Azure IoT Hub for Healthcare

8-week Experience & Architecture Assessment

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Overview

User Experience Definition

Architecture Recommendation

Proposal

Context – Healthcare diagnostic device providers have thousands of devices deployed in labs across the world

- Diagnostics devices are distributed in labs and hospitals **across multiple geographies**
- Devices can run a large variety of tests, each of which produces **thousands of rows of data**, often stored locally on the device
- Though devices are operated locally by trained staff, maintenance is managed by Field Engineers that **may require physical access** to devices in order to retrieve performance data
- Device outputs and metrics are valuable to a variety of functions (e.g., Sales, Marketing, Lab Operations) however these analytics are **not readily available**

Need – However, data from these devices tends to be difficult to access and glean insights from

- **Lacks unified user experience or interface** to allow users to interact with data and surface insights (e.g., Field technicians, Sales and Marketing teams, Lab technicians)

- Data generated by devices, both performance metrics and device health, is often **stored locally** and is **difficult to aggregate**

- **No centralized control system** to manage large number of devices (e.g., firmware updates, fault management)

Goal – User-centric approach to define user experience and Azure infrastructure to manage data from devices

User Experience Definition

- **User Research** to uncover needs and potential market gaps in existing process
- Translate research into **User Personas and Journey Maps** for entire experience
- Iterative exercise to design **User Experience and Interface** for all stakeholders

Architecture Recommendation

- Assess device footprint and recommend appropriate **Azure solution architecture**
- Recommendations will leverage **Azure IoT Suite** to address ingestion, processing, storage, and analytics needs as required by the engagement

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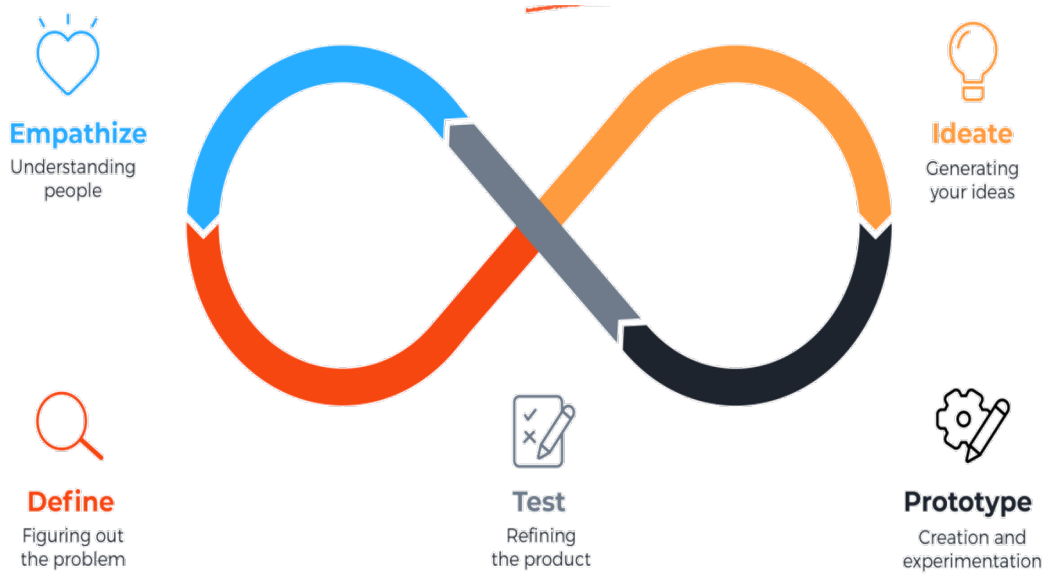
Through Design Thinking, IK will help define the appropriate UX and accompanying features

