LECTURE

HOW TO DO A SCOPING REVIEW

DELIVERABLE 1 · AI IMPACT ON OCCUPATIONS

BEFORE I START

That is what Deliverable 1 asks you to do.

TIP

That is what Deliverable 1 asks you to do.

Well, I already gave you TIPs

That is what Deliverable 1 asks you to do.

TYPE 1

AI said so

Focus on the following subtheme for Type 1:
Ethical Criteria for Delegation: When is it morally appropriate or inappropriate to delegate a task to AI (from the workers' perspective)?

Example of core dimensions to consider:
- Impact on Human Dignity and Meaning
- Fairness and Distribution of Consequences
- Responsibility and Accountability
- Autonomy and Consent

Goal: To identify the ethical principles that should guide delegation decisions beyond efficiency
and performance.

TYPE 1

In ChatGPT We Trust

Focus on the following subtheme for Type 1:
Practical Criteria for Delegation: Under what practical conditions is AI delegation effective, reliable, and sustainable (from the workers' perspective)?

Example of core dimensions to consider:
- Task Characteristics
- Performance and Reliability
- Cost and Feasibility
- Regulation and Compliance
- Human-AI Collaboration Potential

Goal: To define the practical thresholds that must be met before delegation is considered viable.

TYPE 2

Jobless In Vino VeritAI

Try to use the **four components** in the chapter you have read (those should be the four elements you could do the scoping review on and focus your final project report on). Plus, make use of the concept of **conceptual integrity**.

TYPE2: CONTEXT & CONTEXTUAL INTEGRITY

1 ROLES *(Who)*

Capacities in which people act (e.g., stakeholders)

2 ACTIVITIES *(What)*

Practices in which roles engage (e.g., tasks)

3 NORMS *(How)*

Behaviour-guiding rules that prescribe acceptable activities

4 VALUES *(Why)*

Goals, purposes, or ends around which activities are oriented

CONTEXTUAL INTEGRITY Preserved when **norms** are respected — violated when **norms** are breached.

TYPE 3

[all type 3 teams]

Try to use the framework in the paper. I know you shouldn't use LLMs but, FYI, I got a pretty good answer from Claude (in next slide) from the following prompt:

"For this paper, rephrase the abstract below in a different context for which:
Trustor=worker
Trustee=AI augmenting/automating a worker's task"

TYPE3: LLM-generated answer

THE PROBLEM

AI systems increasingly augment and automate workers' tasks. Most work focuses on getting workers to accept AI — this paper asks: under what conditions does an AI system reliably act in a worker's genuine interest?

THE MODEL

Trust is warranted by:

• Contextual properties — governance, oversight, deployment history
• Intrinsic properties — competence, consistency, alignment

Contextual factors dominate early; intrinsic factors grow with experience.

THE OUTPUT

A frame for designing worker–AI trust studies and a practical guide for identifying trust requirements. Applied in three workplace scenarios.

Q: Who are the stakeholders?

TIP: The stakeholder are…

Please “skim”:

What does it mean to be a responsible AI practitioner: An ontology of roles and skills

Shalaleh Rismani
McGill University
Canada

AJung Moon
McGill University
Canada

In the appendix you find….

Table 2: Coding scheme for Job Posting Analysis

Code	Description	Example
Company environment	Company culture and values	"The X company values integrity and public safety"
Occupation	Roles and responsibilities	
occupation - non-technical roles	Non-technical roles and responsibilities	"Manage an interdisciplinary team"
occupation - technical roles	Technical roles and responsibilities	"Create machine learning models that incorporate fAIrness metrics"
occupation - title	Title in the job posting	"Sociotechnical researcher"
Qualifications	Items highlighted in the qualification section of job posting	
qualifications - education	The educational background and trAIning	"PhD in computer science"
qualifications - experience	Experience related to previous work, projects and volunteer work	"At least five years of management experience"
qualifications - interdisciplinarity	Experience or education in interdisciplinary environment/setting	"Has the ability to work with people from different backgrounds"
Skills/competency	What are their skills/competencies?	
skills/competency - attitudes/values	how a candidate would approach their work	"Looking for a confident leader"
skills/competency - knowledge	the candidate's required knowledge and understanding	"Have a deep understanding of existing AI ethics practices"
skills/competency - language skills	the candidate's communications skills	"Can communicate in a clear and concise way"
skills/competency - skills	the candidate's management, research and technical skills	"Has the ability of initiate and manage a full research agenda"

In the appendix you find….

