Strategic Evaluation of Product Endorsement Opportunities: ARMband vs. Runi for DJ Ascentia

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Executive Summary

This report evaluates two endorsement opportunities for DJ Ascentia: the ARMband by Band of Bros and the Runi by The Runes, targeting the open-source music production market and requiring exclusive endorsement. It assesses financial, technical, and project management factors to identify the best option, ultimately recommending the Runi for its higher gross margin, lower initial investment, and better scalability potential.

Project Management Methodology

The Agile methodology is recommended for managing the ARMband project due to its iterative approach and adaptability to evolving requirements. ARMband's reliance on community-driven development, particularly for Linux driver compatibility and VST integration, aligns with Agile's collaborative nature, enabling continuous feedback and incremental improvements (Schwaber and Sutherland, 2020). Given DJ Ascentia's time-sensitive involvement, Agile ensures rapid iterations to maximise marketing impact and profitability.

Two main challenges arise: unpredictable community contributions and integration complexities. Relying on open-source resources can lead to uncertain project timelines, which can be managed with contingency planning and developer incentives. Integrating proprietary and open-source components may cause compatibility issues, which are addressable through CI pipelines and modular architecture. Agile's flexibility supports rapid prototyping and stakeholder engagement, aligning DJ Ascentia's investments with market needs. Given ARMband's higher sales potential, Agile is an effective framework for delivering a quality product while minimising development risks.

Runi's software development utilises an iterative Agile methodology, leveraging continuous feedback and community contributions to improve its Supercollider engine and Lua interpreter (Mokhtar and Khayyat, 2022). Given RISC-V's growing ecosystem, Agile's flexibility allows adaptation to changing requirements (Serrador and Pinto, 2015). Collaboration between the core team and external contributors enhances software development, UI testing, and driver integration, fostering a cohesive workflow (Awad, 2005).

Integrating Waterfall and Agile methodologies into a hybrid approach is crucial for balancing structured planning and flexibility in project management. Research shows that while Waterfall establishes clear milestones and quality control, Agile enhances adaptability and continuous improvement. This hybrid framework is vital for managing complex projects, especially in fields like neurotechnology, where traditional Waterfall processes can lead to delays, while Agile better addresses project uncertainties and evolving requirements. (Thota and Jung, 2024).

Key Requirements

The five key requirements for each product have been articulated as Gherkin statements, a structured and human-readable format designed to describe scenarios in a way that is comprehensible to both technical and non-technical stakeholders (Koroglu and Sen, 2020). These statements delineate the essential features and functionalities of the products, ensuring clarity and alignment within the project team. A detailed breakdown of the Gherkin statements and their corresponding scenarios is provided in the appendix.

Work Breakdown Structure (WBS)

The ARMband project adopts an Agile development methodology to facilitate iterative advancement and flexibility throughout its lifecycle. The critical path has been delineated in the accompanying project network diagram, thereby underscoring the essential sequence of tasks that must be completed to achieve timely project delivery.
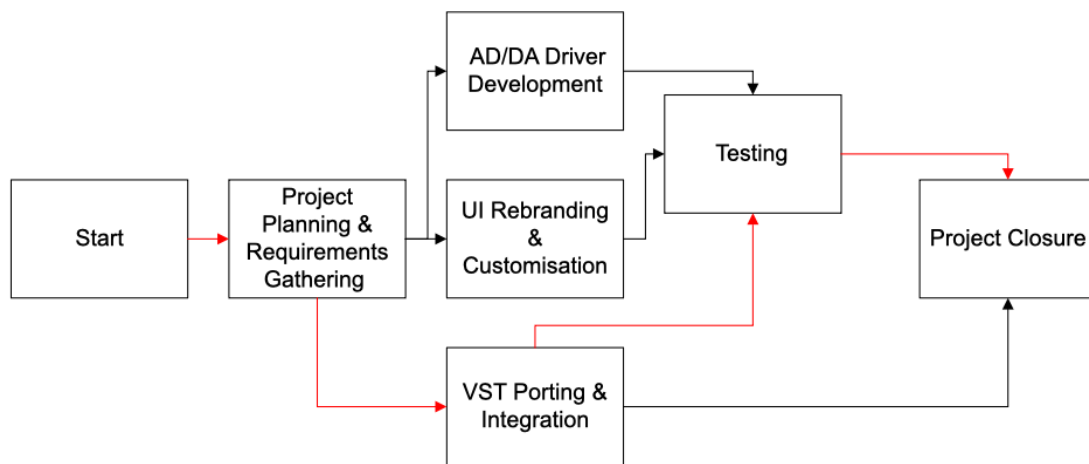