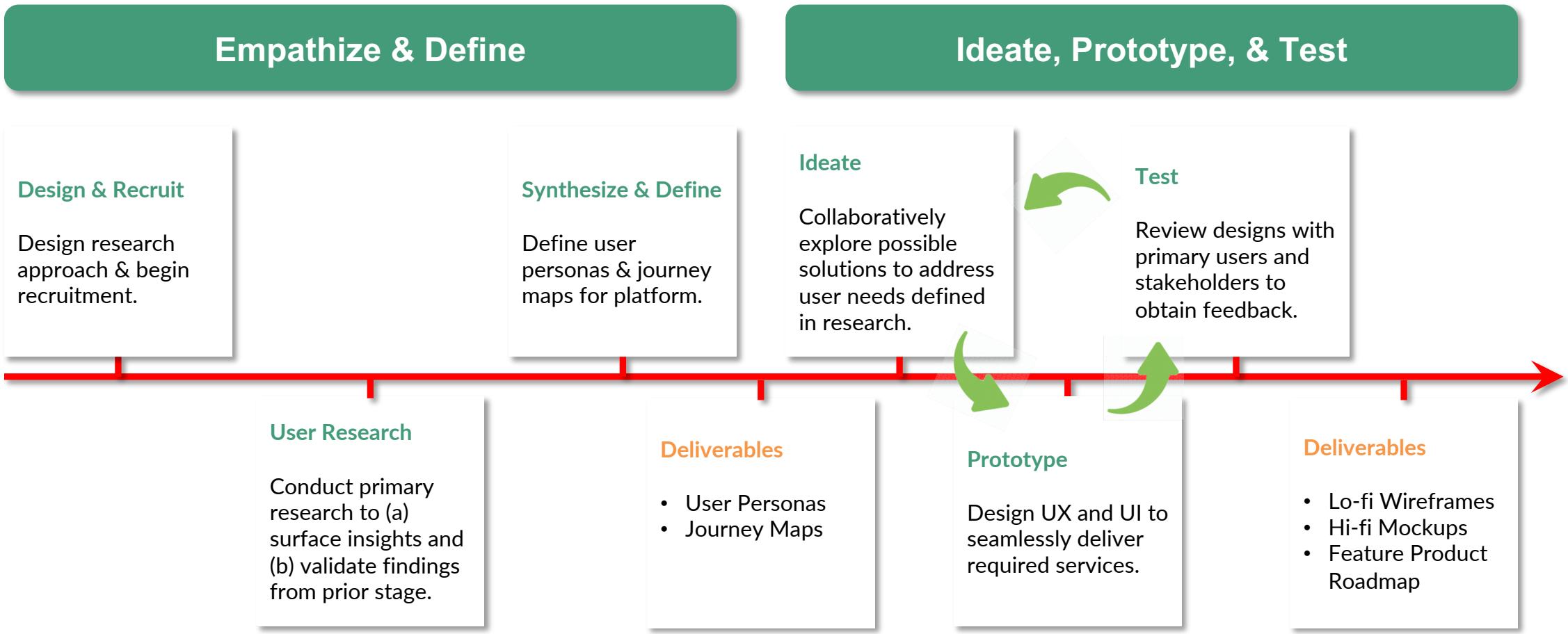
What is Design Thinking used for?

- Understand Users
- Challenge Assumptions
- Redefine Problems
- Design Innovative Solutions to Prototype & Test

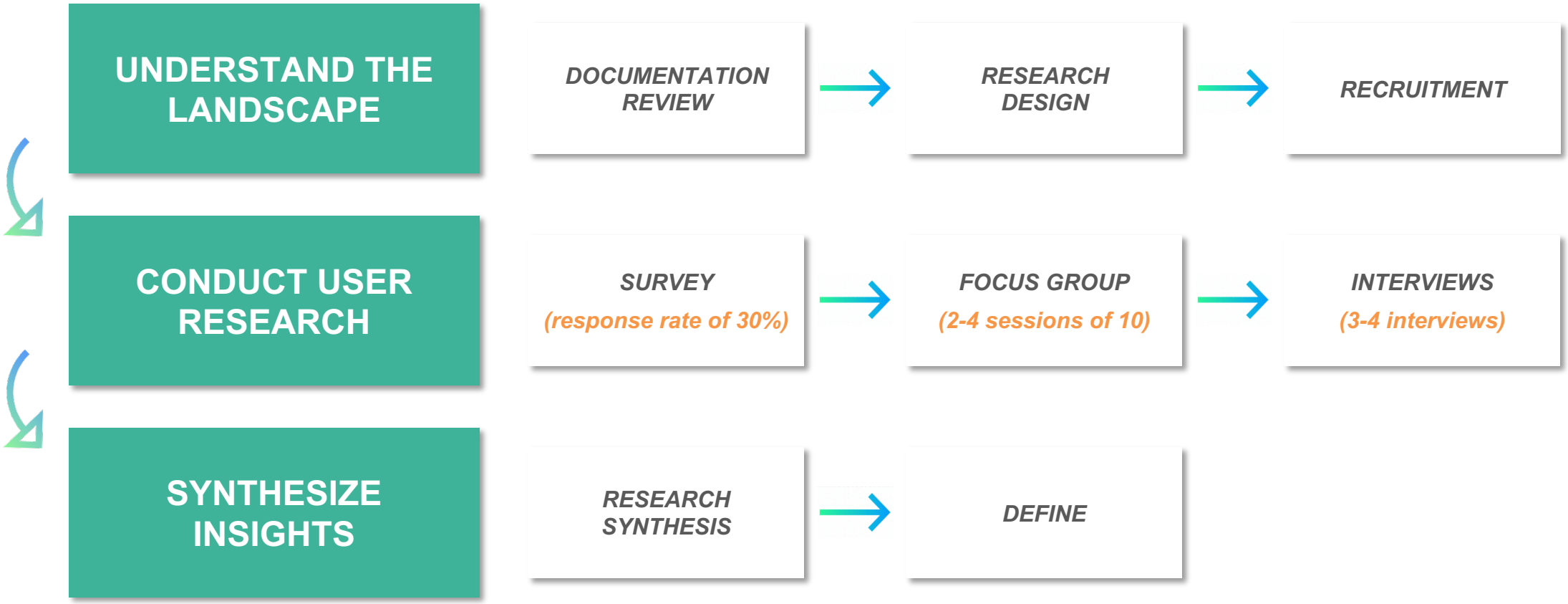
Design Thinking is non-linear and iterative