Occupation	Titles	Responsibilities	Skills
Researcher (technical)	(Senior) research associate, research assistant, applied researcher, research scientist, postdoctoral researcher, research fellow, principle applied scientist	1) Develop and execute research agenda to contribute to FATE and responsible AI community 2) Conduct research that addresses internal responsible AI challenges 3) Communicate research findings with teams internally and external research community	1) Software egineering and programming 2) Research skills such as analyitical thinking and synthesis of complex ideas 3) Leading and guiding fellow researchers 4) Good verbal and written communications
Researcher (policy, ethics, STS)	Research scientist, research associate, senior researcher, fellow, postdoctoral researcher	1) Develop and execute research agenda to contribute to FATE and responsible AI community 2) Perform ethics or impact assessments on internal products 3) Advice on policy, standards and regulations internally and externally 4) Act as a liason and translate policies in practice	1)Qualitative and quantitative research skills 2) Facilitation, community and stakeholder engagement 3) Communitcation skills 4) Know the current and emerging legal and regulatory frameworks and policies 5)Be familiar with AI technology and its development process
Data scientist	Data scientist compliance officer, data scientist in X, (senior/principal) data and applied scientist, data science contractor, data scientist, staff data scientist	1) Collect and pre-process data 2) Develop and evaluate ML models 3) Evaluate models for ethics concerns such as fairness and transparency 4) Understand and interpret existing regulations and policies 5) Communicate findings across different groups 6) Build capacity around responsible AI topics	1) Advanced analytical skills 2) Programming languages such as R, Python and SQL 3) Learn and master a complex code base 4) Familiar with concepts such as ML auditing, algorithmic impact assessments, etc.
Engineer	Research/ML/senior engineer	1)Develop technical tools to establish safety system and culture in the organization 2) Develop a workflow for modelling and testing for issues such as bias, explainability, safety and alignment	- 1) Software development 2) Research skills in responsible AI and FATE fields 3) Knowledge and familiarity with foundational concepts of ML, FATE and system safety
Director or C-level executives	Chief of responsible AI program, director of data usability and ethics, director product management, lead of data governance, director of data ethics and governance, executive director, chief operating officer	1) Provide strategic direction and roadmap towards enterprise-wide adoption of AI ethics principles 2) Build internal capacity for responsible AI practice and governance	1) Build relationship with the broad community 2) Technical know-how 3) Management skills 4) Knowledge of policy and standards 5) Directing and leading team
Manager (product, portfolio)	Senior principal product manager, director of product, program manager, solutions lead, senior manager of AI risk, head of product, venture manager	1) Incorporate responsible AI practices in product development 2) Lead and launch a new program on establishing responsible AI practices 3) Build internal capacity to manage responsible AI issues	1) Strong business acumen 2) Manage priorities and blockers to success 3) Engage stakeholders throughout a process 4) Practical understanding of the AI life cycle 5) Ability to keep updated with fast-paced development of AI
Policy analyst	Ethics policy analyst, head of public policy, senior technical policy analyst	1) Understand, analyze and implement a given policy within an organization 2) Engage with policymakers and regulators 3) Provide feedback on existing policies	1) Proven knowledge of laws, policies, regulations, and precedents applicable to a given technology when it comes to AI ethics-related issues 2) Experience in interpreting policy and developing assessments for an application 3) Skilled in management, team building and mentorship 4) Familiarity with AI technology

Q: Why are we playing cards?

TIP: We playing cards because…

Please “skim”:

The *Envisioning Cards*: A Toolkit for Catalyzing Humanistic and Technical Imaginations

Batya Friedman and David G. Hendry
The Information School
University of Washington
Seattle, WA 98195-2840
{batya, dhendry}@uw.edu

WHAT IS A SCOPING REVIEW?

A scoping review maps and synthesizes existing evidence on a topic.

It is NOT a literature review that supports a thesis.
It is NOT a full systematic review.
It IS a structured search that builds a general framework.

FIND THE FACTORS.
ORGANIZE THEM.
SHOW HOW THEY WORK.

That is what Deliverable 1 asks you to do.

THE GENERALITY RULE

Write at the level of a GENERAL FRAMEWORK — not one occupation, not one tool.

THE TEST:

Could another team with a different profession still use your framework with only small changes?

CHOOSE ONE PROJECT TYPE — AND STICK TO IT

TYPE 1

Task delegation

Should this task be delegated to AI?

