Lifeloop Aura

By Aaron Gomes 33898561, Bharath Kasinathan 34942912, Chirath Hettigoda 33840490 and Dylan Chau 33898944

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Team Working Agreement

Team number	**506**
Team members	**Aaron Gomes (Leader), Bharath Kasinathan, Chirath Hettigoda and Dylan Vinh Chau**
Team objectives	● To collaboratively work together to successfully complete our Assignment. ● To encourage open communication, transparency, and trust. ● To unify efforts toward achieving a common vision or mission. ● To proactively identify, evaluate, and address potential risks. ● To implement PMBOK standards and contemporary project management approaches.
Team characteristics	Our team is generally up to date with tasks and able to reach agreement on most decisions. We take accountability for our individual responsibilities and work collaboratively to find solutions when needed. While some members may occasionally fall behind due to other assignments or miss meetings, they communicate this in advance, ask what needs to be done, and take responsibility for catching up. Our team members are proactive in seeking help when required, ensuring that progress continues smoothly. Leadership is demonstrated within the group to coordinate when work needs to be completed and to organise meeting times. At times, individual members contribute innovative ideas to help the group where there is confusion in certain tasks. Overall, we are all committed to completing tasks on time, following a clear timetable, and meeting agreed deadlines.
Core values	- Trust - Flexibility - Timeliness - Respect - Teamwork - Diversity - Adaptability
Group norms and code of conduct	Our team will work with defined roles and responsibilities which enable everyone to complete their work on time while notifying delays or problems proactively. We will maintain alignment through routine progress updates and handle deviations from plans at an early stage to implement necessary changes. We expect open and honest communication, as we provide assistance to team members who require it, while we seek help during difficult situations. Flexibility stands as a fundamental principle because we will modify our plans based on adapting situations by managing our time. We will take accountability together and show mutual respect and a shared goal dedication in completing this assignment to ensure a collaborative success.

Participation and collaboration approach	We prefer to hold a video call once a week for more extensive discussions and use the shared spaces in Google Docs and Google Slides for real-time collaboration. To ensure quick communication, we also use group chats. This allows us to facilitate communication and collaboration, while balancing not inundating everyone with many meetings. Most of our feedback is done in these weekly check-ins, and if something comes up unplanned, we are open to using the group chat. In all cases we aim to provide feedback that is constructive and actionable to ensure everyone is on the same page.
Communications	• We have a Group Chat and will meet up once a week on a Zoom call to see the progress of the Assignment. • Communicate potential problems that may arise within the group meetings and chat. • Ensure there are deadlines on when certain tasks to be completed by. • If team members cannot attend meetings, assign certain tasks on the group chat with a deadline.
Problem solving	We will work together to solve problems by first breaking them down, then finding solutions through communication in our group chat, Zoom meetings, and in person. This ensures everyone understands the issue and has the chance to contribute their ideas. By approaching the problem from multiple perspectives, we can come to a consensus on the best solution. If issues arise within the team, we'll address them in class or via video call to fully understand the situation. We'll then discuss what each team member can or cannot do, and adjust our approach as needed to accommodate their circumstances.
Conflict management	If any conflicts arise, we will address them promptly before continuing with further tasks, to prevent them from developing into larger issues. All team members will have the opportunity to share their perspectives openly and respectfully, ensuring that everyone feels heard. We will work together to identify common ground and agree on a way forward that allows the project to progress smoothly. If the matter cannot be resolved within the group, we will, as a last resort, escalate the issue to our tutor for guidance.
Signatures	Aaron Gomes, Bharath Kasinathan, Chirath Hettigoda, Dylan Chau ***We have typed our name for Signatures***

Project Charter

Project Title And Description

- **Project Title:** Lifeloop Aura

- **Description:** A mobile and web app that uses personalized insights, mindfulness exercises, and challenges to help users track and improve their emotional well-being, sleep, and hydration. Its design focuses on simplicity, accessibility, and a gamified experience to promote healthy habits.

Project Scope And Objectives

- The Lifeloop Aura initiative plans to develop a mobile iOS and Android platform together with a web application which will focus on enhancing mental and physical health through habit development and game-based challenges and social networking features.
- The project will produce fundamental applications together with backend systems and design frameworks and documentation and testing strategies and accessibility solutions and data analysis dashboards. The app will function exclusively in English and will not connect to external systems or wearable gadgets and comply with Australian privacy laws.

- **Outcome:** The desired outcome of the product is a highly engaging, intuitive application for tracking wellness habits and a foundational design system that will enhance all future LifeLoop products.

- **Objectives:**
    - Ensure that development and maintenance costs stay within the allocated budget of $300k
    - Motivate at least 45% of users to complete two community challenges per month within the first year
    - Reduce the app load time to under 3 seconds
    - All security protocols and data encryption & verification checks must be finalised before release

Project Start And Finish Dates

- This is an 18-month project with an intended Start date on the 1st of October 2025, and a Completion date on the 1st of February 2027.

High-Level Budget Estimate

- The high-level budget estimate is approximately **$290,000–$300,000**, with a strict cap of **$300,000** as specified by the client.

Project Development Approach

This project will use a Hybrid approach, combining Waterfall (Hamja, A. M., et al) for upfront planning, budget appropriation, and scheduling, with Agile for iterative design, usability testing, and responding to user feedback. This aligns with PMBOK 7's adaptive principles which is essential for project management (Rodrigues, M.C., et al, 2023) and Monash's preference for flexible delivery while ensuring a structured approach to manage the fixed 18-month timeline and avoid scope creep.

Key Stakeholders

Stakeholder	Role	Interest/Influence
Lifeloop CEO	Sponsor	High Influence. Provide necessary funding for the project and strategic direction
Team Leader	Product Owner	High Influence. Based on their performance determines the success of the product.
Customers	End Users	Medium Influence. Feedback is crucial for development and long term success
Full Stack Developer	Technical Expert	High Influence. Ensures product is created to meet the pre defined requirements
IT Support	Testing Team	Medium Influence. Responsible for testing and delivering core features.

