Contextualized Dynamic Explanations: A Vision

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Data-Driven Asychronous Explanations

Potential Reasons for Communication Breakdown

Audience lacking necessary background knowledge

Information design of the artifact ineffective

No mechanism for audience to explore or request clarification

To effectively deliver an explanation,

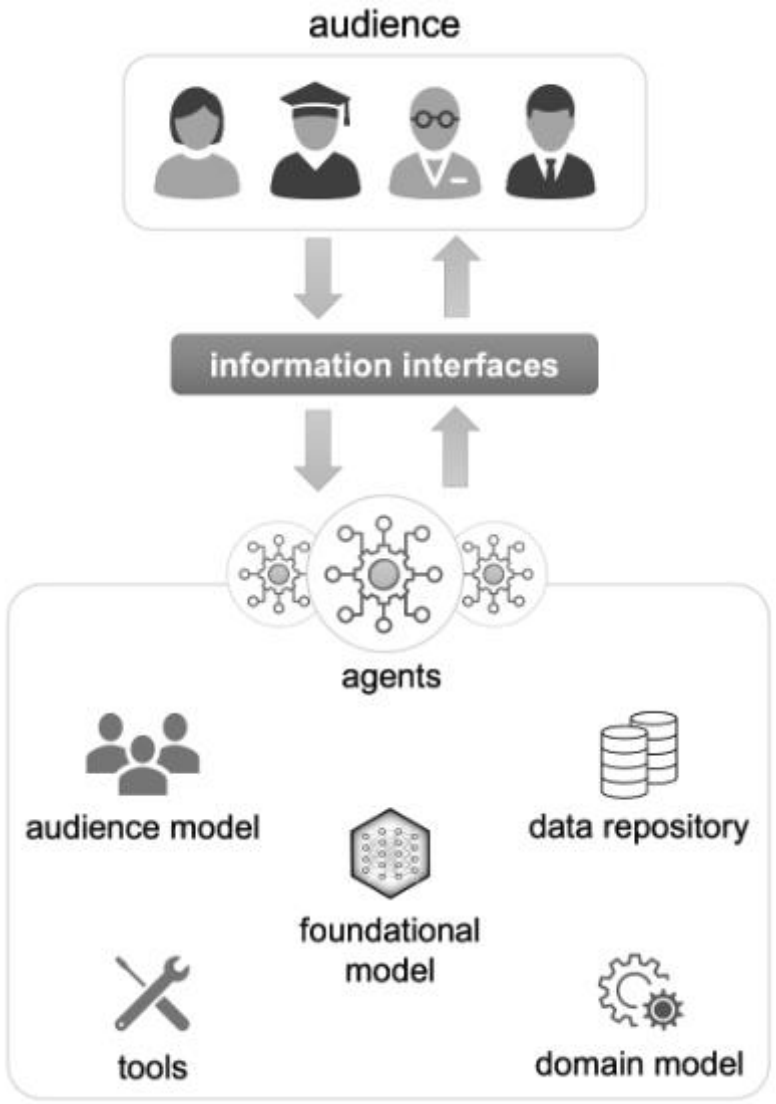
pre-baked content, presentation & behaviors

are inadequate to handle

all the interaction scenarios

involving the target audiences

Contextualized Dynamic Explanations (CoDEx)



Contextualized Dynamic Explanations (CoDEx)

