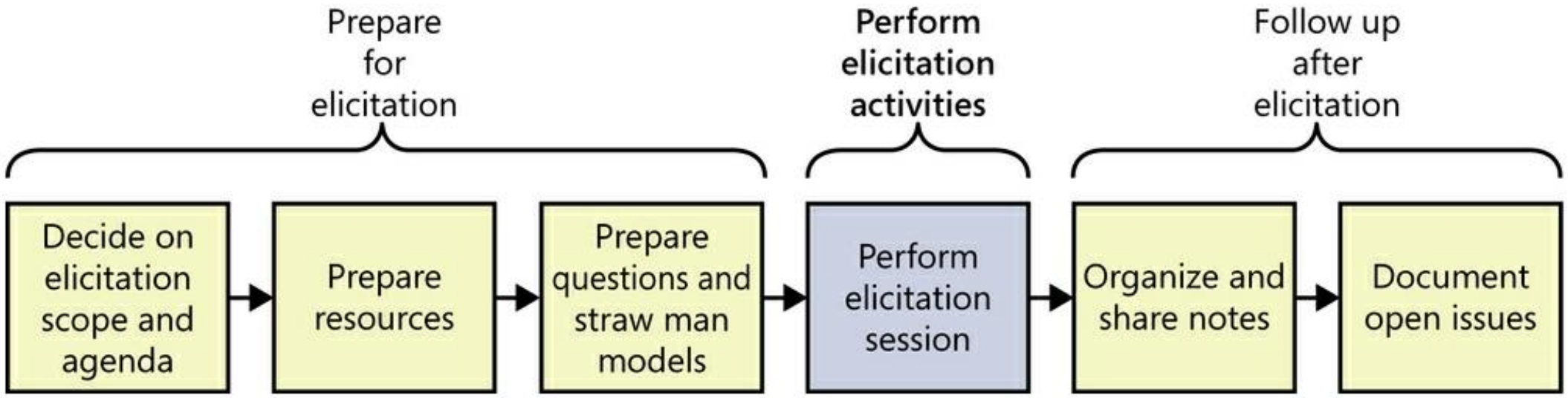
Identify relevant stakeholders and learn about their cultural, regional, and language preferences

Imagine yourself learning the user's job to guide your questions

- What else could…
- What happens when…
- Would you ever need to…
- Where do you get…
- Why do you (or don't you)…
- Does anyone ever…

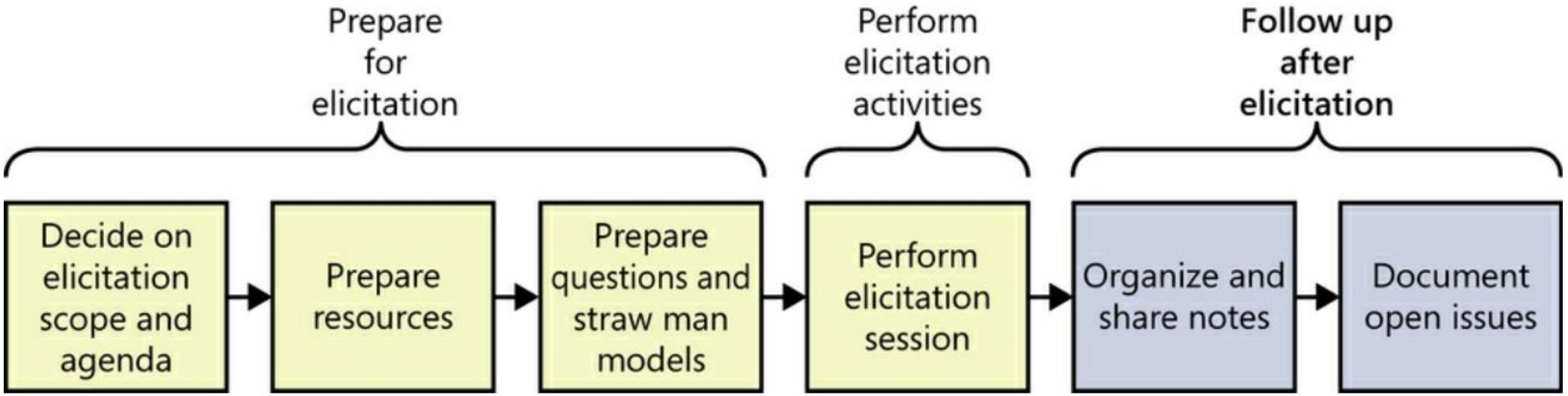
Draft analysis models (use cases, process flows) to help users provide better input

