ANDREWS COOPER

Navigating the Product Development Life Cycle

BOOK 1 OF 5

DEFINING REQUIREMENTS

TECH TALKS™ EBOOK SERIES

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Building a Solid Foundation for Valve's Virtual Reality Product Vision

In this series, we highlight the PD engineering journey to describe how integrating our engineering services with Valve Corporation helped them realize their vision to innovate VR gaming hardware to launch the Valve Index VR system. Through this eBook series on Navigating the Product Development Life Cycle, we explore the progression of the interdependent stages that underpin end-to-end engineering success.

Image Credit: Valve Corporation

ANDREWS COOPER

Andrews Cooper (AC) excels at advanced engineering for emerging technologies, specializing in Research & Development, Product Development, Hardware Testing, and Manufacturing Automation. We cater to ambitious, tech-focused companies seeking to innovate and lead their industries. With expertise in multiple engineering disciplines, our engineers function as force multipliers, propelling the development of HardTech solutions. With a focus on rapid development using proven methodologies, we de-risk the development process and integrate validation and testing to ensure high-quality, manufacturable products.

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VALVE

Valve Corporation first turned to AC's Integrated Engineering Teams (IETs) for R&D support with gaming systems and controllers. To innovate in the highly competitive and evolving VR gaming market, Valve needed a partner capable of de-risking and developing core technologies. AC provided comprehensive engineering solutions necessary for the successful development and launch of its Index VR system.

Looking for a snapshot of our Product Development services? Watch our 1-Minute Video.

DEFINING REQUIREMENTS:

Driving Successful Product Development

In the dynamic world of VR gaming, defining clear and precise product requirements is paramount. Working with Valve Corporation, AC embarked on a journey of VR hardware innovation that required a detailed understanding of market demands, user needs, and technical specifications. This exploratory work and comprehensive project scoping ensures a strong foundation for hardware product development.

1 | Scoping the project

Strategic groundwork is key to innovation. Scoping a hardware development project typically involves market research, user experience analysis, and technical feasibility studies.

Valve's ambition to break into the VR hardware space meant they needed to transition from their strong software background to developing cutting-edge hardware. AC's Integrated Engineering Teams (IET) engaged with Valve to ensure alignment with their strategic goals. Our focus on scope was to understand their vision and the competitive landscape of VR gaming.

OBJECTIVE: Precise scoping and a solid foundation for successful innovation.

Engineering innovative products requires navigating a complex and dynamic product development life cycle.

2 | Completing exploratory work

Exploratory work is critical in identifying potential challenges and opportunities. Detailed feasibility studies and risk assessments are also important. For Valve's VR gaming console and controllers, we explored the latest advancements in VR technologies, sensor integration, and ergonomic design to create a product that met and exceeded market expectations. The phase involves brainstorming sessions, technical workshops, and collaborative meetings to outline the project's roadmap.

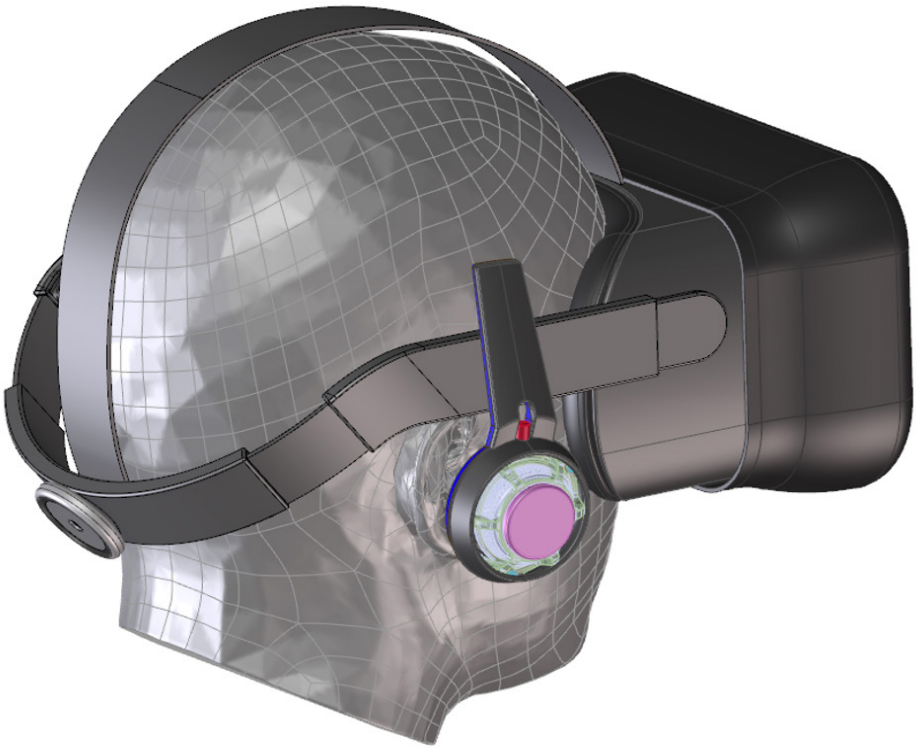
OBJECTIVE: Market, technology, and risk assessments completed to validate product feasibility.