A Scenario

Communicator

an intelligent defense system deployed in an organization

Audiences

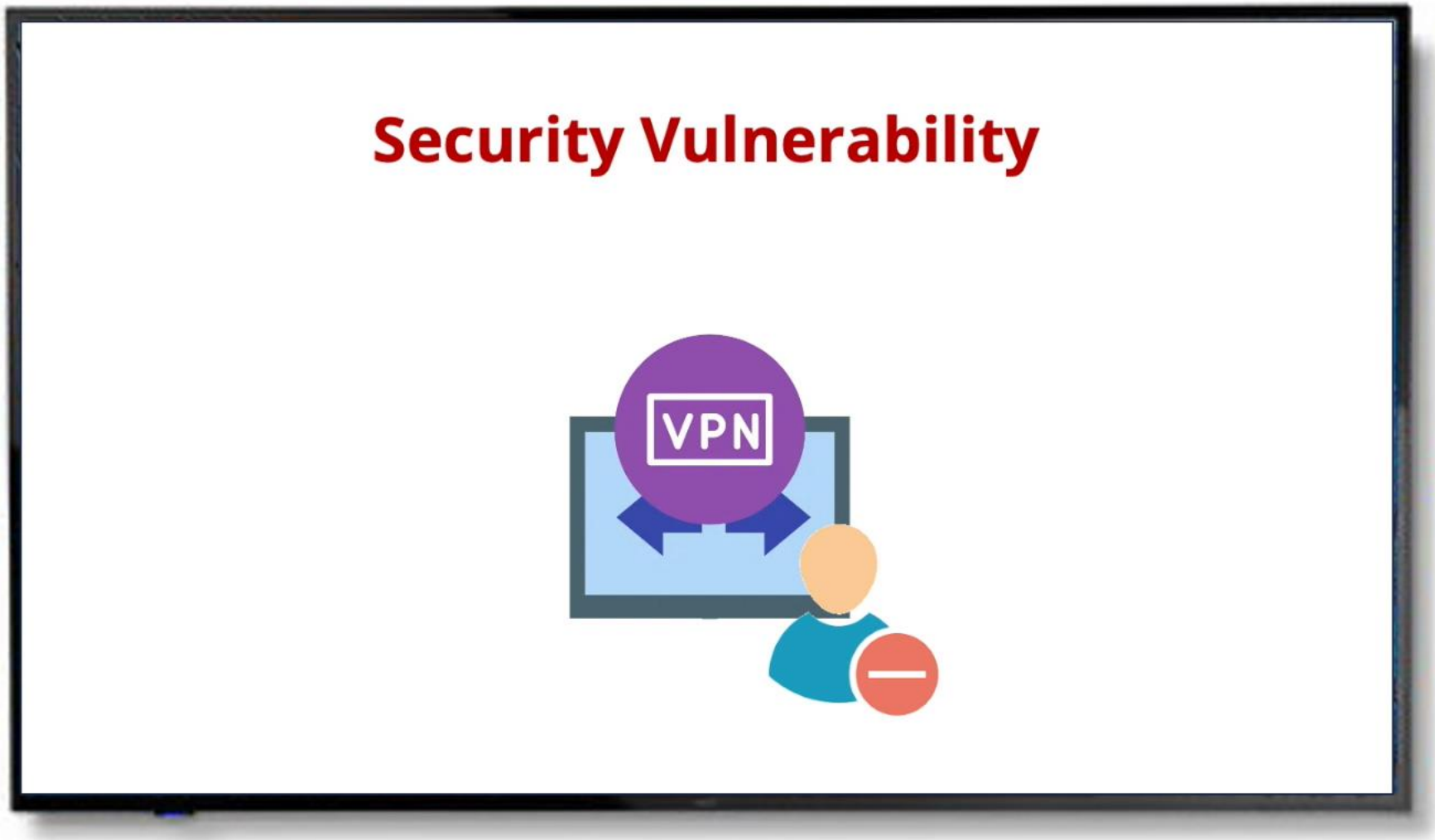
Maya from the legal department

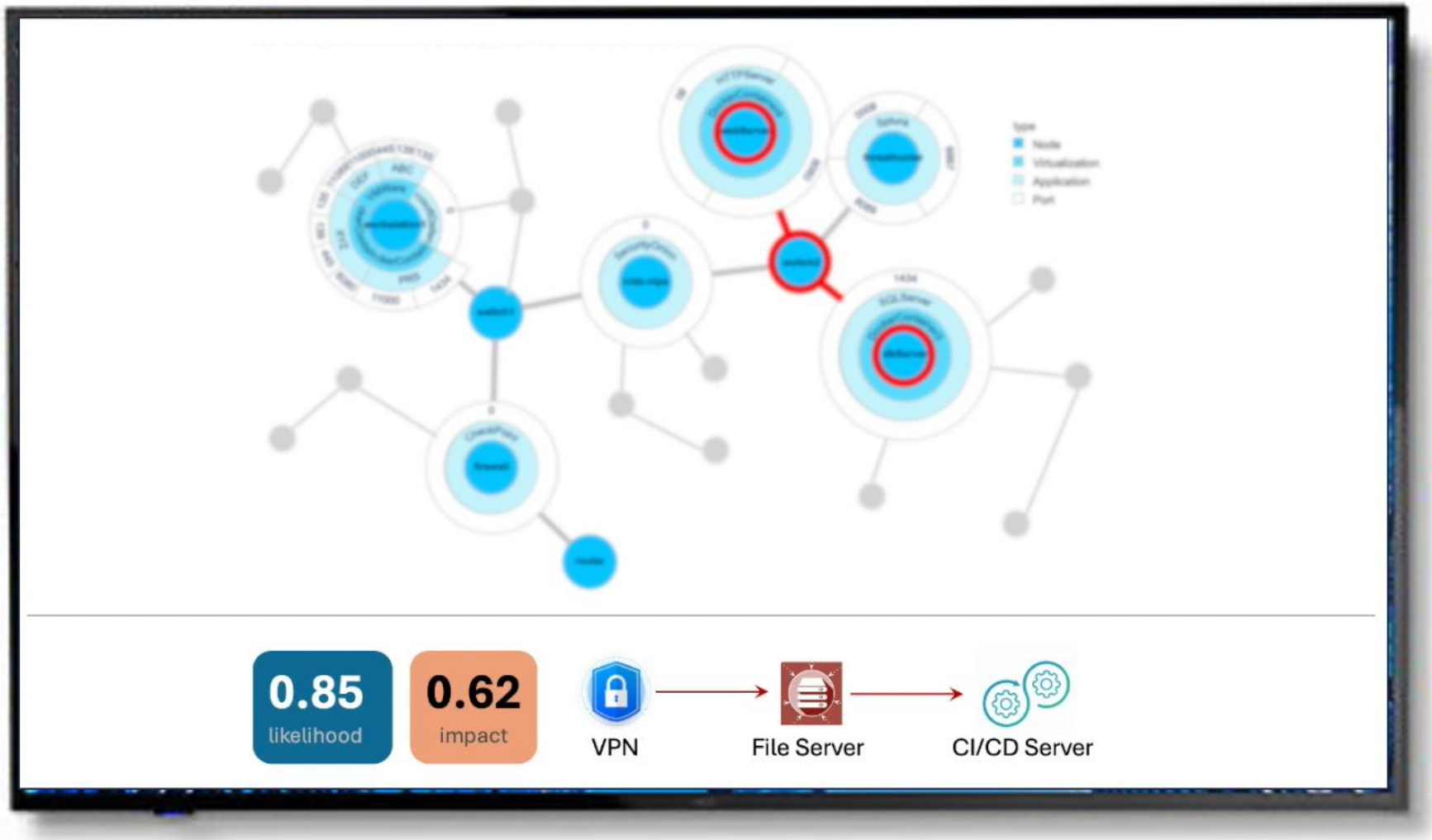
Jordan from the IT department

Explanation

a security vulnerability due to a legacy VPN account associated with a third-party vendor

Maya
legal department





Jordan
IT department

Contextualized Dynamic Explanations (CoDEx)

Contextualized

Personalized: tailored to different types of audiences
Adaptive: update based on human-AI dialog

Dynamic

Explorable: ask questions, consider alternatives
Generative: content and presentation not pre-baked

Research Challenges

Audience Model

Who the audience is, what they alreay know

description formats
internal representations
update mechanisms

Goal Specification

Communication intent: describe & evaluate

elements in an explanation
rhetorical strategies
assessment methods

Response Generation

Respond to audience's request appropriately

determine response type
retrieve relevant information
design effective interfaces

Progress Monitoring and Steering

Prevent drifting, guide proactively

memory & representations
non-intrusive evaluation of progress
balance between leading & following