Performing Elicitation Activities



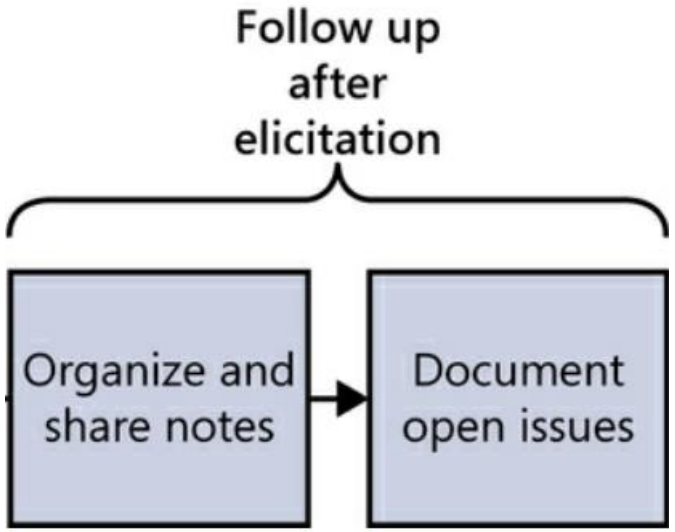
Take good notes
(Attendees, decisions made, actions to be taken and who is responsible for each, outstanding issues, key points)

Following up after Elicitation



Following up after Eliciation

- Review and update right after session
- Consolidate input from multiple sources
- Edit notes with care
- Keep originals
- Review with stakeholders



- Items that need to be further explored
- Gaps that need to be closed

Classifying Customer Input

"Save SAR X/year on electricity now wasted by insufficient units".

"Then I select the state where I want to send the package from a drop-down list."

"I need to print a mailing label for a package".

"The ZIP code has five digits, followed by an optional hyphen and four digits that default to 0000."

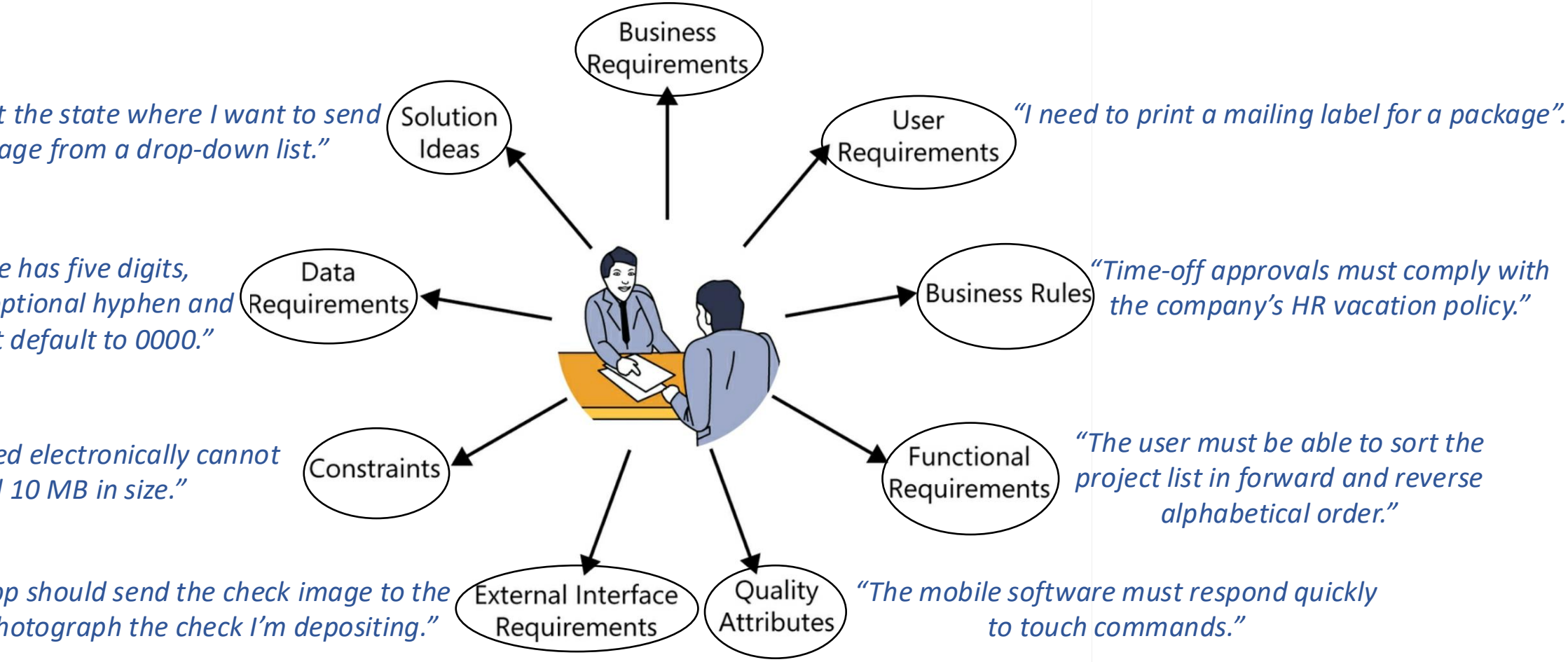
"Time-off approvals must comply with the company's HR vacation policy."