TYPE 2

Org. adoption/context

What are the contextual factors determining risks, benefits, and readiness for this AI use?

TYPE 3

Worker trust

Is trust in AI warranted for this task?

Before you search, write the question down.

A vague question produces a vague framework.
A vague framework fails the generality test.

YOUR QUESTION MUST DO THREE THINGS

NAME THE PHENOMENON

What is the AI doing? Automating a task? Augmenting a judgment? Replacing a role?

NAME THE POPULATION

Who is affected? Workers? Managers? All occupations, or a class of them?

NAME THE OUTCOME

What factors are you mapping? Trust? Risk? Delegation criteria?

EXAMPLE RESEARCH QUESTIONS

TYPE 1	What factors determine whether an AI-exposable occupational task should be delegated to AI?
TYPE 2	What factors shape the risks, benefits, and organizational readiness when AI augments or automates an occupational task?
TYPE 3	What factors determine whether a worker's trust in an AI system is well-calibrated for a given task?

SEARCH

Step 2

Now you look for evidence.
Not to confirm what you already think —
to map what is known.

USE AT LEAST 2–3 DATABASES

SCOPUS

Broad coverage of peer-reviewed sources. Good for empirical work.

GOOGLE SCHOLAR

Wide net. Useful for grey literature and practice sources.

ACM DIGITAL LIBRARY

Strong for HCI and computing work on AI and workers.

WEB OF SCIENCE

Good for cross-disciplinary empirical work.

THE TIME WINDOW

2015 → NOW

Default time window. You may use older sources if they are foundational — but you must explain why in your appendix.

BUILD YOUR SEARCH STRINGS

Combine:

A term for the phenomenon (AI, automation, algorithm)
+ A term for the context (work, occupation, task, worker)
+ A term for the outcome (trust, risk, delegation, adoption)

Record every string you use. Record the date. Record the database.
This goes in your appendix.

YOU NEED THREE KINDS OF SOURCE

≥8 EMPIRICAL

Qualitative, quantitative, or mixed methods studies. Actual data on actual workers.

≥3 PRACTICE

Standards bodies, professional associations, policy reports, respected industry research.

THEORETICAL / REVIEW

Frameworks, meta-analyses, conceptual papers. Count toward your 15–25 total.

STEP 3
SCREEN.

You searched. You got results. Most of them are wrong for your question. Screening is how you decide what stays.

THE THREE-STAGE SCREENING FUNNEL

STAGE 1: TITLE · Read titles only. Exclude anything clearly off-topic. Fast.

STAGE 2: ABSTRACT · Read abstracts of survivors. Apply your inclusion criteria more carefully.

STAGE 3: FULL TEXT · Read the full paper. Final call. Extract data.

STEP 3 · SCREEN

WRITE YOUR INCLUSION CRITERIA FIRST

A source is IN if:

1. It addresses factors relevant to your research question
2. It concerns AI or algorithmic systems in work or occupational contexts
3. It was published 2015 or later (or is foundational and you explain why)
4. It is peer-reviewed, OR is a credible practice source

TARGET NUMBERS AFTER SCREENING

15–25	≥ 8	≥ 3
sources total	empirical	practice sources

EXTRACT & CODE

Step 4

Now you read the sources properly.
You pull out the factors.
You give each one a code.

WHAT IS A FACTOR?

A FACTOR is anything the source says matters.

Explainability of the AI system	*→ a factor for trust (Type 3)*
Management support for adoption	*→ a factor for organizational readiness (Type 2)*
Task reversibility after delegation	*→ a factor for delegation decisions (Type 1)*

BUILD A SHARED CODING TABLE

Every team member reads and codes.
One shared table. One row per factor.

SOURCE	FACTOR	CODE / THEME	NOTES
Lee et al. 2021	Explainability of output	transparency	Type 3 trust factor
Brynjolfsson 2023	Task reversibility	task properties	Type 1 delegation
ISO 42001	Governance structure	org. accountability	Type 2 practice source

CODING IS ITERATIVE

1

START with open codes —
name what you see.

2

GROUP similar codes into themes.

3

RENAME themes until they are precise.

4

CHECK codes against your research question.

Your coding scheme must appear in your appendix. Show the codes, the themes, and how you grouped

WHAT ARE YOU CODING FOR?

FACTORS	Anything the source says matters. These are your raw material.
EVIDENCE TYPE	Is it empirical? Conceptual? Practice? Tag each source.
CONTEXT	What occupation, sector, or AI type? Note it — even if your framework must transcend it.
GAPS	What questions does the source raise but not answer?

