

# Report

# MyLoopyAssistant

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### 3.1 Working Agreement

#### ***FIT2002 – Working Agreement (Team Charter)***

<b><i>Team number</i></b>	0508
<b><i>Team members</i></b>	Angus Lau, Chloe Wang, Ananda Tsinguev, Naomi Lim
<b><i>Team objectives</i></b>	Full understanding and team cooperation. Highest scores as well Fair workloads, clear documentation
<b><i>Team characteristics</i></b>	[How would you describe your team? You can consider the strengths and weaknesses of all individuals and see how you can describe the team. You can consider looking into Role you chose from Applied Class 01 Activity]  Reliable, respectful, open to feedback and willing to help each other, take ownership of tasks
<b><i>Core values</i></b>	[What do you care about the most? What are common values that all of you share?]  Trustworthy, collaborative, ability to understand each other. Transparency, quality
<b><i>Group norms and code of conduct</i></b>	[How will you work together? What expectations do you have from yourselves and each other? Establish a framework for your collaborative work.]  We will work through real life and online meetings. All our files will be stored on Google drive and outside of meetings we will communicate via Instagram. Expectations are that everyone will do the work they are assigned to.  Be on time and prepared; give > 12 hrs notice if late/absent Meetings have agenda/minutes; actions have due dates Treat everyone with respect; no ghosting (reply within a day?)

<b><i>Participation and collaboration approach</i></b>	<p>[What methods do you consider most effective for your teamwork? Do you prefer daily meetings or phone calls? Or do you all prefer using a shared platform like Google drive or Trello for your collaboration? How are you going to provide feedback on each other's work?]</p> <p>Daily meetings are too much, but a couple of them in a week will be more than enough. Phone calls are also pretty useful. We share our docs on Google Drive for better collaboration. We will rate each other through feedback fruit or whatever monash it gives us.</p> <p>Pair work for tricky parts</p>
<b><i>Communications</i></b>	<p>[Your preferred method of communication, frequency of communications, level of transparency, problem escalation processes etc.]</p> <p>Everyday communication through group chat in instagram, frequent but less important. Real life meetings are not that frequent, but more time consuming, because all the main problems will be solved during those meetings.</p>
<b><i>Problem solving</i></b>	<p>[How would you work together in solving problems? Problems can include those that are directly affecting your project such as running over budget; or problems related to your team e.g. a team member has to travel overseas for a family emergency or has to self-isolate as a result of a positive Covid test.]</p> <p>Any problem could be solved by good collaboration and time management. Define the problem and impact -&gt; gather facts -&gt; brainstorm options -&gt; pick solution Keep a 48-hour (2 day) buffer before deadlines</p>
<b><i>Conflict management</i></b>	<p>[How would you manage any conflicts within your team? Remember that conflicts are not always perceived as negative, rather they can provide a different perspective for addressing challenges.]</p> <p>Even if problems of such type will appear, no problem to solve them. Start a calm 1:1 chat</p>
<b><i>Signatures</i></b>	Chloe, Angus, Naomi, Ananda

## 3.2 Project Initiation

### 3.2.1 Project Charter

#### Project Title: LoopyAssistant

**Description:** An AI-powered task management app designed for families and individuals to streamline daily routines. It includes voice-enabled reminders, shared family calendars, habit tracking, and adaptive scheduling based on user behavior. The app syncs across devices and integrates with other LifeLoop tools for a seamless experience.

#### Project Scope And Objectives

##### Scope:

The project will create a cross-platform mobile app with integrated AI and collaborative scheduling features. It will provide cross-device synchronisation, secure data management, and meet accessibility standards. The app will connect all existing LifeLoop services and allow integration with third-party apps

- Personalised virtual assistant with predictive personalisation, voice personas, GPS and contextual nudges
- AI chatbot and habit-tracking function
- Shared calendars for families with real-time cross-device sync
- Multi-device and cross-platform compatibility
- Secure data features including encryption and consent management
- Accessible interface
- Integration with LifeLoop and third-party apps.

##### Objectives:

- Deliver a mobile app prototype with personalised assistant, chatbot and shared calendar features by December 2026
- Ensure cross-device sync and LifeLoop integration ready for release by August 2027
- Achieve > 85% positive user feedback in beta testing from at least 20 family users.

- Complete the project within a budget of \$300,000 ± 10% difference

## Project Start And Finish Dates

- Start Date: 31 July 2025
- Finish Date: 27 August 2027
- The project duration is over two years, which fully aligns with the WBS and Gantt chart of ours

## High-Level Budget Estimate

The LoopyAssistant project has an estimated budget of AUD \$300,000, based on bottom-up estimation with support of analogous and parametric estimation from the WBS and fully developed cost model. This figure is capped but allows small flexibility for vendor pricing and risk reserves.

The costs are allocated across the project phases:

- **Initiation & Planning - \$45,000 (~15%)** includes project management, business analysis, and early design work.
- **Design - \$25,000 (~8%)** includes designers, prototyping tools, and wireframe development.
- **Development - \$118,000 (~39%)** this covers developer labour, IDEs, dev tools, CI/CD, monitoring and integrations.
- **Testing & Quality Assurance - \$26,000 (~9%)** includes tester effort, QA vendor support, and test environments.
- **Deployment & Launch - \$46,300 (~15%)** includes training, cloud setup, server/storage costs, APIs, chatbot, licensing, and app store fees.
- **Contingency Reserve - \$45,000 (~15%)** is a 15% buffer applied to cover risks such as rework, integration issues, or app store delays.

## Project Development Approach

The project will follow a Hybrid approach. Waterfall will be used in the initiation and planning phases to clearly define scope, budget and deliverables. Agile methods will be used during development and testing to allow user feedback, rapid iteration and adaptability.

This combination makes sure that cost and schedule are predictable, meanwhile all of it aligns with PMBOK 7 and Monash's preference for adaptive delivery.

## Key Stakeholders

Stakeholder	Role	Interest/Influence
Naomi	Project Manager	Acts as main contact point, manages scope and communicates with client
Angus & Chloe	Developers	Responsible for coding, UI/UX and integrations
Ananda	Business Analyst	Handles requirements, estimation and secured data features
LifeLoop	Client	Provides approval, funding and alignment with ecosystem
Family Users	End Users	Provide usability testing and feedback
Monash ESolutions	Technical Expert	Ensures compliance with security, integration and accessibility
(Hiring process)	Testers	To carry out testing during phase 5 (WBS)

(Hiring process)	Designers	To carry out UI/UX Designing during phase 3 (WBS)
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## Project Success Criteria

The success of the LoopyAssistant project will be measured across time, cost, user adoption and technical performance.

- **Time** - The app must be delivered by August 2027, consistent with WBS and Gantt chart.
- **Cost** - The project must be completed within the approved budget tolerance of AUD \$300,000 ± 10%
- **User Adoption** - At least 85% positive satisfaction must be recorded from beta testers, confirming usability and overall experience.
- **Technical Performance** - The final release must achieve a defect rate of less than 5%, app load times under 3 seconds, and cross-device synchronisation delays of less than 3 seconds.