"Files submitted electronically cannot exceed 10 MB in size."

"The user must be able to sort the project list in forward and reverse alphabetical order."

"The mobile app should send the check image to the bank after I photograph the check I'm depositing."

"The mobile software must respond quickly to touch commands."



When are we done?

- Users can’t think of any more use cases or user stories
- Users propose new scenarios that don’t lead to any new functional requirements
- Users repeat issues that were previously covered
- Suggested new features or requirements are all out of scope
- Proposed new requirements are all low priority
- Developers and testers review the requirements have few questions

Elicitation Challenges

Sources of Challenge

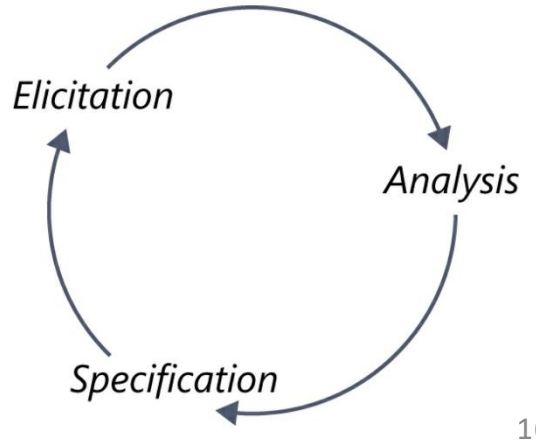
Scope	Requirements	Business Analyst	Stakeholders
Challenges			
• Inadequately defined • Incorrectly defined • Maintaining a focus on the scope	• Assumed requirements • Implied requirements • Missing requirements	• Lack of expertise • Lack of domain knowledge	• Uncertainty • Technical knowledge • Availability • Cooperability • Conflict
Mitigations			
• Re-check scope before delving in • Use of *"in-scope"* and *"out-of-scope"*	• *"What are we assuming here?"* • Analyze requirements	• Research domain • Consult others	• BA's interpersonal, communication, and interviewing skills