Figure 1: Work Breakdown Structure for ARMband (Hamberger et al., 2025)

The Runi project follows a hybrid approach, where Waterfall and Agile are combined. Following is the WBS.
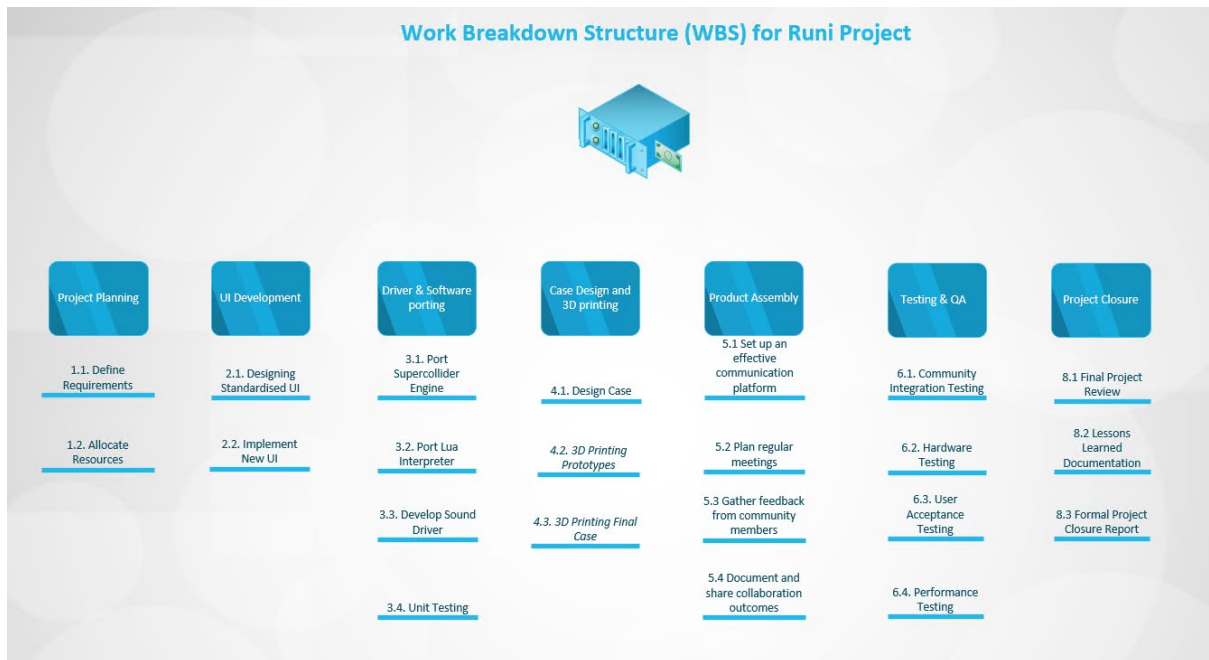
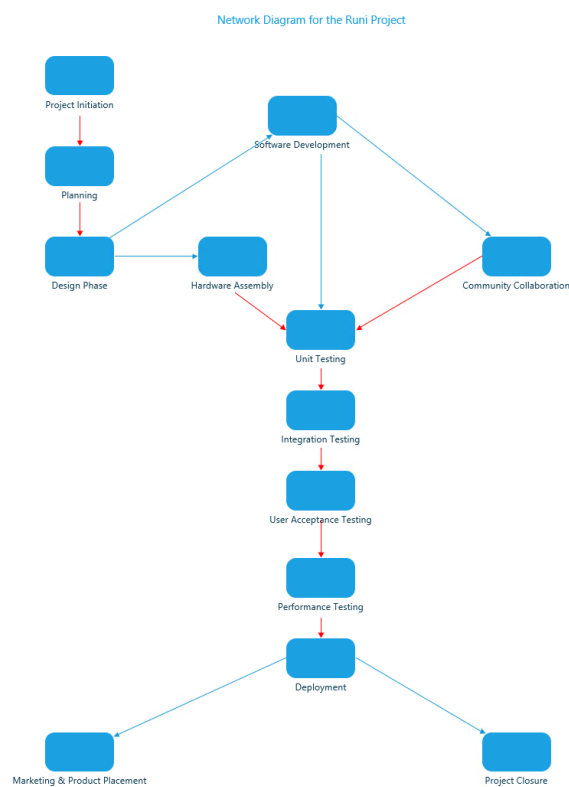Figure 2: Work Breakdown Structure for Project Runi (Hamberger et al., 2025)