## Assumptions And Exclusions

### Assumptions:

- Stakeholders will check and approve on time, so we won't have delays
- Monash systems and LifeLoop tools will be accessible for integration
- Development tools (e.g., Figma) are available for the team
- App markets approvals will be on time (in standard timeframes)

### Exclusions:

- Multilingual support (English-only version at launch)
- Desktop/web-only versions.
- AI features beyond task management, reminders and scheduling.

### 3.3 Requirement Traceability Matrix (RTM)

<b>ID</b>	<b>Requirements (Functional or Non-Functional)</b>	<b>Assumption(s) and/or Customer Need(s)</b>	<b>Category</b>	<b>Source</b>	<b>Status</b>
R1	Customisable Voice Personas (Virtual Assistant Capability)	Freedom of choice in creating a personal virtual companion	Non-functional	App Research (e.g. Waze)	Ongoing (Expected: 31-Jul-2026)
R2	Predictive Personalization - AI anticipates user needs tracking behavioral patterns/habit tracking	Users want their habits to be tracked and plan on their behalf (Passive AI)	Functional	App/Customer Research	Ongoing (Expected: 31-Jul-2026)
R3	GPS Tracking	Users want their habits to be tracked and plan on their behalf (Passive AI) - Users will have to give service providers approval for this feature to be used	Functional	App Research	Ongoing (Expected: 31-Jul-2026)
R4	Ambient Computing/Intelligence - passive listening function	Users allow Loopy to run in the background and monitor outside-of-device habits (with user consent)	Non-functional	App Research	Ongoing (Expected: 31-Jul-2026)
R5	Contextual Nudges	Users want proactive responses from the app from the understood trends in their behavior when using an app	Non-functional	App Research	Ongoing (Expected: 31-Jul-2026)
R6	AI Chatbot	Users want to input direct queries that provide suggestions 24/7 (Active AI)	Functional	App Research	Ongoing (Expected: 31-Jul-2026)

		use - Customer's intentional interaction)			
R7	Multipoint Integration (API, iPaaS..etc)	Users like the ease of using a single interface with multiple app functions/capabilities	Functional	App Research	Ongoing (Expected: 31-Jul-2026)
R8	Calendar Syncs	Collaborative ability and able to share schedules	Functional	App Research	Ongoing (Expected: 31-Jul-2026)
R9	Cross-Platforms Compatibility (Android and iOS users..etc)	Users wanting easy access to the software (Loopy) via multiple devices/platforms	Non-functional	Hardware Research	Ongoing (Expected: 31-Jul-2026)
R10	Wearable and Device Syncing (applewatch, alexa)	Meet customers' potential need for assisting gadgets for flexibility (usability)	Non-functional	Customer Research	Ongoing (Expected: 31-Jul-2026)
R11	Assistive Capabilities - customisable colour schemes, semantic labeling, captioning....etc	Users have diverse accessibility needs	Non-functional	WCAG Research	Ongoing (Expected: 31-Jul-2026)
R12	Enabling Voice Command Support	Users want to interact hands-free with the app to increase accessibility, safety.	Functional	App Research	Ongoing (Expected: 31-Jul-2026)
R13	Customisable Interface	Users prefer flexibility to adjust themes, and accessibility options (e.g., font size, colour contrast) to match their personal preferences and accessibility needs.	Non-functional	Customer Research	Ongoing (Expected: 31-Jul-2026)
R14	Cloud Storage	Users wanting back-up storage in the event of loss data from their local storage	Non-functional	Security Research	Ongoing (Expected: 31-Jul-2026)

## **3.4 Project Scope and Quality**

### **Overall Purpose, boundaries and major deliverables**

The purpose of this project is to design and develop a smart daily management application that helps both individuals and families organize routines, build healthier habits, and reduce miscommunication. The focus is on habit tracking, personalized coaching and customizable virtual assistant without extending to medical health diagnostics or workforce scheduling. The major deliverables are Personalized virtual assistant, Secured data features, Accessible interface for diverse users, multi-app integration and integrated applications and multi-device/cross platform app capability.

People nowadays face overwhelming schedules and poor habits consistency, families in particular struggle with coordination and communications. By offering a unified, inclusive and motivation platform, LOOPY aims to increase productivity, strengthen coordination between families and support healthier lifestyles. The app is designed not only to remind users of what to do but also to inspire them to stay consistent and achieve their personal and shared goals.

### **Personal Virtual Assistant**

The Personalised Virtual Assistant will be the core intelligent feature of the app, offering predictive personalization through habit and behavior pattern tracking, GPS-based awareness for relevance, and customisable voice personas, which will potentially include celebrity-style or voice-cloning options, to simulate a more relevant and engaging companion. It will also provide ambient computing with passive listening, to ensure more low-effort interaction and high-level engagement, as well as a 24/7 AI chatbot for instant responses, and contextual nudges to support healthier routines and productivity. This deliverable aligns with the project's purpose of providing a unified, inclusive, and motivational platform, ensuring consistent and relevant engagement.

### **Accessible Interface for diverse user abilities**

The accessible interface deliverables ensures that LOOPY can be accessed by a wide range of individuals, including adults, children, elderly users and people with diverse accessibility needs. It was designed to reduce barriers to productivity and task management between individuals. The key functions will be voice command support (R0?) for users to navigate or access to our virtual assistant hands-free, and customizable interface settings such as adjustable font sizes, high-contrast color modes and light or dark themes allowing users to adjust according to their personal preferences. For non-functional requirements, the app will comply with WCAG 2.1 AA accessibility standards and usability will be designed to ensure diverse user groups could use different functions easily. This deliverable guarantees that Loopy remains an inclusive, user-friendly assistant accessible to all.

### **Multi-device/Cross-platform app capability (devices)**

This deliverable ensures that LOOPY assistant functions across multiple devices and operating systems, supporting users who love to switch between smartphones, tablets, and web platforms. This feature is important for families and individuals who rely on different devices in their daily routines. The app provides real-time synchronization so that any update made on one device will automatically reflect across all connected devices within a certain time. For non-functional requirements, the app will be compatible with Android, IOS and mostly all modern web browsers, covering at least 95% of user devices. The synchronization latency will be minimised to less than 60 secs ensuring a smooth experience. This deliverable guarantees that users can stay connected and organized regardless of their preferred device, making Loopy a flexible, reliable companion for everyday management.

## **Multi-point app integration and integrated application (software)**

This deliverable will provide a unified platform that integrates multiple apps and devices. Functionally, it must support multipoint integration (R06), enabling at least three external apps to connect and sync in real time within five seconds, and calendar synchronization (R03), ensuring updates reflect instantly with notifications for conflicts. Non-functionally, the system must run on Android, iOS, and web with a launch time under two seconds, while wearables connect within thirty seconds and sync automatically every ten minutes with over 98% success. This deliverable is accepted if integration meets these performance benchmarks.