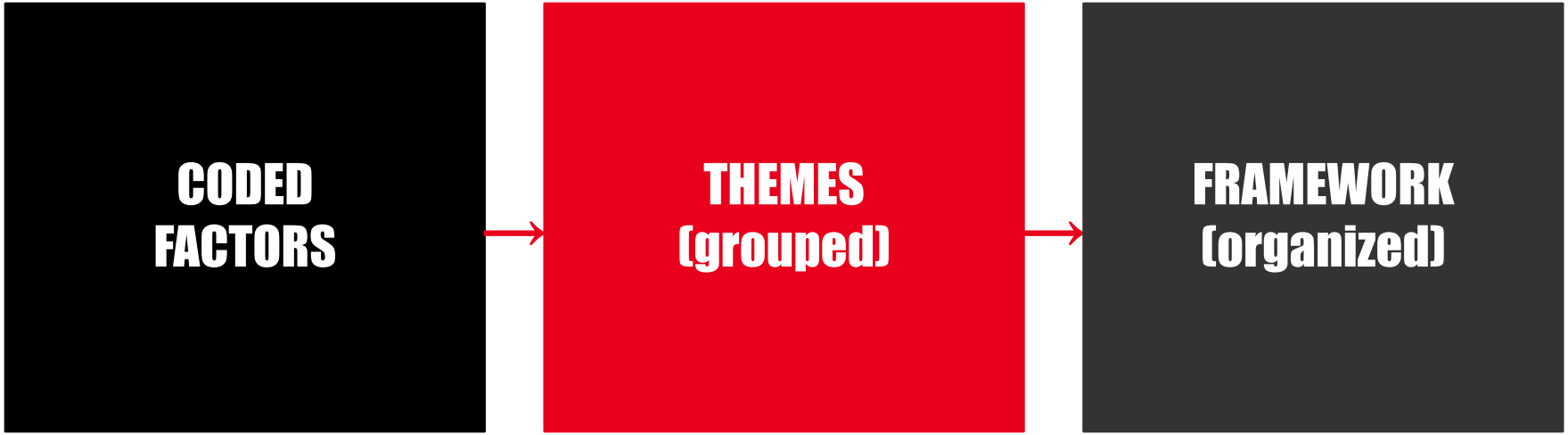
SYNTHESIZE

Step 5

Synthesis is not summary.

You are not reporting what each paper said.
You are building something new out of them.

FROM CODES TO FRAMEWORK



Your framework names the themes, explains what each covers, and shows how they relate. It does NOT just list everything you found.

A GOOD FRAMEWORK DOES FOUR THINGS

NAMES	Each factor or theme has a clear name and definition.
ORGANIZES	Factors are grouped into meaningful categories, not alphabetical lists.
EXPLAINS	It says what is known and where the evidence is strong or weak.
TRANSFERS	Someone in a different occupation could apply it with minor adjustments.

MAP THE GAPS — THIS IS NOT OPTIONAL

A scoping review is honest about what it does NOT know.

- ? Which factors have been studied only in one sector or one country?
- ? Which factors appear in theory but have little empirical support?
- ? What contexts or populations are missing from the literature?
- ? What would a researcher need to study next?

IS YOUR FRAMEWORK GENERAL ENOUGH?

Read each factor you identified.
Ask: "Does this apply only to doctors? Only to ChatGPT? Only to Italy?"

If YES → it is a profession-specific detail. Move it to the use case section.
If NO → it belongs in the framework.

USE CASE

This is the ONLY place in the paper where you go profession-specific.

Take your general framework and show it working on your chosen profession.

Step 6

WHAT YOUR USE CASE MUST SHOW

THE PROFESSION	Name it. Describe the specific task you are focusing on.
THE AI USE	Name the AI being applied or considered for that task.
THE FRAMEWORK APPLIED	Walk through your framework factors as they apply to this case.
A JUDGMENT	What does your framework say about this case? Be explicit.

CHOOSE A PROFESSION YOU CAN REACH

The use case in Deliverable 1 is the warm-up for the co-design in Deliverable 3.

In Deliverable 3, you will need to run workshops or interviews with real practitioners.

Choose a profession where your team can reach at least a few people.

Use only professions from the course tool: social-dynamics.net/aii

STEP 7 — WRITE IT UP

Four pages.
Double-column ACM format.
References and appendix do not count.

Four pages is tight. You will need to cut. Cut early.