Figure 3: Network Diagram for Project Runi (Hamberger et al., 2025)

Project Plan (Gantt Chart)

The ARMband project adopts an Agile methodology to promote iterative progress and adaptability. In contrast, the Runi project employs a hybrid approach, integrating Agile principles in software development while utilising a Waterfall methodology for user interface development and case manufacturing. According to Fernández-Diego et al. (2020), Planning Poker is currently the most widely used estimation technique in Agile Software Development (ASD). Despite its popularity, the authors note its significant reliance on expert judgment, which can lead to human biases. Additionally, while Planning Poker encourages discussions that can enhance the project team's understanding of requirements, it is also time-consuming. Although the authors of this report are experts in their respective fields, they do not specialise in software or, driver development, or UI rebranding. Considering these factors, the project team has decided to adopt a hybrid strategy, combining Planning Poker and the T-Shirt sizing method for task estimation in both projects. T-shirt sizing is often utilised for rough estimates when requirements are not fully defined (Mallidi and Sharma, 2021).
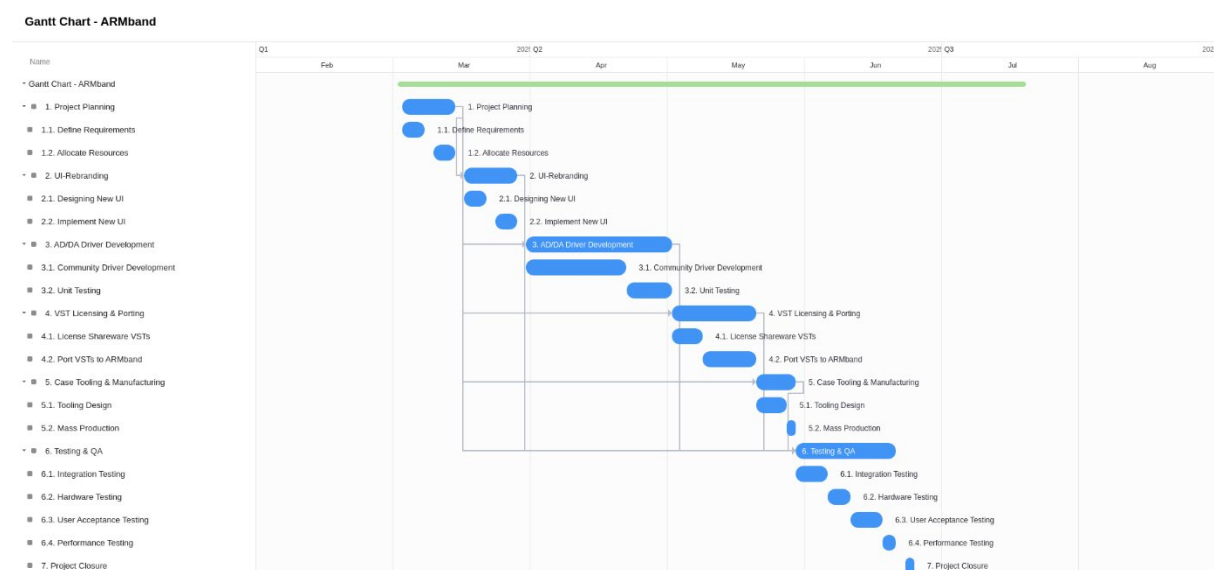