User-centric approach will inform end-to-end design



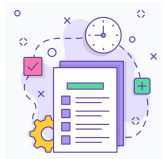
Deep Dive – IK will uncover pain points in the industry to inform user experience design



Workshop Topics (1/2)

Understanding Landscape		• Interviewing the project sponsors to understand vision and objectives • Preparing for User Research by understanding the landscape and stakeholders
Conduct User Research		• FOCUS GROUPS -Interviews with Users (~20) spread across two sessions • INTERVIEWS - Get information about Users, their Goals and their Challenges
Review User Research Findings		• Present findings from User Research exercise • Review and align on insights including goals, pain points and challenges
Review Personas, User Journey Maps		• Present initial user personas among product stakeholders • Present initial Journey Maps
Review Refined personas & journeys		• Review refined personas once feedback is incorporated • Review refined journeys once feedback is incorporated

Workshop Topics (2/2)

Present low-res wireframes		• Discuss low-res wireframes with stakeholders
Review refined low-res wireframes		• Revised low-res wireframes once feedback is incorporated • Get approval on low-res wireframes
Present high-res wireframes / mockups		• Discuss high-res wireframes with stakeholders
Present Initial Feature Backlog		• Discuss prioritization of backlog • Discuss potential MVP candidate
Present Final Deliverables		• Finalized high-resolution wireframes / mockups • Finalized Feature backlog

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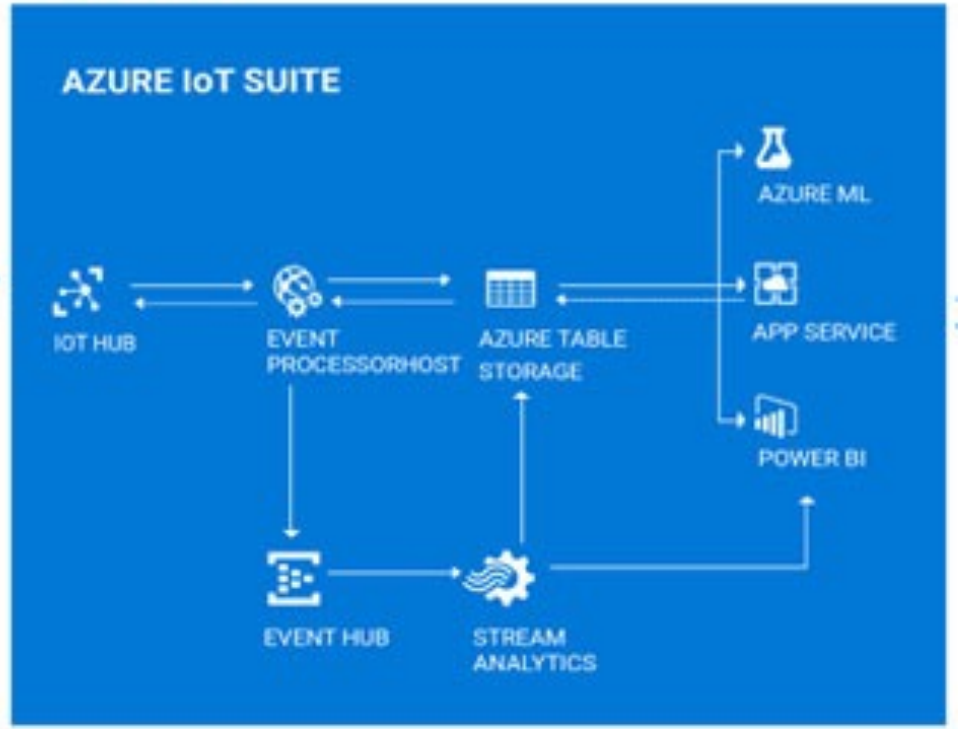
Based on the defined experience, IK will recommend an overall Azure solution architecture