### 1.3 Exclusions

The project will not guarantee compatibility with all third-party platforms or devices, focusing only on selected calendars, wearables, and voice assistants. Commercial features such as advertisements, subscription models, or in-app payments are excluded. Advanced future functions including AR/VR integration or gaming and entertainment capabilities are also out of scope. Healthcare tracking is limited to basic wearable data, while multilingual support will be provided at launch and not excluded from the system scope.

### 1.4 Constraints & Assumptions

Constraints:

The constraints of this project mainly from the budget, time, technologies and resources. The total project budget is capped at around \$300000, which restricted the development to other advance add ons.

The timeline is also one of the key constraints, as the project must be completed within 18 months, the schedules are well packed, leaving limited room for delays.

Technological boundaries also constraints the scope, our project mainly depends on third party integrations APIs, delays or change services would heavily influence our project.

Finally, the team is limited to the agreed roles of developers, designers, and testers, which requires careful balancing of workloads to avoid resource bottlenecks.

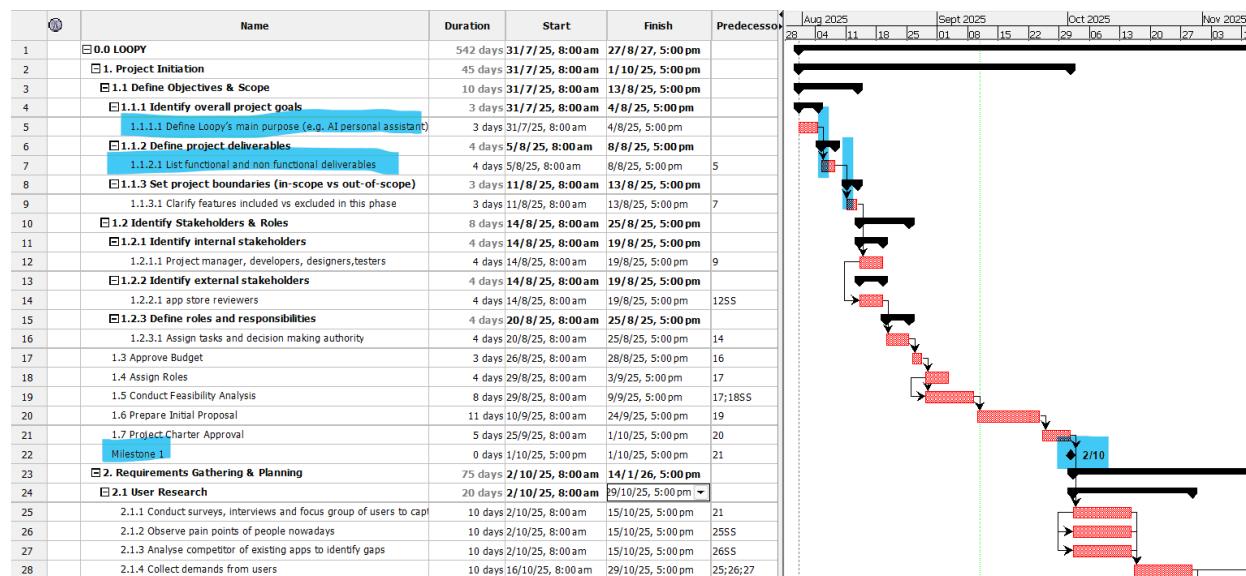
## 1.5 Assumptions

Firstly, it is assumed that target users will have access to devices that meet the minimum system requirements. These devices are expected to run Android 14+ / iOS 14+, ensuring compatibility with the app's functions, including AI features, calendar integration, and wearable syncing.

Users are also assumed to have a basic level of digital literacy, enabling them to comfortably set up accounts, customize app features, and interact with the AI assistant without extensive training.

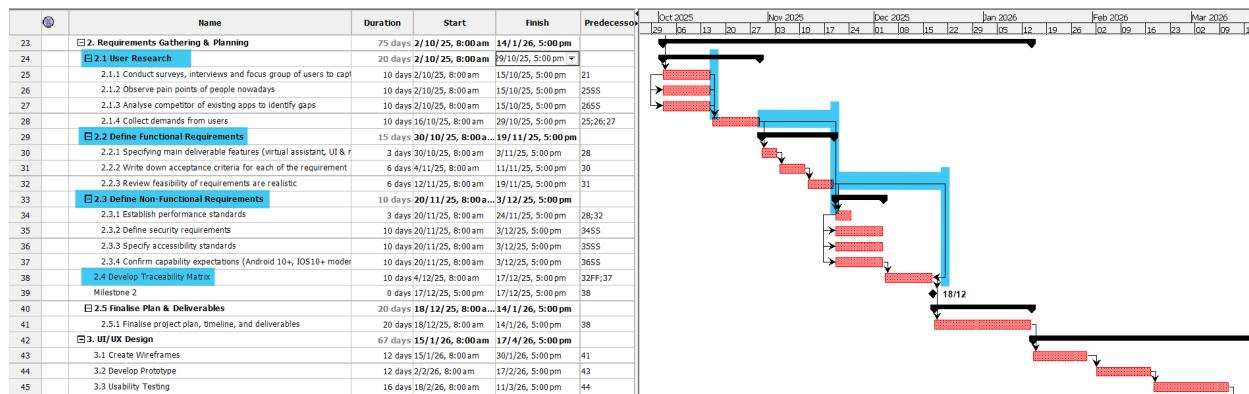
Another important assumption is that the user will have reliable internet connection. Many of LoopyAssistant's core functions, including cloud-based storage and real-time synchronization, these features require stable network access.

## 1.6 Annotated Work Breakdown Structure (WBS) & Gantt Chart



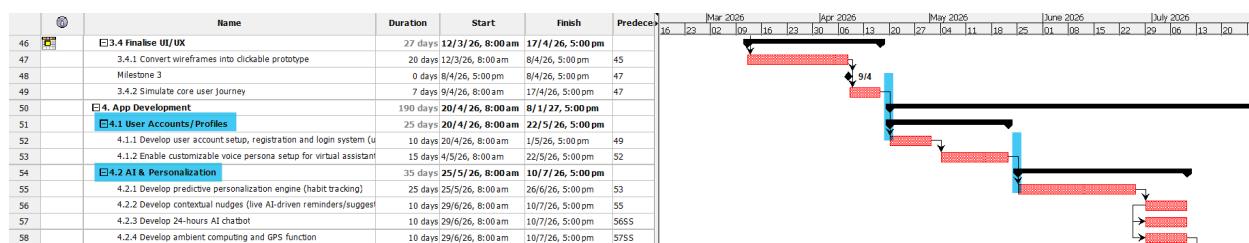
Highlight 1: 1.1.1 Defines the overall purpose, constraints and deliverables, any delays will affect the overall project progressions and role assignments on the later stages.

Milestone 1: The first milestone is Project Charter Approved by 2 Oct 2025. This ensures scope, objectives and budget are formally signed off, giving the team authority to begin. It is realistic and time-bound to keep the project on schedule.