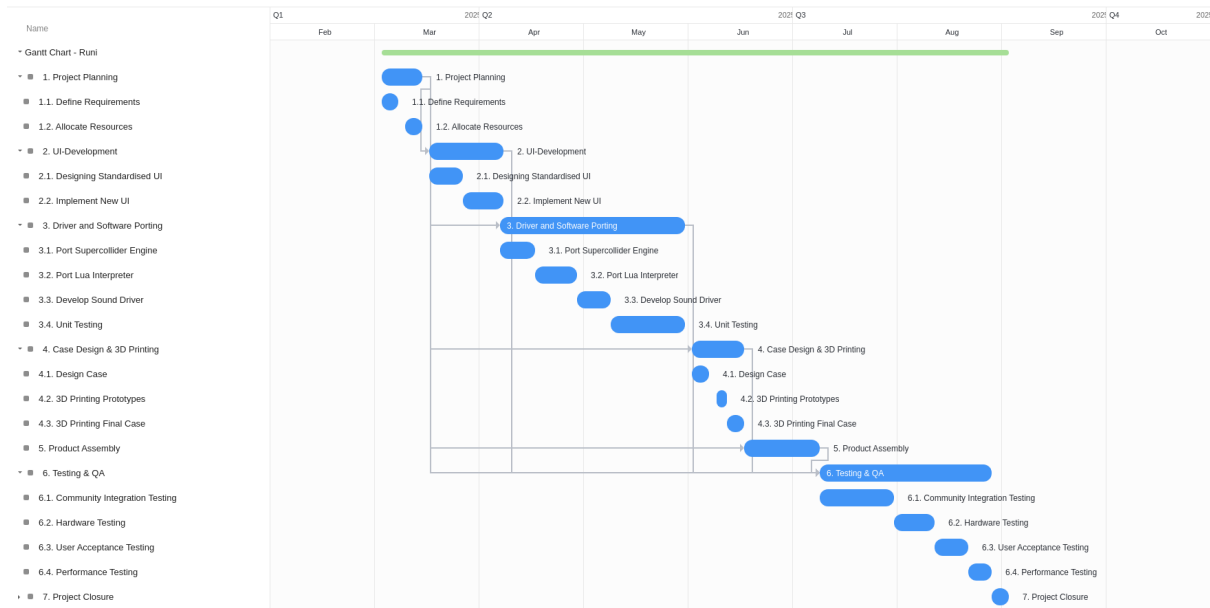*Figure 4: Gantt Chart for Project ARMband (Hamberger et al., 2025)*

Figure 5: Gantt Chart for Project Runi (Hamberger et al., 2025)

Total Market Entry Cost Estimate

The following table shows all the costs incurred in the production of both projects. On top of that, Band of Bros require DJ Ascentia to invest £10,000 in the case tooling and manufacture. Detailed calculations can be found in the spreadsheets attached to this document.

Product	ARMband	Runi
Component Costs (excluding assembling)	£232/unit (Raspberry Pi, ADA card, screen, case, etc.)	£140/unit (Vision5 board, screen, case, etc.)
Project Management	£53,200	£82,000
Business Analysis & Requirements	£12,200	£13,600
SW Development (including Solution Architect)	£23,100	£32,700
Manufacturing	£45/unit	£30/unit
Testing	£21,600	£16,650
Investment	£10,000	£0
Total Cost (excluding marketing)	£120,377	£145,120

Table 1: Cost Estimation for both Projects (Hamberger et al., 2025)

Financial Analysis

Product	Predicted Sales (with DJ)	Gross Margin	Estimated Revenue	DJ's Share
ARMband	1500 /yr	20% of £400 RRP = £80/unit	£120,000/yr	15% = £18,000/yr
Runi (Kit)	2750 /yr	40% of £150 RRP = £60/unit	£165,000/yr	7% = £11,550/yr
Runi (Assembled)	950 /yr	35% of £400 RRP = £140/unit	£133,000/yr	7% = £9,310/yr
Total (Runi)	3700 /yr	varied	£298,000/yr	7% = £20,860/yr

Table 2: Financial Analysis for both Products (Hamberger et al., 2025)

The table indicates a marginal advantage for Runi, projected to generate a higher annual return than ARMband. The requirement of a £10,000 upfront investment for ARMband further diminishes its overall attractiveness as a project.

Recommendation

Based on financial returns, project feasibility, and lower risk, **Runi** is the best endorsement opportunity for DJ Ascentia. It requires no upfront investment, offers a scalable product line, and is projected to generate a higher income over time. While the risk associated with Runi is relatively low due to its established community and iterative development, market fluctuations and external competition may still impact its success. The following successive steps are recommended:

- Begin negotiations with The Runes.
- Develop a promotional campaign for Runi.
- Monitor sales impact and community engagement.

Word count: 1024

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Appendices

Key Requirements (Gherkin statements)
Following are the five key requirements for each project, written in Gherkin statements.

ARMband
Feature: Linux-Compatible Drivers

Scenario: Ensure ARMband works with Linux
  Given the AD/DA card lacks Linux drivers,
  When the community develops the drivers,
  Then the product will be fully functional.

Feature: VST Integration

Scenario: Port shareware VST applications
  Given the development team plans to license VSTs,
  When the VSTs are ported to the platform,
  Then the product will offer unique sound capabilities.

Feature: User Interface (UI) Rebranding

Scenario: Rebrand the UI for ARMband
  Given the UI needs rebranding,
  When the development team completes the UI,
  Then the product will have a distinct identity.

Feature: Community Development

Scenario: Leverage community for software development
  Given the team relies on community contributions,
  When the community ports software and tests drivers,
  Then the product will be ready for market.