Project Success Criteria

- ☐ Project will be delivered within 18 months and with a budget that is less than or equal to $300k
- ☐ Minimum 1000 pilot users in the first 6 months
- ☐ Receives a rating higher than 4.2 Stars on App and Google Play Store within the first 2 months
- ☐ App passes 100% of data encryption and security checks
- ☐ Less than 5% defect rates during beta testing
- ☐ Meets Lifeloops brand goals or promoting sustainability and community connection

Assumptions And Exclusions

- **Assumptions**:
  - Lifeloop will give access to their brand assets such as logos and style guides for a consistent design
  - End users will have a basic understanding of how to navigate the app
  - End users will have access to smartphones with reliable internet connection
  - Lifeloop will provide timely feedback during the development to ensure the project is able to finish within the 18 months, so no delays occur.
  - Lifeloop will show how the data will be regulated and provide the legal expertise to ensure compliance.
- **Exclusions**:
  - The app will only be developed in English; multilingual support will not be provided in the initial release.
  - The app will not be accessible with wearable devices such as smartwatches or fitness trackers
  - A desktop version will not be available only mobile
  - The app will not integrate with third parties such as doctors systems or electronic health records

Requirements Traceability Matrix (RTM)

Project Name:	Lifeloop Aura
Project Manager Name:	Aaron Gomes
Project Description:	A mobile and web app that uses personalized insights, mindfulness exercises, and challenges to help users track and improve their emotional well-being, sleep, and hydration. Its design focuses on simplicity, accessibility, and a gamified experience to promote healthy habits.

ID	***Requirements (Functional or Non-Functional)***	***Requirements description***	***Assumption(s) and/or Customer Need(s)***	***Category***	***Source***	***Status***
R1	Non-Functional	Load time under 3 seconds	Tested on local server	Performance	Developer	Open
R2	Functional	Push notifications for daily challenges	Users require notifications to stay engaged with their daily tasks	User Engagement	Client	Open
R3	Non-functional	App provides features for offline use	User may need access without internet to keep on top of tasks	Usability	Client	Open
R4	Non-Functional	User health data encryption	Protect user sensitive data	Security	**Client**	Open
R5	Functional	Ability to sync user data across multiple devices	Users may use multiple devices	Synchronization	Client	Open
R6	Non-functional	All videos should have captions or text transcripts	The captions are autogenerated then verified to ensure accuracy	Accessibility	Client	Open

Project Scope

Project Scope Statement
A survey conducted to review the state of mental health in Australia found that 33% of Australians suffered from moderate to severe cases of anxiety (Rossell, S. L. et al., 2021).

Another review investigated the effectiveness of mental health apps and concluded that there is a lack of expertise and requirement for legitimacy in the future of mental health applications (Marshall, J. M., Dunstan, D. A., & Bartik, W., 2020).

The purpose of Lifeloop Aura is to holistically improve the mental and physical well-being of the user by replacing their unhealthy practices with sustainable, positive habits. The application intends to combat the worrying trend of increased anxiety in Australians and also to legitimise the issue of mental health and the conversations surrounding it.

The primary objectives of the application are to;
a) help users identify key areas of improvement in their mental health,
b) de-stigmatise the conversation around mental-health,
c) create a safe environment which encourages personal growth and betterment
d) provide an experience which is tailored to each individual, but also generic enough for all demographics and ages

Required deliverables include a mobile application, web application, gamified challenges and community features, backend infrastructure, design system and documentation, and a testing program.

Deliverables & Acceptance Criteria

Deliverable 1 - Mobile Application
- App installs and runs smoothly on IOS and Android
- Users can successfully track emotional wellbeing, sleep and hydration
- Security protocols, data encryption and authentication checks pass compliance testing at 100%

Deliverable 2 - Web Application
- Accessible via modern browsers
- Is identical to the mobile app in functionality
- Is responsive and usable on both desktop and tablet devices

Deliverable 3 - Gamified Challenges and Community Features

- At least 45% of testers complete two challenges per month during testing phase
- Users can create, track and join community challenges without error
- Engagement data is recorded in analytics

Deliverable 4 - Backend Infrastructure

- Scalable cloud-based backend supporting up to 10,000 concurrent users.
- All API calls are authenticated and encrypted.
- The system passes penetration and vulnerability testing with zero critical issues.

Deliverable 5 - Design System and Documentation

- All UI/UX aligns with Lifeloop brand assets and accessibility guidelines.
- A reusable design library and style guide is delivered.
- Documentation includes user guides, technical specifications, and testing protocols.

Deliverable 6 - Testing Program

- Minimum 1,000 pilot users within the first 6 months.
- Less than 5% defect rate during testing.
- User satisfaction rating > 4.2 stars on App Store and Google Play within 2 months of launch.

Deliverable 7 - Accessibility and Inclusivity Features

- App meets WCAG compliance
- Voice-over, screen reader, adjustable fonts, and calming themes are fully functional
- Inclusive language and culturally sensitive content validated by external reviewers

Deliverable 8 - Analytics and Insights Dashboard

- Real-time analytics for engagement, retention, and habit-tracking progress
- Admins can generate reports on community challenge participation and wellness trends
- Data exports comply with privacy and security regulations