Highlight 2: User Research must be completed before both functional and non-functional requirements start. The creation of the Traceability Matrix and Final Plan & Deliverables are sequential critical tasks, as they confirm that all requirements are linked to deliverables and have been signed off.

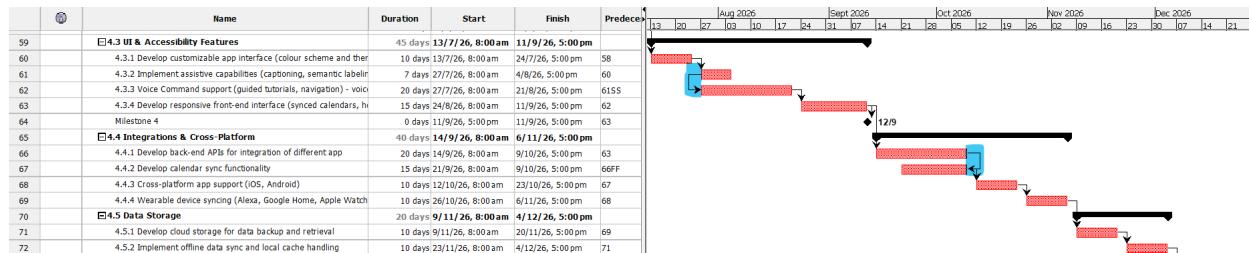
Milestone 2: The second milestone is Requirements Signed Off by 17 Dec 2025. Having stakeholders approval makes the requirements specific, measurable, and prevents scope creep. This guarantees the design phase can start without delays.



Highlight 3: This section highlights the critical transition from design to development. Finalising the UI/UX must be done before the App Development phase.

Milestone: 3 The third milestone is Design Phase Completed by 8 Apr 2026. It is achieved once wireframes and prototypes are approved, providing a measurable deliverable for developers. The deadline makes it realistic and aligned with project progress.

Highlight 4: User Accounts/Profiles are on the critical path because they form the backbone for authentication and data management, which the AI and personalisation features depend upon.



Milestone 4: This milestone marks the end of developing the functional deliverables into our app.

Highlight 5: Back-end APIs must be completed before calendar sync can be completed. Any delay in back-end APIs pushes all subsequent integration work.

		Name	Duration	Start	Finish	Predecessor	Timeline
73		4.6 Security	25 days	7/12/26, 8:00 am	8/1/27, 5:00 pm		[Dec 2026] 30 [Jan 2027] 07, 14, 21, 28, 04, 11, 18, 25 [Feb 2027] 01, 08, 15, 22, 01, 08, 15, 22, 29 [Mar 2027] 06, 13, 20, 27, 04, 11, 18, 25, 32, 19
74		4.6.1 Encryption for data	10 days	7/12/26, 8:00 am	18/12/26, 5:00 pm	72	
75		4.6.2 Implement secure user authentication, session management	10 days	21/12/26, 8:00 am	1/1/27, 5:00 pm	74	
76		4.6.3 Develop consent management system (ambient computing, AI)	5 days	4/1/27, 8:00 am	8/1/27, 5:00 pm	75	
77		Milestone 5	0 days	8/1/27, 5:00 pm	8/1/27, 5:00 pm	76	
78		5. Testing & QA	105 days	11/1/27, 8:00 am	4/6/27, 5:00 pm		
79		5.1 Test Plan Creation	5 days	11/1/27, 8:00 am	15/1/27, 5:00 pm		
80		5.1.1 Define testing goals	1 day	11/1/27, 8:00 am	11/1/27, 5:00 pm	76	
81		5.1.2 Select testing method (e.g. manual/ automated/ both)	1 day	12/1/27, 8:00 am	12/1/27, 5:00 pm	80	
82		5.1.3 Choose testing tools	1 day	13/1/27, 8:00 am	13/1/27, 5:00 pm	81	
83		5.1.4 Set quality benchmarks	2 days	14/1/27, 8:00 am	15/1/27, 5:00 pm	82	
84		5.2 Functional Testing	25 days	18/1/27, 8:00 am	19/2/27, 5:00 pm		
85		5.2.1 Core App Functions	10 days	18/1/27, 8:00 am	29/1/27, 5:00 pm		
86		5.2.1.1 Verify logins, profile setting, push notifications	10 days	18/1/27, 8:00 am	29/1/27, 5:00 pm	83	
87		5.2.2 Voice Recognition Testing	15 days	1/2/27, 8:00 am	19/2/27, 5:00 pm		
88		5.2.2.1 Check accuracy for different accents and tones	15 days	1/2/27, 8:00 am	19/2/27, 5:00 pm	86	
89		5.2.3 Wearable Device Integration	15 days	1/2/27, 8:00 am	19/2/27, 5:00 pm		
90		5.2.3.1 Test connection between Loopy and wearables	15 days	1/2/27, 8:00 am	19/2/27, 5:00 pm	8855	
91		5.2.4 Smart Assistant Features	15 days	1/2/27, 8:00 am	19/2/27, 5:00 pm	8855	
92		5.3 Usability Testing	25 days	22/2/27, 8:00 am	26/3/27, 5:00 pm		
93		5.3.1 Recruit Test Participants	2 days	22/2/27, 8:00 am	23/2/27, 5:00 pm		
94		5.3.1.1 Select 10-15 users from target audience	2 days	22/2/27, 8:00 am	23/2/27, 5:00 pm	91	
95		5.3.2 Conduct User Testing Sessions	8 days	24/2/27, 8:00 am	5/3/27, 5:00 pm		
96		5.3.2.1 Observe interactions, measure task completion time	8 days	24/2/27, 8:00 am	5/3/27, 5:00 pm	94	
97		5.3.3 Collect Feedback & Analyze Results	8 days	8/3/27, 8:00 am	17/3/27, 5:00 pm		
98		5.3.3.1 Categorize findings into UI, navigation, content issues	8 days	8/3/27, 8:00 am	17/3/27, 5:00 pm	96	
99		5.3.4 Recommend UI/UX Improvements	7 days	18/3/27, 8:00 am	26/3/27, 5:00 pm		
100		5.3.4.1 Provide design changes based on feedback	6 days	18/3/27, 8:00 am	25/3/27, 5:00 pm	98	
101		5.3.4.2 Ensure WCAG compliance	7 days	18/3/27, 8:00 am	26/3/27, 5:00 pm	10055	

**Highlight 6:** This section highlights the transition from Security implementation to Testing and Quality Assurance. Security tasks including encryption, authentication, and consent management. Forming a critical dependency for testing readiness, marked by Milestone 5 on 9 January 2027. Testing cannot proceed until these security measures are in place, as they provide the foundation for safe and reliable evaluations.

The Testing & QA phase begins with the creation of the Test Plan, which defines testing goals, methods, and tools. This plan is a prerequisite for Functional Testing, which covers core app functions, voice recognition, and wearable device integration. Each of these sub-tasks is critical, as delays or failures here would prevent integration testing and affect cross-platform reliability.