Feature: Cost-Effective Manufacturing

Scenario: Produce ARMband at a lower cost
  Given the case and build are simplified,
  When the product is manufactured,
  Then it will be priced competitively at £*400*.

Runi
Feature: Supercollider and Lua Porting

<u>Scenario: Port Supercollider and Lua to RISC-V</u>
  Given the Vision*5* board lacks software support,
  When the community ports Supercollider and Lua,
  Then the product will be functional.

Feature: Standardised UI

<u>Scenario: Develop a user-friendly UI</u>
  Given the UI is designed in-house,
  When the UI is completed,
  Then the product will be easier to use.

Feature: Community-Driven Development

<u>Scenario: Leverage community for driver and script development</u>
  Given the team relies on community contributions,
  When the community develops drivers and scripts,
  Then the product will be ready for market.

Feature: 3D-Printed Case

<u>Scenario: Manufacture the case using 3D printing</u>
  Given the case is 3D-printed,
  When the case is produced,
  Then the product will have a unique design.

Feature: Self-Assembly and Pre-Built Options

<u>Scenario: Offer kit and assembled versions</u>
  Given the product is available in two formats,
  When customers choose their preferred option,
  Then the product will appeal to a wider audience.

Planning Poker for Project Estimation (ARMband) – Conducted on 12/02/25
Building on the T-shirt sizing method outlined by Fernando (2024), we customised the approach to better align with our team's workflow: XS (1), S (2), M (3), L (5), XL (8), XXL (16), XXXL (24)

Project Step	Gesine's Estimate	David's Estimate	Tobi's Estimate	Consensus
1. Project Planning				**10**
1.1 Define Requirements	M	L	XXL	L (5)
1.2 Allocate Resources	L	L	XL	L (5)
2. UI-Rebranding				**10**
2.1 Designing New UI	L	L	XL	L (5)
2.2 Implement New UI	M	L	XL	L (5)
3. AD/DA Driver Development				**24**
3.1 Community Driver Development	XXL	XXL	XXXL	XXL (16)
3.2 Unit-Testing	XL	XL	XL	XL (8)
4. VST Licensing & Porting				**13**
4.1 License Shareware VSTs	XL	L	L	L (5)
4.2 Port VSTs to ARMband	M	XL	XL	XL (8)
5. Case Tooling & Manufacturing				**7**
5.1 Tooling Design	L	L	L	L (5)
5.2 Mass Production	M	XS	M	S (2)
6. Testing & QA				**13**
6.1 Integration-Testing	M	L	L	L (5)
6.2 Hardware-Testing	S	L	M	M (3)
6.3 User Acceptance Testing	L	L	L	L (5)
6.4 Performance-Testing	S	L	S	M (3)
7. Project Closure	S	S	M	S (**2**)

Planning Poker for Project Estimation (Runi) – Conducted on 12/02/25
Building on the T-shirt sizing method outlined by Fernando (2024), we customised the
approach to better align with our team's workflow: XS (1), S (2), M (3), L (5), XL (8), XXL
(16), XXXL (24)

Project Step	Gesine's Estimate	David's Estimate	Tobi's Estimate	Consensus
1. Project Planning				**10**
1.1 Define Requirements	XL	L	XXL	L (5)
1.2 Allocate Resources	L	L	XL	L (5)
2. UI-Development				**16**
2.1 Designing Standardised UI	XXL	XL	XL	XL (8)
2.2 Implement UI	XL	XL	XL	XL (8)
3. Driver and Software Porting				**40**
3.1 Port Supercollider Engine	XL	XL	XXL	XL (8)
3.2 Port Lua Interpreter	XXL	XL	XL	XL (8)
3.3 Develop Sound Driver	L	XL	XL	XL (8)
3.4 Unit-Testing	XXL	XXL	XXL	XXL (16)
4. Case Design & 3D Printing				**11**
4.1 Design Case	L	L	L	L (5)
4.2 3D Printing Prototypes	S	M	L	M (3)
4.3 3D Printing Final Case	M	M	M	M (3)
5. Product Assembly	XL	XXL	XXL	XXL (**16**)
6. Testing & QA				**37**
6.1 Community Integration-Testing	XXL	XXL	XXL	XXL (16)
6.2 Hardware-Testing	XL	XL	XXL	XL (8)
6.3 User Acceptance Testing	XL	XXL	XL	XL (8)
6.4 Performance-Testing	M	XL	L	L (5)
7. Project Closure	S	S	M	S (**2**)

Cost Estimates

To calculate the specific costs, there are two spreadsheets submitted with this report.