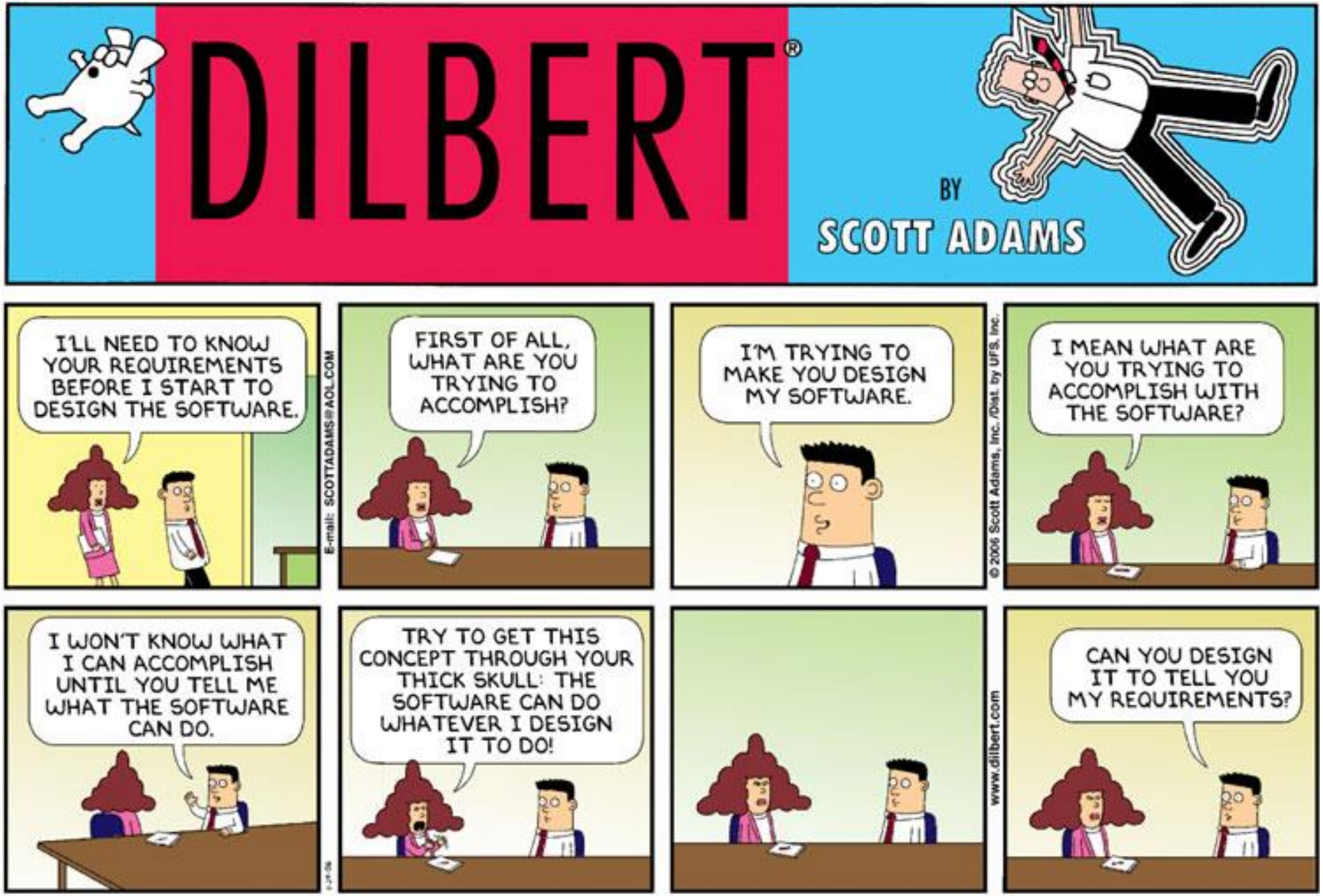
Final Remarks

- Requirements elicitation is perhaps the most challenging, critical, error-prone, and communication-intensive aspect of software development
- Try to extract the essence of stakeholders' requirements and invent new ways for them to better perform their tasks
- Remember, elicitation is incremental