**Milestone 5:** It marks the end of the development stage.

		Name	Duration	Start	Finish	Predecessor	Timeline
102		■5.4 Performance & Compatibility	25 days	29/3/27, 8:00 am	30/4/27, 5:00 pm		
103		■5.4.1 Load Testing	5 days	29/3/27, 8:00 am	2/4/27, 5:00 pm		
104		5.4.1.1 Check app performance under 1000 simultaneous users	5 days	29/3/27, 8:00 am	2/4/27, 5:00 pm	101	
105		■5.4.2 Stress Testing	5 days	5/4/27, 8:00 am	9/4/27, 5:00 pm		
106		5.4.2.1 Push the system beyond normal usage to find limits	5 days	5/4/27, 8:00 am	9/4/27, 5:00 pm	104	
107		■5.4.3 Device & OS Compatibility Testing	7 days	12/4/27, 8:00 am	20/4/27, 5:00 pm		
108		5.4.3.1 Test across Android, iOS, and wearables	7 days	12/4/27, 8:00 am	20/4/27, 5:00 pm	106	
109		■5.4.4 Network Testing	8 days	21/4/27, 8:00 am	30/4/27, 5:00 pm		
110		5.4.4.1 Check performance under 3G, 4G, 5G and WiFi	8 days	21/4/27, 8:00 am	30/4/27, 5:00 pm	108	
111		Milestone 6	0 days	30/4/27, 5:00 pm	30/4/27, 5:00 pm	110	
112		■5.5 Bug Tracking & Fixing (identify issues, prioritizes them, resolve)	25 days	3/5/27, 8:00 am	4/6/27, 5:00 pm		
113		5.5.1 Log Bugs into Tracking System	15 days	3/5/27, 8:00 am	21/5/27, 5:00 pm	110	
114		■5.5.2 Prioritize Fixes	5 days	24/5/27, 8:00 am	28/5/27, 5:00 pm		
115		5.5.2.1 Categorize as Critical, High, Medium, Low	5 days	24/5/27, 8:00 am	28/5/27, 5:00 pm	113	
116		■5.5.3 Reset After Fixes	15 days	10/5/27, 8:00 am	28/5/27, 5:00 pm		
117		5.5.3.1 Confirm resolved bugs and ensure no new ones appear	15 days	10/5/27, 8:00 am	28/5/27, 5:00 pm	115FF	
118		■5.5.4 Prepare Report	5 days	31/5/27, 8:00 am	4/6/27, 5:00 pm		
119		5.5.4.1 Summarize test results and provide recommendations	5 days	31/5/27, 8:00 am	4/6/27, 5:00 pm	117	
120		■6 Deployment & Launch	50 days	7/6/27, 8:00 am	13/8/27, 5:00 pm		
121		■6.1 Deployment Prep	10 days	7/6/27, 8:00 am	18/6/27, 5:00 pm		
122		6.1.1 Finalise deployment environment (servers, cloud setup, app)	1 day	7/6/27, 8:00 am	7/6/27, 5:00 pm	119	
123		6.1.2 Security & Integrity Check	2 days	8/6/27, 8:00 am	9/6/27, 5:00 pm	122	
124		6.1.3 Backup version in case of mistakes	1 day	10/6/27, 8:00 am	10/6/27, 5:00 pm	123	
125		6.1.4 Conduct pre-launch training for LifeLoop support staff	6 days	11/6/27, 8:00 am	18/6/27, 5:00 pm	124	
126		6.1.5 Prepare documentation for the app	6 days	11/6/27, 8:00 am	18/6/27, 5:00 pm	125SS	

Milestone 6: Marks completion of network testing and closure of the performance & compatibility stage.

Highlight 7: Deployment preparation can only begin once a final test report is prepared, confirming system readiness.

		Name	Duration	Start	Finish	Predecessor	Timeline
127		■6.2 Beta Testing	25 days	21/6/27, 8:00 am	23/7/27, 5:00 pm		
128		6.2.1 Recruit testers (professionals/ influencers)	3 days	21/6/27, 8:00 am	23/6/27, 5:00 pm	126	
129		6.2.2 Deploy beta version of the app	2 days	24/6/27, 8:00 am	25/6/27, 5:00 pm	128	
130		6.2.3 Create a feedback collection form	3 days	21/6/27, 8:00 am	23/6/27, 5:00 pm	128SS	
131		6.2.4 Run usability tests session with diverse user groups (families)	10 days	28/6/27, 8:00 am	9/7/27, 5:00 pm	129	
132		6.2.5 Collect data, user feedback and bug reports	10 days	28/6/27, 8:00 am	9/7/27, 5:00 pm	131SS	
133		6.2.6 Apply final fixes if needed	10 days	12/7/27, 8:00 am	23/7/27, 5:00 pm	132	
134		Milestone 7	0 days	23/7/27, 5:00 pm	23/7/27, 5:00 pm	133	
135		■6.3 Market Release	15 days	26/7/27, 8:00 am	13/8/27, 5:00 pm		
136		6.3.1 Create accounts in mobile app market (Google Play, App Sto)	1 day	26/7/27, 8:00 am	26/7/27, 5:00 pm	133	
137		6.3.2 Upload final version of app & metadata	1 day	27/7/27, 8:00 am	27/7/27, 5:00 pm	136	
138		6.3.3 App market compliance checks & approval process	3 days	28/7/27, 8:00 am	30/7/27, 5:00 pm	137	
139		6.3.4 Hold a marketing campaign	12 days	28/7/27, 8:00 am	12/8/27, 5:00 pm	138SS	
140		6.3.5 Official launch announcement (website, LifeLoop integration)	1 day	12/8/27, 8:00 am	12/8/27, 5:00 pm	139FF	
141		6.3.6 Inform with LifeLoop to highlight LoopTasks in their ecosystem	1 day	28/7/27, 8:00 am	28/7/27, 5:00 pm	139SS	
142		6.3.7 Perform soft launch in one region before global release	1 day	13/8/27, 8:00 am	13/8/27, 5:00 pm	140	
143		Milestone 8	0 days	13/8/27, 5:00 pm	13/8/27, 5:00 pm	142	
144		■6.4 Post-launch Maintenance (Initial)	10 days	16/8/27, 8:00 am	27/8/27, 5:00 pm		
145		6.4.1 Monitor system performance (uptime, response times)	5 days	16/8/27, 8:00 am	20/8/27, 5:00 pm	142	
146		6.4.2 User onboarding & helpdesk support	5 days	16/8/27, 8:00 am	20/8/27, 5:00 pm	145SS	
147		6.4.2.1 Bug fixing & hot patches	5 days	16/8/27, 8:00 am	20/8/27, 5:00 pm	146SS	
148		6.4.4 Collect analytics & feedback for next iteration	5 days	16/8/27, 8:00 am	20/8/27, 5:00 pm	147SS	
149		6.4.5 Establish customer support channel	5 days	23/8/27, 8:00 am	27/8/27, 5:00 pm	148	
150		6.4.6 Schedule a customer support channel	5 days	16/8/27, 8:00 am	20/8/27, 5:00 pm	149SS	
151		6.4.7 Create a room for future updates or new version of app	5 days	23/8/27, 8:00 am	27/8/27, 5:00 pm	150	

Milestone 7: This milestone is Beta Version Released by 23 July 2027. This milestone delivers a working app to pilot testers, making it specific and measurable. It is time-framed to allow feedback before the final release.