Exclusions

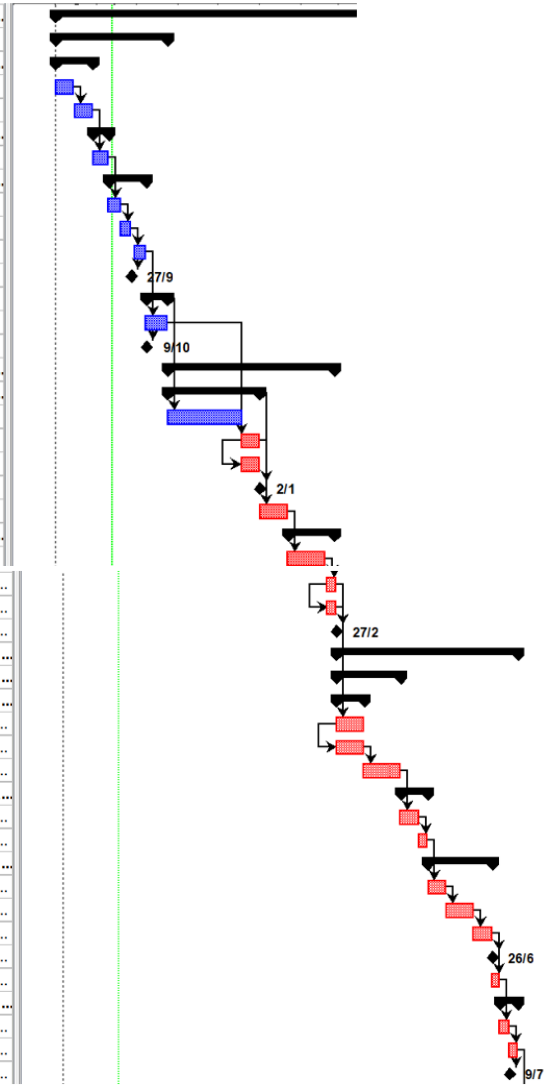
- The app will only be developed in English; multilingual support will not be provided in the testing phase.
- The app will not be accessible with wearable devices such as smartwatches or fitness trackers
- A desktop version will not be available only mobile
- The app will not integrate with third parties such as doctors systems or electronic health records
- The app will not provide advanced accessibility requirements in the initial release such as customisable UI

Constraints:

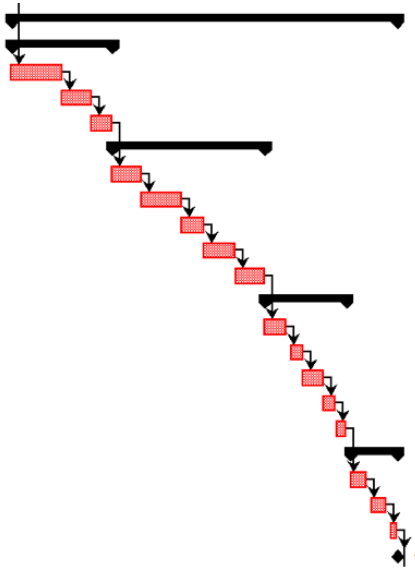
- **Time Constraints** - The new LifeLoop application development has a timeframe of 18-months in essence to make the project schedule flow properly, and to keep meeting the well-defined deadlines for each of the stages of the project development lifecycle.
- **Budget Constraints:** We've been provided with a $300,000 budget which means that all the designs, developments, testing and marketing costs must all be well managed so that we can maximize the use of resources.
- **Platform Constraints:** The app will be designed to function as a mobile app - both iOS and Android, and a web app, but it will not be designed for desktops and smartwatches.
- **Language Constraints:** In its first release, it will only be in English (with no multi-lingual capability), but it could potentially take on additional languages within future versions, pending interest and user uptake.
- **Integration Constraints:** The app will not integrate with health provider systems outside of the health provider, and third-party EHRs.
- **Privacy Limitations:** The application must comply with Australian privacy laws in preserving all users personal and health data to protect users personal and health data.
- **Performance Limitation:** The LifeLoop application will load in less than three seconds. This ensures LifeLoop will be a rapid and sharp UI, and reduce frustration to promote greater engagement.