> "...we explored the latest advancements in VR technologies, sensor integration, and ergonomic design to create a product that met and exceeded market expectations."

3 | Defining key product requirements

Clear product requirements form the backbone of successful development. AC worked closely with Valve to define the essential features and specifications of the VR hardware. This included determining the performance metrics for sensors, display resolutions, and user interaction modalities. By setting these parameters early, we ensured that all subsequent development stages were guided by well-defined goals.

OBJECTIVE: Detailed performance requirements defined for precise execution.



4 | Defining the product

With the requirements in place, the next step was to translate these into a tangible product definition. AC's role was to detail the hardware architecture, user interface design, and integration points for various components. For Valve, this stage involved creating conceptual designs and initial prototypes that embodied their vision of a revolutionary VR experience.

OBJECTIVE: Detailed concepts and initial prototypes developed to confirm product vision.

5 | Completing the project proposal

A robust project proposal is essential for aligning stakeholders and securing resources. We prepare comprehensive project proposals for our clients.

A thorough proposal outlines the development process, resource allocation, and timelines for all stages of the product development life cycle. This document served as a blueprint for the project, detailing every aspect from the initial concept to the final production.

OBJECTIVE: Development process outlined, project resources identified, and achieve alignment with stakeholders.

6 | Kicking off the project

The final step within the Requirements stage is to initiate the project with a kickoff meeting that brings together all key stakeholders. During this session, we establish the communication channels, define the roles and responsibilities, and set the stage for a collaborative development effort. Our role is to manage the delivery of all discrete components and the entire development process. For AC, this was the beginning of a transformative journey with Valve into the VR hardware market.

OBJECTIVE: Clear design milestones communicated with the development team.

Groundbreaking Innovation Through Advanced Product Engineering

Navigating the product development life cycle is a multifaceted process that requires strategic planning, technical expertise, and a collaborative approach. Our experience with Valve Corporation and other game-changing developers enables us to rapidly integrate advanced engineering services at each product development stage, leading to groundbreaking innovation, premium quality, scalable supply chain management, and seamless contract manufacturing for a successful product launch.

Our engineering team can support your product from concept to production or at any stage in your development journey. Looking for more in this journey? Read about the next stage of the product development life cycle in our series, Stage 2: Proof of Concept.

Regardless of where you are in your product lifecycle, improve your speed to market with AC's engineering teams in Research & Development, Product Development, Hardware Testing, and Manufacturing Automation.

Let us know how can we support your current needs and solve your ambitious challenges.

503.256.2000

Info@Andrews-Cooper.com

OREGON: McMinnville,
Lake Oswego, Corvallis
WASHINGTON: Bothell

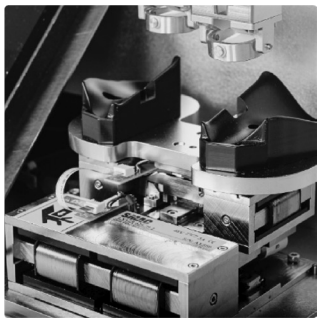
ANDREWS COOPER

Info@Andrews-Cooper.com

503.565.2000

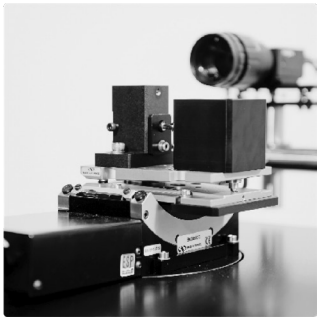
www.Andrews-Cooper.com

R&D Accelerator



Product Development

Hardware Testing



Manufacturing Automation

Integrated Engineering Teams

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