**Portfolio Milestone: Design Methodology**

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**Introduction**

The AI-Enhanced Implantable Eye project aims to develop a revolutionary implantable device designed to monitor and manage intraocular pressure (IOP) in glaucoma patients using artificial intelligence (AI). This project merges bioengineering with advanced AI algorithms to ensure real-time monitoring and adjustment, potentially restoring vision through regenerative capabilities. This paper outlines the project’s design methodology, covering the various phases and presenting a Gantt chart that illustrates the project timeline and concurrent tasks.

**Design Methodology**

**Inception Phase (Months 1-6)**

The inception phase focuses on planning, initial research, and establishing key clinical partnerships. During this period, the prototype's design and foundational work for AI algorithms begin.

* **Key Deliverables**: Prototype design and clinical partnerships.

**Development Phase (Months 7-18)**

The development phase involves the creation of the AI system and the hardware components that will interface with the optic nerve. This phase will also integrate both software and hardware systems to develop the prototype.

* **Key Deliverables**: A functional prototype capable of autonomously managing IOP.

**Testing & Validation Phase (Months 19-24)**

Clinical trials will be conducted during this phase to ensure the system works as intended, focusing on its ability to track and autonomously manage intraocular pressure in real-time.

* **Key Deliverables**: Clinical trial results and performance validation reports.

**Regulatory Approval Phase (Months 25-30)**

This phase focuses on obtaining the necessary approvals from regulatory bodies, such as the FDA. All required documentation will be submitted, and the product will be prepared for market entry.

* **Key Deliverables**: Regulatory submissions and approvals.

**Launch & Maintenance Phase (Months 31-36)**

The final phase of the project involves launching the product to the market, followed by monitoring post-launch performance and ensuring proper system maintenance for early adopters.

* **Key Deliverables**: Product launch and post-market surveillance reports.

**Concurrent Tasks**

Throughout the project, several tasks will run concurrently to optimize the use of resources and time:

* **Research and development** during the inception phase will overlap with early-stage clinical partnerships.
* **Prototype development** and **software integration** will run in parallel during the development phase.
* **Regulatory preparation** will commence during clinical trials to streamline the approval process and minimize delays.

**Conclusion**

The AI-Enhanced Implantable Eye project requires careful planning and execution across multiple phases. By utilizing a Gantt chart, the project’s timeline can be visualized, ensuring that concurrent tasks are efficiently managed, and key deliverables are met on time. This structured approach will help guarantee the successful development, testing, and launch of this innovative medical device.

**Gantt Chart**

A graph with different colored bars

Description automatically generated

**References**

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