Annotated Work Breakdown Structure (WBS) & Gantt Chart

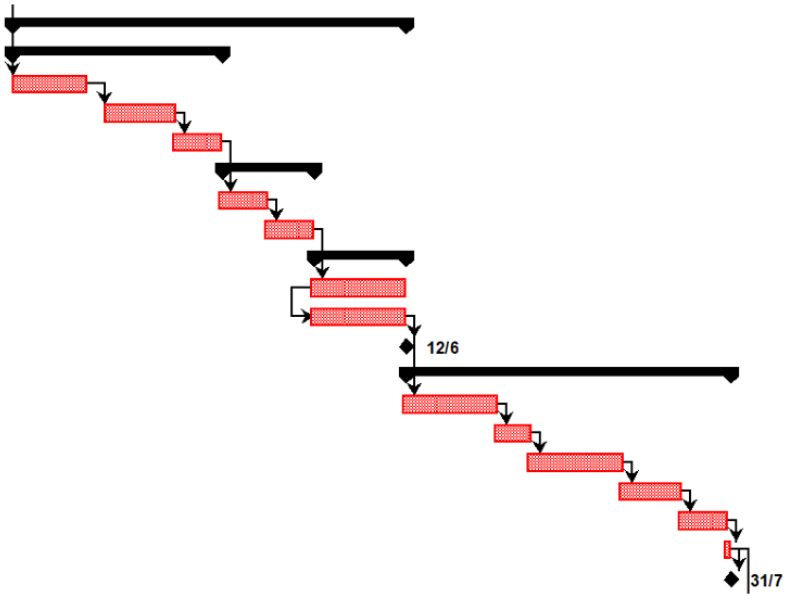
0.0 Lifeloop Aura App	547 days	**1/8/25, ...**	**7/9/27, 1...**
1.0 Project Initiation	60 days	**1/8/25, ...**	**24/10/2...**
1.1 Identify General Project Details	20 days	**1/8/25, ...**	**29/8/25, ...**
1.1.1 Determine objectives for the Lifeloop Aura app such a	10 days	1/8/25, 8:...	15/8/25, 1...
1.1.2 Determine key stakeholders (e.g. investors, users of t	10 days	15/8/25, 1...	29/8/25, 1...
1.2 Determine Project Feasibility	8 days	**29/8/25,...**	**10/9/25, ...**
1.2.1 Conduct cost-benefit analysis (determine whether pro	8 days	29/8/25, 1...	10/9/25, 1...
1.3 High-level Planning	20 days	**10/9/25,...**	**8/10/25, ...**
1.3.1 Develop Project Charter (contains scope, objectives, s	7 days	10/9/25, 1...	19/9/25, 1...
1.3.2 Assign roles within the team (project manager, app a	6 days	19/9/25, 1...	27/9/25, 8...
1.3.3 Get approval for the project's budget (~ $300,000)	7 days	29/9/25, 1...	8/10/25, 1...
Milestone M1 – Project Charter Approved	0 days	27/9/25, 8...	27/9/25, 8...
1.4 Commence Project	12 days	**8/10/25,...**	**24/10/2...**
1.4.1 Meet with stakeholders/management to officially begi	12 days	8/10/25, 1...	24/10/25, ...
Milestone M2 – Project Kickoff Completed	0 days	8/10/25, 1...	8/10/25, 1...
2.0 Requirements Gathering and Planning	89 days	**24/10/2...**	**26/2/26, ...**
2.1 Determine Requirements	49 days	**24/10/2...**	**1/1/26, 1...**
2.1.1 Conduct user research such as interviews/surveys to i	40 days	24/10/25, ...	19/12/25, ...
2.1.2 Determine Functional Requirements (data syncronisat	10 days	18/12/25, ...	1/1/26, 11...
2.1.3 Determine Non-Functional Requirements (accesibility,	10 days	18/12/25, ...	1/1/26, 11...
Milestone M3 – Requirements Finalised	0 days	1/1/26, 11...	1/1/26, 11...
2.2 Create Requirements Traceability Matrix (RTM)	15 days	1/1/26, 11...	22/1/26, 1...
2.3 Create Project Scope Statement	25 days	**22/1/26,...**	**26/2/26, ...**
2.3.1 Define the purpose and major deliverables of the proj	20 days	22/1/26, 1...	19/2/26, 1...
2.3.2 List Deliverables and Acceptance Criteria	5 days	19/2/26, 1...	26/2/26, 1...
2.3.3 List Constraints, Exclusions and Assumptions	5 days	19/2/26, 1...	26/2/26, 1...
Milestone M4 – Scope Statement Approved	0 days	26/2/26, 1...	26/2/26, 1...
3.0 UI/UX Design	99 days	**26/2/26,...**	**15/7/26, ...**
3.1 Create wireframes for Lifeloop Aura mobile, web	35 days	**26/2/26,...**	**16/4/26, ...**
3.1.1 Design layouts of habit-tracking and onboard	15 days	**26/2/26,...**	**19/3/26, ...**
3.1.1.1 Define onboarding flow	15 days	26/2/26, 1...	19/3/26, 1...
3.1.1.2 Draft habit-tracker and progress dashboard layout	15 days	26/2/26, 1...	19/3/26, 1...
3.1.2 Design gamified challenges, community feed, and res	20 days	19/3/26, 1...	16/4/26, 1...
3.2 Develop interactive prototype for user testing	15 days	**16/4/26,...**	**7/5/26, 1...**
3.2.1 Convert wireframes into clickable prototype	10 days	16/4/26, 1...	30/4/26, 1...
3.2.2 Simulate key user journeys (onboarding, tracking, cha	5 days	30/4/26, 1...	7/5/26, 11...
3.3 Usability testing with target users	35 days	**7/5/26, ...**	**25/6/26, ...**
3.3.1 Recruit participants and prepare test scenarios	10 days	7/5/26, 11...	21/5/26, 1...
3.3.2 Run testing sessions and collect feedback	15 days	21/5/26, 1...	11/6/26, 1...
3.3.3 Analyse findings and recommend improvements	10 days	11/6/26, 1...	25/6/26, 1...
Milestone M5 – User testing completed	0 days	25/6/26, 1...	25/6/26, 1...
3.4 Refine and finalise UI/UX aligned with branding	4 days	25/6/26, 1...	1/7/26, 11...
3.5 Add accessibility features	10 days	**1/7/26, ...**	**15/7/26, ...**
3.5.1 Text scaling, high contrast, and adjustable fonts	5 days	1/7/26, 11...	8/7/26, 11...
3.5.2 Voice-over and screen reader support	5 days	8/7/26, 11...	15/7/26, 1...
Milestone M6 – App & Web UI/UX design completed	0 days	8/7/26, 11...	8/7/26, 11...



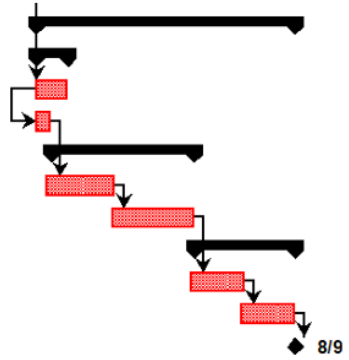
4.0 App Development	193 days	**15/7/26,...**	**10/4/27, ...**
4.1 Backend Development	50 days	**15/7/26,...**	**23/9/26, ...**
4.1.1 Set up the main database (users, habits, rewards, cor	25 days	15/7/26, 1...	19/8/26, 1...
4.1.2 Develop login, storage, and tracking APIs	15 days	19/8/26, 1...	9/9/26, 11...
4.1.3 Integrate external services (notifications, payments)	10 days	9/9/26, 11...	23/9/26, 1...
4.2 Mobile Application Development (iOS & Android)	76 days	**23/9/26,...**	**7/1/27, 1...**
4.2.1 Implement user interface aligned with approved UX/U	14 days	23/9/26, 1...	13/10/26, ...
4.2.2 Develop wellness tracking features (mood, sleep, hyd	20 days	13/10/26, ...	10/11/26, ...
4.2.3 Create challenges and games features to drive user e	12 days	10/11/26, ...	26/11/26, ...
4.2.4 Build community features (forums, groups)	16 days	26/11/26, ...	18/12/26, ...
4.2.5 Set up loyalty, rewards, and streaks	14 days	18/12/26, ...	7/1/27, 11...
4.3 Web Application Development	42 days	**7/1/27, ...**	**6/3/27, 8...**
4.3.1 Build responsive web app (matching design)	12 days	7/1/27, 11...	23/1/27, 8...
4.3.2 Add main features for tracking, dashboards, and chall	7 days	25/1/27, 1...	3/2/27, 11...
4.3.3 Build admin panel (analytics, moderation, content)	10 days	3/2/27, 11...	17/2/27, 1...
4.3.4 Connect web app with backend	7 days	17/2/27, 1...	26/2/27, 1...
4.3.5 Test web app on different devices and browsers	6 days	26/2/27, 1...	6/3/27, 8:...
4.4 Integration & System Build	25 days	**8/3/27, ...**	**10/4/27, ...**
4.4.1 Combine mobile, web, and backend into one system	10 days	8/3/27, 11...	20/3/27, 8...
4.4.2 Optimise performance (load handling, response times	10 days	22/3/27, 1...	3/4/27, 8:...
4.4.3 Finalise product so that it is ready for deployment	5 days	5/4/27, 11...	10/4/27, 8...
Milestone M7 – System Build Completed	0 days	10/4/27, 8...	10/4/27, 8...