Download the ACM template from acm.org/publications/proceedings-template

SUGGESTED PAPER STRUCTURE

INTRODUCTION (½ p)	Research question, why it matters, scope of the review.
METHOD (½ p)	Brief. Refer reader to the full appendix. Search strategy in one paragraph.
FRAMEWORK (2 p)	Your themes and factors. Well-organized. Sub-headings help.
WORKED USE CASE (½ p)	Apply the framework to your chosen profession.
GAPS & FUTURE WORK (½ p)	What is missing? What should be studied next?

THE FRAMEWORK SECTION IS THE HEART

This section should:

→ Name each theme with a clear heading
→ Define what the theme covers
→ Cite 2–4 sources per theme
→ Say what the evidence shows
→ Note where evidence is strong vs. sparse
→ NOT just list factor names without explanation

CITE ONLY WHAT YOU READ

This is not optional.

- ! Every source in your reference list must have been read by a team member.
- ! Your AI Use Disclosure must say that team members read and checked all cited sources.
- ! Do not cite a source based on its abstract alone.
- ! Do not cite a source because an AI told you it exists. Verify it first.

AI TOOL USE POLICY

You MAY use AI tools for brainstorming, editing, or organizing.

You MUST disclose it in your appendix.

1. Which tools were used
2. How they were used
3. What verification your team performed
4. That all cited sources were read by a team member

Failure to disclose → zero grade policy.

STEP 8 — THE APPENDIX

The appendix is METHOD TRANSPARENCY.
It shows your work.
It does not count toward the page limit.

Reviewers will check it. Your peer reviewers will read it.
A missing appendix means the work is unverifiable.

APPENDIX — REQUIRED CONTENTS

DATABASES

Every database you searched.

DATES

The exact dates you ran each search.

SEARCH STRINGS

Every string you used. Copied verbatim.

IN/EXCLUSION CRITERIA

What counted as in. What counted as out.

SCREENING PROCESS

How many records at each stage.

CODING SCHEME

Your codes, your themes, how you grouped them.

AI USE DISCLOSURE

Required if you used any AI tool.

CONSIDER A SCREENING FLOW DIAGRAM

RECORDS IDENTIFIED *(all databases combined)*

SCREENED BY TITLE *(after duplicates removed)*

SCREENED BY ABSTRACT *(titles passed)*

INCLUDED FULL TEXT *(15–25 sources)*

COMMON MISTAKES.

These are the things that consistently cost teams marks.

MISTAKES 1–3

1

TOO PROFESSION-SPECIFIC

The framework is about doctors, not about workers. The use case section does not save you if the framework itself is specific.

2

LISTING WITHOUT SYNTHESIS

You list 20 factors from 20 papers. You do not group them, name them, or explain how they relate. That is not a framework — it is a bibliography.

3

MISSING OR THIN APPENDIX

No search strings. No dates. No coding scheme. Without these, the work is unverifiable and will score poorly on method transparency.

MISTAKES 4–6

4

WRONG QUESTION ALIGNMENT

Your research question says Type 2 (risks/benefits) but your framework covers Type 3 (trust). Misalignment costs you on coherence.

5

ONLY ACADEMIC SOURCES

You have 20 peer-reviewed papers and zero practice sources. Standards, policy reports, and professional bodies matter for this topic.

6

USE CASE IN THE MAIN TEXT

The worked use case appears throughout the framework instead of being isolated. This makes the framework feel occupation-specific.

BEFORE YOU SUBMIT, ASK YOURSELF:

"Could a team studying a completely different profession use our framework — with only small changes?"

If the answer is NO, you are not done yet.

THE DELIVERABLE 1 TIMELINE

31 MAR	Lab — Scoping Review in progress
10 APR	Lab — Final lab session before submission
11 APR	DEADLINE — Submit Scoping Review (D1)
15 APR	DEADLINE — Submit Individual Peer Review (D2)
19 APR	DEADLINE — Resubmit Final Scoping Review

THE 8 STEPS — ONE MORE TIME

1	2	3	4	5	6	7	8
FRAME	SEARCH	SCREEN	EXTRACT	SYNTH.	USE CASE	WRITE UP	APPNDX

FORMAT: 4 pages · double-col ACM · refs & appendix excluded | EVIDENCE: 15–25 sources · ≥8 empirical · ≥3 practice

TIP: Read a “tiny” scoping review

Read the five steps of Section 3.2 in
“***Are We Automating the Joy Out of Work? Designing AI to Augment Work, Not Meaning***”

3.2 Scoping Review on Meaningfulness of Work

After selecting tasks and recruiting workers, we next determined which questions would best capture the extent to which workers perceive their tasks as ‘meaningful’. To ground these questions in the literature, we conducted a scoping review following the five-stage framework in [6]:

Step 1. Identifying the research question. The main research question was: *What are the documented, theorized, or studied dimensions of task meaningfulness, symbolic work, impression management, and status signaling in today’s workplaces?* This question covers both personal views of meaningfulness, and the social or symbolic factors that can make work performative, strategic, or status-driven.