Not Exhaustive

- **Ingestion (IoT Hub, Event Hub)** – Primarily serves as a gateway that connects devices with the Cloud and establishes communication between them.
- **Processing (Analytics, Function)** – Decision and Rule engines to process incoming data and provide real-time analytics on workloads.
- **Storage (SQL, Blob)** – Variety of storage options available to securely store data in organized and accessible databases
- **Advance Analytics & Insights (Azure ML)** – Build & deploy high quality models and provide insights at scale by visualizing data.



Illustrative

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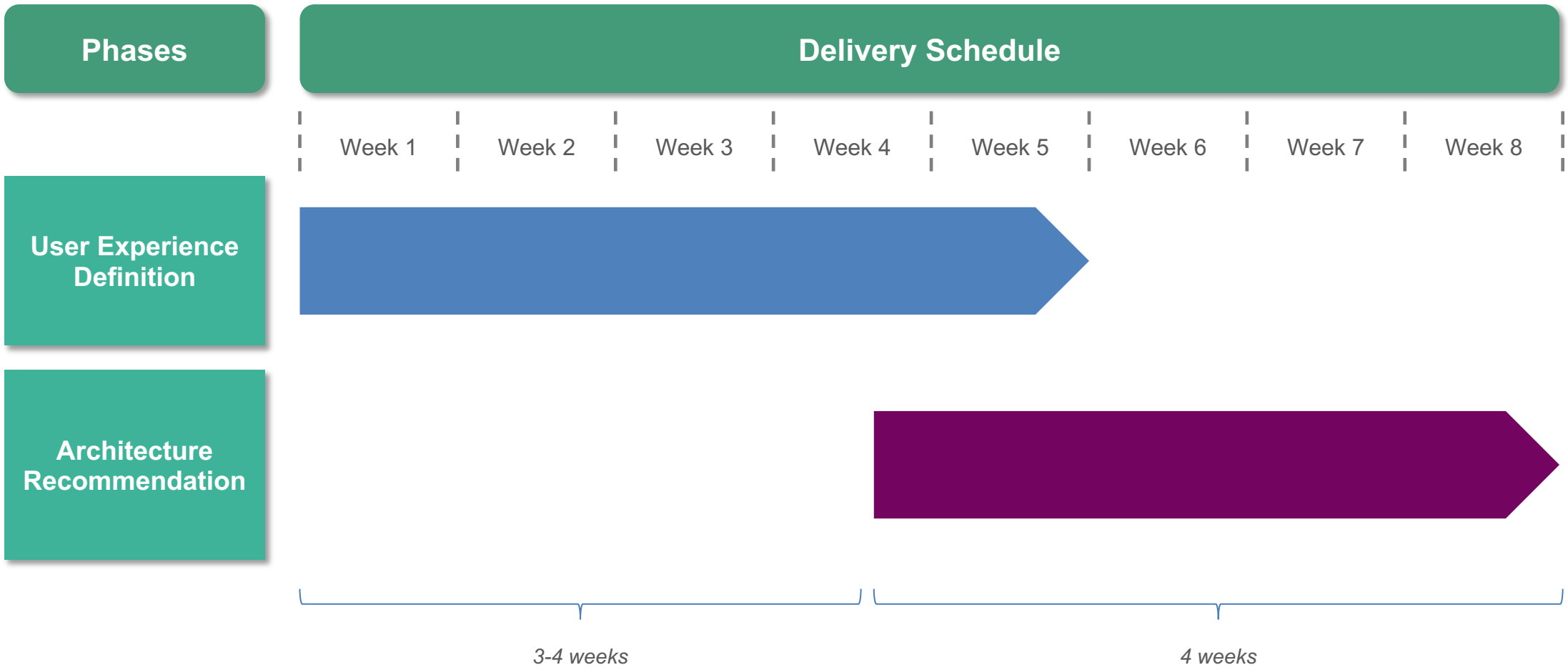
Planned schedule for the engagement runs for a continuous 8 weeks



The price covers all streams for the engagement

Phase	Deliverables	Weeks	Price (USD)
User Experience Definition	• Synthesized insights from user research • User personas and Journey Maps • Wireframes and mockups for agreed upon user interface and experience	8	$ 100,000
Architecture Recommendation	• Recommended Azure services • End-to-end design recommendations and Architecture Diagram		

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Thank You.

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