5.0 Testing & Quality Assurance	44 days	**12/4/27,...**	**11/6/27, ...**
5.1 Functional Testing	24 days	**12/4/27,...**	**14/5/27, ...**
5.1.1 Test each feature and how they work together	10 days	12/4/27, 1...	24/4/27, 8...
5.1.2 Run unit and integration tests on all app features	9 days	26/4/27, 1...	7/5/27, 11...
5.1.3 Check gentle nudges and mindfulness tools	5 days	7/5/27, 11...	14/5/27, 1...
5.2 Non-Functional Testing	10 days	**14/5/27,...**	**28/5/27, ...**
5.2.1 Test app performance and stability under load	5 days	14/5/27, 1...	21/5/27, 1...
5.2.2 Review accessibility to make sure the app is easy to u	5 days	21/5/27, 1...	28/5/27, 1...
5.3 Bug Fixing	10 days	**28/5/27,...**	**11/6/27, ...**
5.3.1 Record and rank bugs and issues	10 days	28/5/27, 1...	11/6/27, 1...
5.3.2 Fix bugs and polish features for smooth use	10 days	28/5/27, 1...	11/6/27, 1...
Milestone M8 – Testing & QA Sign-Off	0 days	11/6/27, 1...	11/6/27, 1...
6.0 Deployment and Launch	36 days	**11/6/27,...**	**31/7/27, ...**
6.1 Set up servers and backend infrastructure	10 days	11/6/27, 1...	25/6/27, 1...
6.2 Deploy mobile app (iOS & Android) and web app	3 days	25/6/27, 1...	30/6/27, 1...
6.2 Marketing & Promotion	10 days	30/6/27, 1...	14/7/27, 1...
6.3 Soft launch with pilot users	7 days	14/7/27, 1...	23/7/27, 1...
6.4 Gather feedback and fix issues	5 days	23/7/27, 1...	30/7/27, 1...
6.5 Official public launch	1 day	30/7/27, 1...	31/7/27, 8...
Milestone M9 – Lifeloop Aura Launch Completed	0 days	31/7/27, 8...	31/7/27, 8...



7.0 Project Closure and Handover	**26 days**	**2/8/27, ...**	**7/9/27, 1...**
7.1 Prepare final reports	**5 days**	**2/8/27, ...**	**7/8/27, 8...**
7.1.1 Create reports summarising project successes, failure	5 days	2/8/27, 11...	7/8/27, 8:...
7.1.2 Document lessons learned and improvements for futu	2 days	2/8/27, 11...	4/8/27, 11...
7.2 Handover to Client	**14 days**	**4/8/27, ...**	**24/8/27, ...**
7.2.1 Transfer all project assets including source code and	7 days	4/8/27, 11...	13/8/27, 1...
7.2.2 Onboard the Lifeloop's team with a knowledge transfe	7 days	13/8/27, 1...	24/8/27, 1...
7.3 Project Archiving	**10 days**	**24/8/27,...**	**7/9/27, 1...**
7.3.1 Archive all project documents	5 days	24/8/27, 1...	31/8/27, 1...
7.3.2 Conclude the project by obtaining formal sign-off from	5 days	31/8/27, 1...	7/9/27, 11...
Milestone M10 – Project Closure & Handover Completed	0 days	7/9/27, 11...	7/9/27, 11...



Please Note: There was an issue when adjusting the Calendar to accommodate for Weekends and Holidays, therefore the end date is longer than expected. However the Duration for the whole project covers 18 months.

Milestone 1 – Project Charter Approved – 26 Aug 2025

Justification: By 22 August 2025 (week 3), the project charter will be reviewed and signed off by stakeholders, confirming scope, objectives, budget ($300k), and roles. This creates a clear foundation for planning and ensures governance is in place before requirements work begins.

Milestone 3 – Requirements Finalised – 11 Sept 2025

Justification: By 5 September 2025 (week 5), all functional and non-functional requirements will be documented and approved. This ensures there is no scope ambiguity and the design phase can begin without delays, keeping the project on schedule.

Milestone 5 – User Testing Completed – 17 Nov 2025

Justification: By 28 October 2025 (week 13), prototype usability testing with at least 20 users will be finished, with around 80% able to complete core tasks. This milestone confirms the design is user-friendly and accessible before major development begins.

Milestone 7 – System Build Completed – 25 Aug 2026

Justification: By 23 April 2026 (week 38), mobile, web, and backend systems will be fully integrated with no critical issues. This milestone delivers a stable build ready for quality assurance, preventing delays in testing.

Milestone 9 – Lifeloop Aura Launch Completed – 17 Nov 2026

Justification: By 17 June 2026 (week 46), the app will officially launch on iOS, Android, and web. This marks the delivery of the product to end-users, following testing, fixes, and pilot deployment

Development Cost Model 1.1

Table 1. Cost Model

WBS Phase / Items	Units/Hrs	Cost/ Unit	Subtotal ($)	WBS Level 2 Totals ($)	% of Total
1. Project Initiation				$ 20,000.00	7%
1.1 Kick-off & Stakeholder Mtgs	80	$100	$ 8,000.00		
1.2 Project Charter & Approval	120	$100	$ 12,000.00		
2. Requirements & Planning				$ 23,750.00	8%
2.1 User Research & Interviews	100	$95	$ 9,500.00		
2.2 Requirements Documentation	150	$95	$ 14,250.00		
3. UI/UX Design				$ 28,500.00	10%
3.1 Wireframes & Prototypes	150	$95	$ 14,250.00		
3.2 Usability Testing	150	$95	$ 14,250.00		
4. App Development				$ 110,000.00	37%
4.1 Backend Development	500	$110	$ 55,000.00		
4.2 Mobile Development	800	$110	$ 24,000.00		
4.3 Web Development	400	$110	$ 20,000.00		
4.4 Integration & System Build	300	$110	$ 11,000.00		
5. Testing & QA				$ 36,000.00	12%
5.1 Functional Testing	400	$90	$ 18,000.00		
5.2 Non-Functional Testing	400	$90	$ 18,000.00		
6. Deployment & Launch				$ 20,000.00	6%
6.1 Server Setup	70	$100	$ 7,000.00		
6.2 App Store & Web Deployment	70	$100	$ 13,000.00		