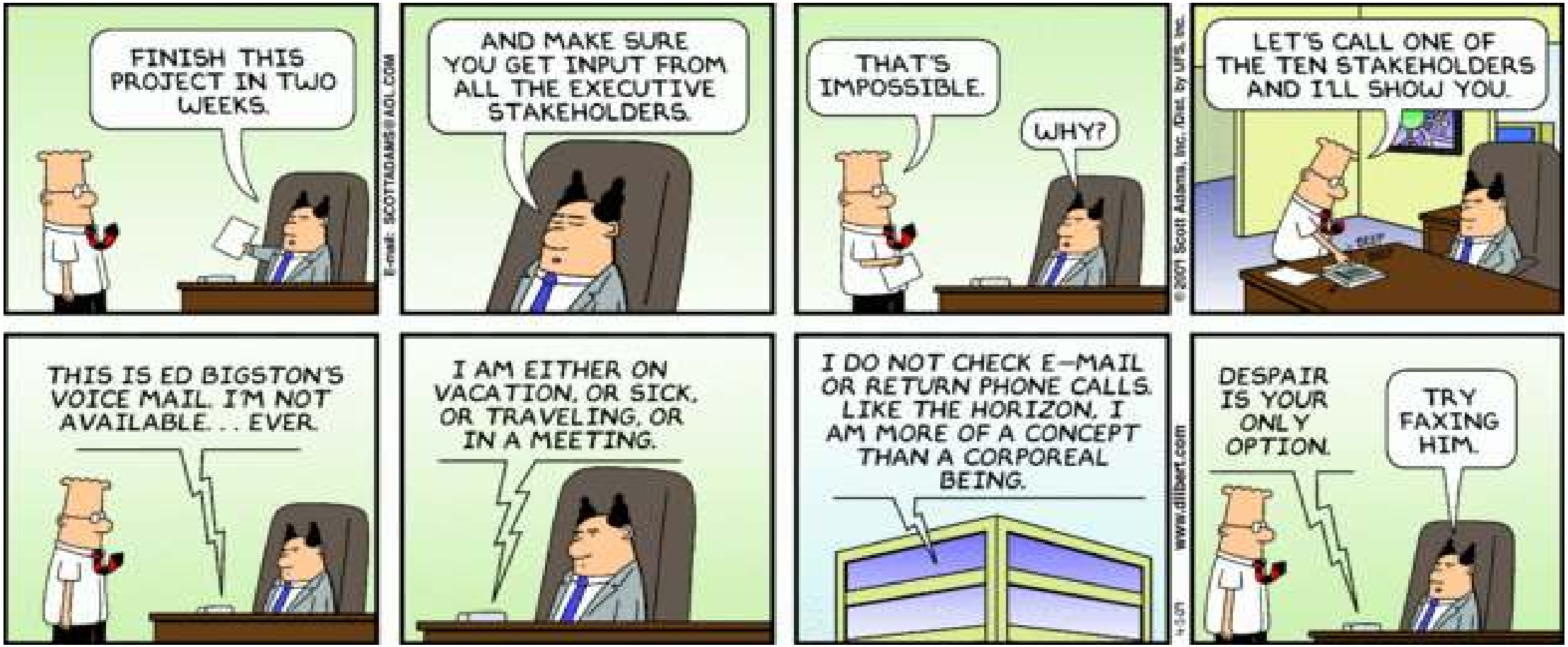


Requirements Elicitation Best Practices

🏆 Define product vision and project scope	🏆 Hold elicitation interviews
🏆 Identify user classes and their characteristics	🏆 Hold facilitated elicitation workshops
🏆 Select a product champion for each user class	🏆 Observe users performing their jobs
🏆 Conduct focus groups with typical users	🏆 Distribute Questionnaires
🏆 Work with user representatives to identify user requirements	🏆 Perform document analysis
	🏆 Examine problems of current system
🏆 Identify system events and responses	🏆 Reuse existing requirements



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FINISH THIS PROJECT IN TWO WEEKS.
AND MAKE SURE YOU GET INPUT FROM ALL THE EXECUTIVE STAKEHOLDERS.
THAT'S IMPOSSIBLE.
WHY?
LET'S CALL ONE OF THE TEN STAKEHOLDERS AND I'LL SHOW YOU.
THIS IS ED BIGSTON'S VOICE MAIL. I'M NOT AVAILABLE. . . EVER.
I AM EITHER ON VACATION, OR SICK, OR TRAVELING, OR IN A MEETING.
I DO NOT CHECK E-MAIL OR RETURN PHONE CALLS. LIKE THE HORIZON, I AM MORE OF A CONCEPT THAN A CORPOREAL BEING.
DESPAIR IS YOUR ONLY OPTION.
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