Milestone 8: The milestone marks market release and official launch approved on 13 August 2027. The fixed date ensures compliance is completed in time. This is specific to the public release with marketing campaigns live, and measurable once the app is available in stores. It is time-bound and relevant as the ultimate delivery to users

## 3.4 Work Breakdown Structure and Project Schedule

**Begin with high-level phases (Level 1)**

- 1. Project Initiation**
- 2. Requirements Gathering and Planning**
- 3. UI/UX Design**
- 4. App Development**
- 5. Testing and Quality Assurance**
- 6. Deployment and Launch**

**Break each into major tasks (Level 2)**

- 1.1 Define Project Objectives & Scope
  - 1.1.1 Identify overall project goals
    - 1.1.1.1 Define Loopy's main purpose (e.g. AI personal assistant)
  - 1.1.2 Define project deliverables



1.1.2.1 List functional and non functional deliverables

1.1.3 Set project boundaries (in-scope vs out-of-scope)

1.1.3.1 Clarify features included vs excluded in this phase

1.2 Identify Stakeholders & Roles

1.2.1 Identify internal stakeholders

1.2.1.1 Project manager, developers, designers, testers

1.2.2 Identify external stakeholders

1.2.2.1 app store reviewers

1.2.3 Define roles and responsibilities

1.2.3.1 Assign tasks and decision making authority

1.3 Approve \$300,000 project budget

1.4 Assign roles - Connector, Planner, Analyst, Innovator

1.5 Conduct Feasibility Analysis (research technical feasibility (e.g. voice recognition, AI integration))

1.6 Prepare Initial Project Proposal (summarize objectives, requirements, constraints, risks?)

1.7 Project Charter approved

2.1 Conduct a user research to capture user needs

2.1.1 Conduct surveys, interviews and focus group of users to capture their needs

2.1.2 Observe pain points of people nowadays

2.1.3 Analyse competitor of existing apps to identify gaps

2.1.4 Collect demands from users

2.2 Define functional requirements

2.2.1 Specifying main deliverable features (virtual assistant, UI & multi-app integrations)

2.2.2 Write down acceptance criteria for each of the requirement

2.2.3 Review feasibility of requirements are realistic

2.3 Define non-functional requirements

2.3.1 Establish performance standards

2.3.2 Define security requirements

2.3.3 Specify accessibility standards

2.3.4 Confirm capability expectations (Android 10+, IOS10+ modern browsing)

2.4 Develop a requirement traceability matrix

2.5 Review plan

2.5.1 Finalise project plan, timeline, and deliverables

3.1 Create wireframes for LoopyAssistant home page, calendar, AI chatbot pages

3.2 Develop interactive prototype for user testing

3.3 Usability testing with LoopyAssistant users

3.4 Edit and Finalise UI/UX designs for LoopyAssistant branding

3.4.1 Convert wireframes into clickable prototype

3.4.2 Simulate core user journey

4.1. User Account and Profiles Set-up

4.1.1 Develop user registration and login system (user credentials)

4.1.2 Enable customizable voice persona setup for virtual assistant

4.2 AI and Personalization

4.2.1 Develop predictive personalization engine (habit tracking)

4.2.2 Develop contextual nudges (live AI-driven reminders/suggestions)

4.2.3 Develop 24-hours AI chatbot

4.2.4 Develop ambient computing and GPS function

4.3 User Interface and Accessibility Features

4.3.1 Develop customizable app interface (colour scheme and themes) - WCAG compliance

4.3.2 Implement assistive capabilities (captioning, semantic labeling) - WCAG compliance

4.3.3 Voice Command support (guided tutorials, navigation) - voice-over and screen reader support

4.3.4 Develop responsive front-end interface (synced calendars, homepage)

#### 4.4 Multi-app Integrations and Cross-Platform

4.4.1 Develop back-end APIs for integration of Weather app (**and other softwares**)

4.4.2 Develop calendar sync functionality

4.4.3 Cross-platform app support (iOS, Android)

4.4.4 Wearable device syncing (Alexa, Google Home, Apple Watch, Bluetooth..etc)

#### 4.5 Data Storage

4.5.1 Develop cloud storage for data backup and retrieval

4.5.2 Implement offline data sync and local cache handling

#### 4.6 Security

4.6.1 Encryption for data

4.6.2 Implement secure user authentication, session management and token expiration

4.6.3 Develop consent management system (ambient computing, GPS tracking, user credentials)

#### 5.1 Create Test Plan

- 5.1.1 Define testing goals
  - 5.1.2 Select testing method (e.g. manual/ automated/ both)
  - 5.1.3 Choose testing tools
  - 5.1.4 Set quality benchmarks
- 5.2 Functional Testing (Test core Loopy features)
- 5.2.1 Voice Recognition Testing
    - 5.2.1.1 Check accuracy for different accents and tones
  - 5.2.2 Wearable Device Integration
    - 5.2.2.1 Test connection between Loopy and wearables
  - 5.2.3 Smart Home Assistant Features
  - 5.2.4 Core App Functions
    - 5.2.4.1 Verify logins, profile setting, push notifications
- 5.3 Usability Testing
- 5.3.1 Recruit Test Participants
    - 5.3.1.1 Select 10-15 users from target audience
  - 5.3.2 Conduct User Testing Sessions
    - 5.3.2.1 Observe interactions, measure task completion time