7. Project Closure & Handover				$ 18,700.00	8%
7.1 Reports & Documentation	120	$85	$ 10,200.00		
7.2 Client Handover	100	$85	$ 8,500.00		
8. Training & Support				$ 16,200.00	5%
8.1 Staff Training	80	$90	$ 7,200.00		
8.2 Post-Launch Support	87	$90	$ 9,000.00		
9. Emergency Funds				$ 26,850.00	7%
Total Project Cost Estimate				**$ 300,000.00**	**100%**

Development Cost Model 1.2

Using a bottom-up method to develop the cost model for Victoria, Labour rates were benchmarked against Hays Technology Contractor Rates Guide FY24/25 to assure the market was satisfied. The bottom-up method is an approach where the business allocates costs starting from each task which the team modified by allocating costs to the major milestones. Costs were then determined for each stage of the Gantt chart- initiation, planning, design, development, test, deployment, closure, and support. This distribution was based on what is normal in these types of IT projects (Morton, 2017). A back up fund of 8% as seen in Table 1, was also added to account for risk to the project where this became necessary. The structured approach has provided a realistic budget, based on evidence and in accordance with industry practice, while still being capped at $300,000.

To guarantee market accuracy and competitiveness, labour expenses were compared to the Hays Technology Contractor Rates Guide FY24/25 (Victoria).

Rate for Hays Technology Contractors. Project managers, business analysts, developers, UI/UX designers, and testers were among the positions. By using these industry-standard prices, overestimation is prevented and the budget is guaranteed to reflect realistic market expectations.

To estimate hours for the cost model, this was done in accordance with the project scope. During the planning stage/when developing the scope, it was expected that development would abide by a project development timeline of 18 months and strict budget constraints of $300,000. Thus, during development of the Work-Breakdown Structure, the team allotted a greater number of hours to more complex phases, most notably the App Development phase which was expected to take 193 days (1544 hours based on 8-hour working days) while the Requirements and Gathering phase was projected at approximately 16% of the lifecycle (89 days or 712 hours). We assumed that the marketing costs would be absorbed by Lifeloop itself. By budgeting the hours for each task precisely, this allowed the team to estimate our costs in strict adherence to the $300,000 budget, for example, with the App Development phase costing $110,000.

Vendors and tools were chosen based on a cost-efficiency model. With strict budget constraints, and a lengthy project life cycle, the team has decided to keep costs at a minimum while maximising output. For example, this will be achieved by using open-source development platforms such as Android Studio (Blair, 2018), limiting the amount of outsourced developers, using cost-effective hardware and purchasing ready-made software from reasonably priced vendors while still maintaining a high standard in the app-development process.

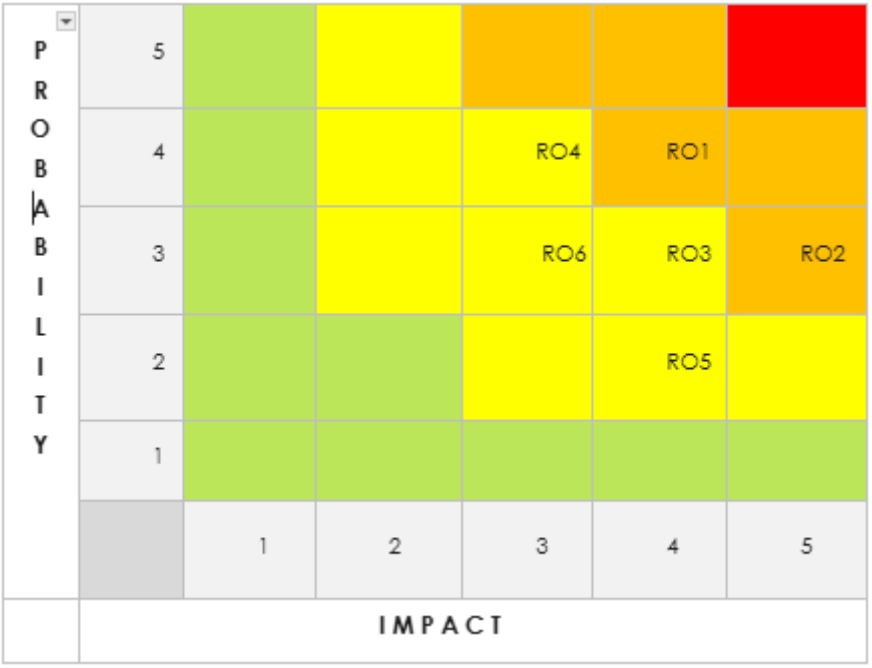
The team here at RG Industries hopes this has clarified any concerns or queries about our development process.

Risk Register Requirements

RISK ID	RANK	RISK DESCRIPTION	IMPACT DESCRIPTION	IMPACT LEVEL	PROBABILITY LEVEL	PRIORITY LEVEL	RISK RESPONSE	OWNER
R01	*1*	*Third-party software is unreliable (Technical)*	*Failures during system testing*	***4***	***4***	***16***	*Avoid – look for another supplier*	*Project Manager*
R02	*2*	*Key stakeholder unavailable for review cycles (Stakeholder)*	*Delays in approvals and project schedule slips*	***5***	***3***	***15***	*Mitigate – schedule early stakeholder meetings*	*Business Analyst*
R03	*3*	*Project team lacks experience with new technology (Technical)*	*Poor implementation quality and rework needed*	***4***	***3***	***12***	*Mitigate – arrange training*	*Technical Lead*
R04	*4*	*Budget overrun due to scope creep (Budget/Scope)*	*Need for additional funding or reduced scope*	***3***	***4***	***12***	*Mitigate – Put scope change control in place*	*Project Manager*
R05	*5*	*Data privacy regulations change during the project (External/Regulatory)*	*May require redesign to meet expectations*	***4***	***2***	***8***	*Accept – monitor regulatory updates*	*Compliance Officer*

R06	*6*	*Vendor delays in hardware delivery (External/Schedule)*	*Deployment delayed, impacting launch*	***3***	***3***	***9***	*Transfer – add delivery clauses in contract*	*Purchasing Manager*

Risk Prioritisation



RO1 - High impact and high likelihood. If unreliable software fails during testing, it could derail the project timeline and quality. Highest priority as both technical integrity and timelines are at stake.