Step 2. Identifying relevant literature. To ensure coverage across disciplines, we went on Google Scholar and JSTOR, and we used the Boolean search string: `("meaningful work" OR "task significance" OR "work motivation" OR "impression management" OR "status threat" OR "symbolic work" OR "performative work") AND (work OR job OR employee OR organization OR labor)`. The review included only English-language, peer-reviewed work, with no date restrictions.

Step 3. Selecting the articles. We used the following inclusion rules: articles must discuss task meaningfulness, symbolic or performed work, status signaling, or impression management in a work or organizational setting; both empirical and theoretical work was eligible; and full-text access had to be available. Articles outside of work or organizational settings, and those limited to consumer behavior or marketing without reference to employees or task meaning, were excluded, resulting in 56 articles. After removing duplicates and screening titles and abstracts, 42 remained for full-text review, and we included 21 that met all criteria.

Step 4. Charting the data. We coded each article with a structured form. Key fields included: main constructs (e.g., task significance, performative work); theory used (e.g., Job Characteristics Model, Institutional Theory, Impression Management Theory); measures (e.g., Work and Meaning Inventory); and main findings.

Step 5. Collating, summarizing, and reporting the results. We reviewed 21 articles across psychology, sociology, anthropology,

BEFORE next week (class of March 31)

Before class, fully read:

Self-management for Chronic Illness: A Scoping Review on Designing Virtual Assistants for Patient-Centered Care

Ariane Lucchini*
a.lucchini@tudelft.nl
Knowledge and Intelligence Design
Delft University of Technology
Delft, The Netherlands

Alessandro Bozzon
Knowledge and Intelligence Design
Delft University of Technology
Delft, The Netherlands
A.Bozzon@tudelft.nl

Sara Colombo
Knowledge and Intelligence Design
Delft University of Technology
Delft, The Netherlands
sara.colombo@tudelft.nl

Abstract

Chronic illnesses (CI) are increasing worldwide, positioning virtual assistants (VAs) as valuable tools for supporting patients in self-management. As effective self-management relies on holistic, patient-centered practices, AI is increasingly integrated into VAs to provide more personalized support. Yet, it is essential that VA design processes remain grounded in participatory approaches prioritizing patients' values, needs, and lived experiences. To assess the current state of VA design processes, we conducted a scoping review of 55 papers examining how care is framed and patients are involved. Our findings reveal AI-driven VAs prioritize reductionist approaches over holistic care with minimal patient involvement. This highlights a gap between the potential of patient-centered care technology and current implementation practices. Our contributions include (1) a mapping of care dimensions currently implemented in VAs, (2) a categorization of patient roles in the design process, and (3) design implications to expand care dimensions and patient involvement in AI-driven VAs.

[81] due to the prolonged temporal course of chronic illness where a complete cure is rarely achieved [90]. Because of this, people living with chronic illness develop rich, individualized knowledge about their own disease through routine everyday practices and adaptive strategies [53, 111, 114]. Virtual assistants (VAs), such as conversational agents and virtual medical avatars, have been designed to support patients in their self-management practices outside the clinical setting [67]. They aim to achieve this by supporting behavioral health and healthy living [71, 128], health information seeking [149, 151], and appointment, medication, and symptom tracking management [16, 54]. Given the highly individualized, contextual, and often relational (requiring ongoing assistance from informal support networks) type of care that is needed to manage chronic conditions [96, 107], VAs must be patient-centered in their approach to care [110, 150]. Patient-centered care (PCC) for chronic illness is characterized by three main aspects: (1) it seeks to support patients in developing skills and confidence to self-manage their own illness [145], (2) it holds a greater recognition of the need for holistic care [93], and (3) it asks patients directly what their preferences,

FIND THE FACTORS.

ORGANIZE THEM.

SHOW HOW THEY WORK.

Good luck. Questions?