RO2 - Very high impact on approvals and schedules, though probability is slightly lower. Stakeholder availability is hard to control and directly affects decision-making cycles. High urgency to mitigate.

RO3 - Moderate-high impact and probability. A lack of technical expertise increases the risk of rework and reduces output quality. Needs prompt intervention, hence ranked third.

RO4 - Similar score to R03, but ranked slightly lower due to lesser technical or quality impact. Budget issues are serious but can often be contained with strong controls.

RO5 - Moderate impact and probability. While delays in delivery can affect deployment, proactive purchasing and contracts reduce risk exposure. Ranked lower but still worth monitoring.

RO6 - High potential impact but relatively low probability. Regulatory change is out of direct control and may or may not occur during the project. Risk is accepted with monitoring, so ranked accordingly.

Response Planning

Risk ID	Response Plan (Realistic and Within Scope)
R01 – Third-party software is unreliable	**Avoidance Strategy**: Research and assess at least 2 alternative suppliers in the early planning phase. Run a proof-of-concept to ensure reliability.
R02 – Stakeholder unavailable during reviews	**Mitigation Strategy**: Create a stakeholder engagement calendar with agreed dates. Assign a backup reviewer. Automate notifications and reminders.
R03 – Team lacks experience with new tech	**Mitigation Strategy**: Schedule 2-week hands-on training workshops for the team. Assign an experienced tech advisor as a mentor.. Allocate extra time early on.
R04 – Budget overrun due to scope creep	**Mitigation Strategy**: Implement a strict change request process with impact analysis. Assign a scope manager. Conduct fortnightly scope validation meetings.
R05 – Regulatory changes mid-project	**Accept Strategy**: Assign a compliance officer to monitor legal updates. Schedule quarterly legal reviews. If change occurs, perform rapid impact analysis.
R06 – Vendor delivery delays	**Transfer Strategy**: Include penalty clauses and delivery milestones in vendor contracts. Choose a vendor with backup stock. Start purchasing early to build in extra time.

Time and Cost Analysis

Risk ID	Description	Strategy	Time Impact (days)	Cost Impact ($)	Justification
R01	Third-party software is unreliable	Avoidance	+5	8,000	Researching multiple suppliers requires additional vendor evaluation and testing resources, extending planning time and increasing upfront costs.
R02	Stakeholder unavailable during reviews	Mitigation	+3	0	Creating engagement calendars and assigning a backup reviewer may introduce minor scheduling adjustments but incur no additional financial cost as internal resources are used.
R03	Team lacks experience with new tech	Mitigation	+7	4,500	Running training workshops and engaging a technical advisor involves both trainer fees and resource time, contributing to cost and temporary schedule extension.
R04	Budget overrun due to scope creep	Mitigation	0	0	Enforcing strict scope control through governance processes prevents overruns; if applied effectively, no additional cost or time is expected.
R05	Regulatory changes mid-project	Acceptance	+4	6,000	Ongoing compliance monitoring requires specialist engagement, adding cost. Schedule buffer accounts for possible legal update reviews and rapid impact analysis.
R06	Vendor delivery delays	Transfer	+6	3,500	Inclusion of penalty clauses and early purchasing reduces overall risk, but additional purchasing administration and contingency sourcing may cause cost and time impacts.

Individual Reflections

Aaron

During the project, I had to learn how to make a full Gantt chart with ProjectLibre. I hadn't used the software before and my role was to put in tasks, set durations, milestones. At first, I felt lost and didn't know how to start. I wasn't sure if I used the right settings. However, as I tried more with the app and fixed my slip-ups, I felt more comfortable. I was glad when the chart was done and I knew more on how to plan tasks. It was good to use a well-known work task tool. The bad part is that I lost much time by not asking for help, which I could have stopped. After some thought, I see that though it set me back, it also made me learn more and improve my hard skills. I'll keep in mind that I could have saved time by seeing online tutorials. When I look at it all, I see that wanting to know more helps to pick up new skills, but it's best when you also use what you have at hand. Going forward with new software in the future, I'll have a step-by-step learning plan that begins with talking with tutors in applied and consultations, watching online tutorials and practicing how to use the application on my own. Overall, I would give myself a High Distinction (HD) for how I was able to lead the team, manage various tasks and especially completing the Gantt Chart and develop new skills. I would also assign my team a HD for our excellent collaboration and constant communication throughout the project.

Bharath

While working on this project, I learned about the WBS milestones and risk register requirements aspect. While working through the tasks within these topics, I felt lost at first as the WBS (Work Breakdown Structure) was extremely detailed and required logical thinking regarding the timings of each milestone but as I worked through the process of developing an app, I was able to come to conclusions on where some milestones should be placed and why. I felt confident regarding the structure of the WBS. In terms of the risk register, I found this part very self-explanatory and only had difficulties regarding the risk responses which I worked through. Overall, my experiences with the WBS and risk register aspect of the project were that of learning as I sometimes found myself questioning why a milestone should be where it is or why I should pick a certain response to a risk. I was able to learn new skills in assessing the risks that might arise within a project and how to place milestones in a way that progress is clearly shown to a potential stakeholder. What I would like to have done differently is work through a process and use more resources rather than my approach of brute forcing the task. In terms of my performance, I believe I satisfied my role as a team member by completing tasks in a timely manner and communicating to the team regularly, I would give myself a HD. For the group, I believe that we all worked cohesively and were regularly communicating with each other whilst also carrying our weight in the project, I would give us a HD.

Chirath

While working on the assignment, I underwent a few challenges. The most memorable experience working on the Lifeloop Aura project was the cost model I had created. This task was at first very overwhelming as I had never completed one before. I was unsure which numbers to input for the model and what to base the prices on. However, through spending time on research I based my numbers on the Hays contractor rates. Spending time on the model, my confidence grew as the numbers started to add and fit the overall project scope. It was a good learning experience overall, as I was able to learn how to create a new model and create an accurate model alongside a project scope and a project's requirements, which I believe will be a very useful tool when working on more projects. The biggest downside of completing the model was the number of adjustments made and the overall time spent on the model. My issue was feeling overwhelmed but once I overcame this, I felt confident through using the correct information provided to complete the model. If I were to work on a cost model in the future, I would first start by looking up accurate sources to base my costs on and work alongside the WBS to make the costs as accurate as possible. Overall, I'd award myself an HD mark for attending all team meetings, attempting unfamiliar tasks, and learning new skills. I would award my team an HD for excellent teamwork, as they also attended all meetings, helped each other out when needed, and applied all their skills for every task to produce high-quality results.

Dylan

The assignment process was difficult for me. In particular, it was challenging being sick for the two weeks leading up to the submission date which in turn made it difficult to attend class, complete work and show up to meetings. Furthermore, I struggled with the logistics and complexity of tasks such as developing the cost model, and justifying the costs while linking it to previous components of the assignment like the WBS and project charter. Not knowing what to do and how to ask for help at times was a hard feeling for me. Coping with issues out of my control while letting work slip through the cracks and falling behind was a foreign experience and one which I wouldn't ever like to feel again. While it was bad in the sense that it was difficult and exhausting, it was good in that I learnt how to persevere in the face of adversity. I learnt that there's always a light at the end of the tunnel which I will take on board for future assignments and projects. Personally, I would give myself a HD. I contributed well to the team whenever there was a mix-up or issue and completed my assigned tasks to a high standard. Furthermore, I would give the team a HD as we conquered a large amount of difficulties and communicated well. Whenever we had a problem, or if there was ever any conflict or confusion, it would be resolved almost instantly. I am proud of our individual and team performances.

Group Reflection

The process of completing this assignment was smooth and cohesive, due to the ability of the team to collaborate effectively. Stemming from our previously formed team chemistry, our communication skills allowed us to efficiently navigate through any complication, complex task and conflicts.

Scheduling emerged as one of our most significant obstacles during this project. Our need to balance university assignments with our jobs and personal commitments, demanded continuous coordination as to when we were free. Our ability to participate and contribute faced challenges from health issues and unplanned situations. The group chat was very useful to communicate throughout the assignment. Regularly updating, we provided assistance to members who faced time constraints or needed support so that everyone remained connected and included in our team activities. Our weekly video calls were essential in completing the assignment. Outside of meetings, we used Google Docs and Slides for collaborative work, where everyone was able to contribute equally.

Our group leadership system rotated between members while focusing on supporting team activities and organising work. Aaron maintained open dialogue among team members through free expression while stepping in to clarify tasks whenever needed. Bharath focused his work on milestones and deliverables and acceptance criteria to establish key components while matching tasks to rubric requirements and resolving problems that appeared. Chirath took responsibility for team organization by distributing working documents while simultaneously developing slides for our demonstration and scheduling task completion times. Dylan played a key role by leading Zoom meetings and incorporating WBS deliverables and phases while developing the presentation schedule and providing essential feedback when the team faced uncertainties.

There were no conflicts amongst our group. However, if one was to rise we would collaboratively encourage members to express their views openly, work together to find common ground and a solution. Throughout the entire project our main focus was to support our team members continuously. We prioritised supporting the group's work by assisting with certain sections as well as handling additional tasks during absences.

Overall, the focus of our team was on providing continuous support to each other. We prioritized helping each other with tasks we were unsure over and covered for absences rather than focusing solely on individual responsibilities. This support system, combined with flexibility and commitment to our collective goals, enabled us to complete the project to a high degree .

Appendix

Table 2 - Cost Baseline Model

WBS Item	1	2	3	4	5	6	7	8	9	10	11	12	Total
1. Project Initiation													
1.1 Kick-off & Stakeholder Mtgs	667	667	667	667	667	667	667	667	667	667	667	667	8,000
1.2 Project Charter & Approval	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	12,000
2. Requirements & Planning													
2.1 User Research & Interviews		864	864	864	864	864	864	864	864	864	864	860	9,500
2.2 Requirements Documentation		1,296	1,296	1,296	1,296	1,296	1,296	1,296	1,296	1,296	1,296	1,295	14,250
3. UI/UX Design													
3.1 Wireframes & Prototypes		1,296	1,296	1,296	1,296	1,296	1,296	1,296	1,296	1,296	1,296	1,295	14,250
3.2 Usability Testing			1,425	1,425	1,425	1,425	1,425	1,425	1,425	1,425	1,425	1,425	14,250
4. App Development													
4.1 Backend Development			5,500	5,500	5,500	5,500	5,500	5,500	5,500	5,500	5,500	5,500	55,000
4.2 Mobile Development				2,667	2,667	2,667	2,667	2,667	2,667	2,667	2,667	2,667	24,000
4.3 Web Development					2,500	2,500	2,500	2,500	2,500	2,500	2,500	2,500	20,000

4.4 Integration & System Build						1,571	1,571	1,571	1,571	1,571	1,571	1,571	11,000
5. Testing & QA													
5.1 Functional Testing					2,250	2,250	2,250	2,250	2,250	2,250	2,250	2,250	18,000
5.2 Non-Functional Testing					2,250	2,250	2,250	2,250	2,250	2,250	2,250	2,250	18,000
6. Deployment & Launch													
6.1 Server Setup								1,400	1,400	1,400	1,400	1,400	7,000
6.2 App Store & Web Deployment								2,600	2,600	2,600	2,600	2,600	13,000
7. Closure & Handover													
7.1 Reports & Documentation									2,550	2,550	2,550	2,550	10,200
7.2 Client Handover									2,125	2,125	2,125	2,125	8,500
8. Training & Support													
8.1 Staff Training									1,800	1,800	1800	1800	7,200
8.2 Post-Launch Support									2,250	2,250	2250	2250	9,000
9. Emergency Funds										8,950	8,950	8,950	26,850
Total Project Cost Estimate	1,667	5,122	12,047	14,713	21,713	23,285	23,285	27,285	36,010	44,960	44,960	44,955	**300,000**

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