### 5.3.3 Collect Feedback & Analyze Results

5.3.3.1 Categorize finding into UI, navigation, content issues

### 5.3.4 Recommand UI/UX Improvements (can extent)

5.3.4.1 Provide design changes based on feedback

5.3.4.2 Ensure WCAG compliance

## 5.4 Performance & Compatibility testing

### 5.4.1 Load Testing

5.4.1.1 Check app performance under 1000 simultaneous users

### 5.4.2 Stress Testing

5.4.2.1 Push the system beyond normal usage to find limits

### 5.4.3 Device & OS Compatibility Testing

5.4.3.1 Test across Android, iOS, and wearables

### 5.4.4 Network Testing

5.4.4.1 Check performance under 3G, 4G, 5G and WiFi

## 5.5 Bug Tracking & Fixing (identify issues, prioritizes them, retest)

### 5.5.1 Log Bugs Into Tracking System

### 5.5.2 Prioritize Fixes

5.5.2.1 Categorize as Critical, High, Medium, Low

### 5.5.3 Reset After Fixes

5.5.3.1 Confirm resolved bugs and ensure no new ones appear

### 5.5.4 Prepare Report

5.5.4.1 Summarize test results and provide recommendations

## 6.1 Deployment Preparation

6.1.1 Finalise deployment environment (servers, cloud setup, app stores)

6.1.2 Security & Integrity Check

6.1.3 Backup version in case of mistakes

6.1.4 Conduct pre-launch training for LifeLoop support staff

6.1.5 Prepare documentation for the app

## 6.2 Beta Testing & Test Release

6.2.1 Recruit testers (families/internal team)

6.2.2 Deploy beta version of the app

6.2.3 Run usability tests session with diverse user groups (families, individuals)

6.2.4 Create a feedback collection form

6.2.5 Collect data, user feedback and bug reports

6.2.6 Apply final fixes if needed

### 6.3 Market Release

6.3.1 Create accounts in mobile app market (Google Play, App Store)

6.3.2 Upload final version of app & metadata

6.3.3 App market compliance checks & approval process

6.3.4 Develop a marketing campaign

6.3.5 Official launch announcement (website, LifeLoop integration and social media)

6.3.6 Coordinate with LifeLoop to highlight LoopTasks in their ecosystem

6.3.7 Perform soft launch in one region before global release

### 6.4 Post-launch maintenance

6.4.1 Monitor system performance (uptime, response times)

6.4.2 User onboarding & helpdesk support

6.4.3 Bug fixing & hot patches

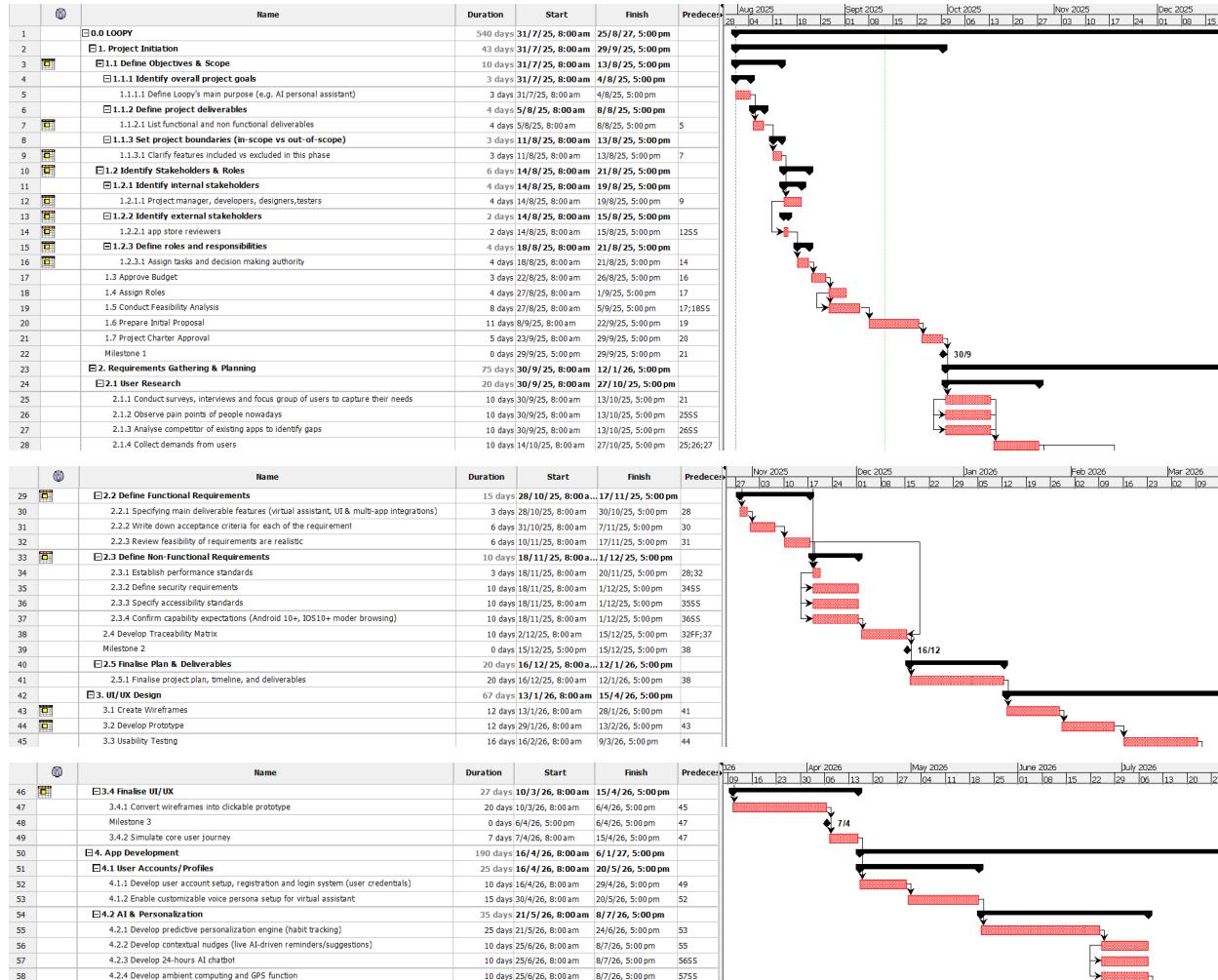
6.4.4 Collect analytics & feedback for next iteration

6.4.5 Establish customer support channel

6.4.6 Schedule a customer support channel

## 6.4.7 Create a room for future updates or new version of app

Allocated Timelines:



		Name	Duration	Start	Finish	Predecessor
59		<b>E4.3 UI &amp; Accessibility Features</b>				
60		4.3.1 Develop customizable app interface (colour scheme and themes) - WCAG compliance	45 days	9/7/26, 8:00 am	9/9/26, 5:00 pm	
61		4.3.2 Implement assistive capabilities (captioning, semantic labeling) - WCAG compliance	10 days	9/7/26, 8:00 am	22/7/26, 5:00 pm	58
62		4.3.3 Voice Command support (guided tutorials, navigation) - voice-over and screen reader support	7 days	23/7/26, 8:00 am	31/7/26, 5:00 pm	60
63		4.3.4 Develop responsive front-end interface (synced calendars, homepage)	20 days	23/7/26, 8:00 am	19/8/26, 5:00 pm	61FF
64		Milestone 4	15 days	20/8/26, 8:00 am	9/9/26, 5:00 pm	62
65		<b>E4.4 Integrations &amp; Cross-Platform</b>				
66		4.4.1 Develop back-end APIs for integration of different apps	40 days	10/9/26, 8:00 am	4/11/26, 5:00 pm	
67		4.4.2 Develop calendar sync functionality	20 days	10/9/26, 8:00 am	7/10/26, 5:00 pm	63
68		4.4.3 Cross-platform app support (iOS, Android)	15 days	17/9/26, 8:00 am	7/10/26, 5:00 pm	66FF
69		4.4.4 Wearable device syncing (Alexa, Google Home, Apple Watch, Bluetooth, etc)	10 days	8/10/26, 8:00 am	21/10/26, 5:00 pm	67
			10 days	22/10/26, 8:00 am	4/11/26, 5:00 pm	68
70		<b>E4.5 Data Storage</b>				
71		4.5.1 Develop cloud storage for data backup and retrieval	20 days	5/11/26, 8:00 am	2/12/26, 5:00 pm	
72		4.5.2 Implement offline data sync and local cache handling	10 days	5/11/26, 8:00 am	18/11/26, 5:00 pm	69
73		<b>E4.6 Security</b>				
74		4.6.1 Encryption for data	25 days	3/12/26, 8:00 am	6/1/27, 5:00 pm	
75		4.6.2 Implement secure user authentication, session management and token expiration	10 days	3/12/26, 8:00 am	16/12/26, 5:00 pm	72
76		4.6.3 Develop consent management system (ambient computing, GPS tracking, user credentials)	10 days	17/12/26, 8:00 am	30/12/26, 5:00 pm	74
77		Milestone 5	5 days	31/12/26, 8:00 am	6/1/27, 5:00 pm	75
78		<b>E5. Testing &amp; QA</b>				
79		<b>E5.1 Test Plan Creation</b>				
80		5.1.1 Define testing goals	5 days	7/1/27, 8:00 am	13/1/27, 5:00 pm	
81		5.1.2 Select testing method (e.g. manual/ automated/ both)	1 day	7/1/27, 8:00 am	7/1/27, 5:00 pm	76
82		5.1.3 Choose testing tools	1 day	8/1/27, 8:00 am	8/1/27, 5:00 pm	80
83		5.1.4 Set quality benchmarks	1 day	11/1/27, 8:00 am	11/1/27, 5:00 pm	81
84		<b>E5.2 Functional Testing</b>				
85		<b>E5.2.1 Core App Functions</b>				
86		5.2.1.1 Verify logins, profile setting, push notifications	25 days	14/1/27, 8:00 am	17/1/27, 5:00 pm	
87		<b>E5.2.2 Voice Recognition Testing</b>				
88		5.2.2.1 Check accuracy for different accents and tones	15 days	28/1/27, 8:00 am	17/2/27, 5:00 pm	86
89		<b>E5.2.3 Wearable Device Integration</b>				
90		5.2.3.1 Test connection between Loopy and wearables	15 days	28/1/27, 8:00 am	17/2/27, 5:00 pm	885S
91		5.2.4 Smart Assistant Features	15 days	28/1/27, 8:00 am	17/2/27, 5:00 pm	885S
92		<b>E5.3 Usability Testing</b>				
93		<b>E5.3.1 Recruit Test Participants</b>				
94		5.3.1.1 Select 10-15 users from target audience	25 days	18/2/27, 8:00 am	24/3/27, 5:00 pm	
95		<b>E5.3.2 Conduct User Testing Sessions</b>				
96		5.3.2.1 Observe interactions, measure task completion time	2 days	18/2/27, 8:00 am	19/2/27, 5:00 pm	91
97		<b>E5.3.3 Collect Feedback &amp; Analyze Results</b>				
98		5.3.3.1 Categorize findings into UI, navigation, content issues	8 days	22/2/27, 8:00 am	3/3/27, 5:00 pm	
99		<b>E5.3.4 Recommend UI/UX Improvements</b>				
100		5.3.4.1 Provide design changes based on feedback	8 days	4/3/27, 8:00 am	15/3/27, 5:00 pm	96
101		5.3.4.2 Ensure WCAG compliance	8 days	4/3/27, 8:00 am	15/3/27, 5:00 pm	96
102		<b>E5.4 Performance &amp; Compatibility</b>				
103		<b>E5.4.1 Load Testing</b>				
104		5.4.1.1 Check app performance under 1000 simultaneous users	25 days	25/3/27, 8:00 am	28/4/27, 5:00 pm	
105		<b>E5.4.2 Stress Testing</b>				
106		5.4.2.1 Push the system beyond normal usage to find limits	5 days	25/3/27, 8:00 am	31/3/27, 5:00 pm	101
107		<b>E5.4.3 Device &amp; OS Compatibility Testing</b>				
108		5.4.3.1 Test across Android, iOS, and wearables	5 days	1/4/27, 8:00 am	7/4/27, 5:00 pm	104
109		<b>E5.4.4 Network Testing</b>				
110		5.4.4.1 Check performance under 3G, 4G, 5G and WiFi	7 days	8/4/27, 8:00 am	16/4/27, 5:00 pm	
111		Milestone 6	7 days	8/4/27, 8:00 am	16/4/27, 5:00 pm	106
112		<b>E5.5 Bug Tracking &amp; Fixing (identify issues, prioritize them, retest)</b>				
113		5.5.1 Log Bugs into Tracking System	25 days	29/4/27, 8:00 am	2/6/27, 5:00 pm	
114		<b>E5.5.2 Prioritize Fixes</b>				
115		5.5.2.1 Categorize as Critical, High, Medium, Low	5 days	29/4/27, 8:00 am	19/5/27, 5:00 pm	110
116		<b>E5.5.3 Reset After Fixes</b>				
117		5.5.3.1 Confirm resolved bugs and ensure no new ones appear	15 days	6/5/27, 8:00 am	26/5/27, 5:00 pm	115FF
118		<b>E5.5.4 Prepare Report</b>				
119		5.5.4.1 Summarize test results and provide recommendations	5 days	27/5/27, 8:00 am	2/6/27, 5:00 pm	117

		Name	Duration	Start	Finish	Predecessor	2027	June 2027	July 2027	Aug 2027	Sept 2027															
							3	10	17	24	31	07	14	21	28	05	12	19	26	02	09	16	23	30	06	13
120		E. Deployment & Launch	50 days	3/6/27, 8:00am	11/8/27, 5:00pm																					
121		E.1. Deployment Prep	10 days	3/6/27, 8:00am	16/6/27, 5:00pm																					
122		6.1.1 Finalise deployment environment (servers, cloud setup, app stores)	1 day	3/6/27, 8:00am	3/6/27, 5:00pm	119																				
123		6.1.2 Security & Integrity Check	2 days	4/6/27, 8:00am	7/6/27, 5:00pm	122																				
124		6.1.3 Backup version in case of mistakes	1 day	8/6/27, 8:00am	8/6/27, 5:00pm	123																				
125		6.1.4 Conduct pre-launch training for LifeLoop support staff	6 days	9/6/27, 8:00am	16/6/27, 5:00pm	124																				
126		6.1.5 Prepare documentation for the app	6 days	9/6/27, 8:00am	16/6/27, 5:00pm	12555																				
127		E.2 Beta Testing	25 days	17/6/27, 8:00am	21/7/27, 5:00pm																					
128		6.2.1 Recruit testers (professionals/influencers)	3 days	17/6/27, 8:00am	21/6/27, 5:00pm	126																				
129		6.2.2 Deploy beta version of the app	2 days	22/6/27, 8:00am	23/6/27, 5:00pm	128																				
130		6.2.3 Create a feedback collection form	3 days	17/6/27, 8:00am	21/6/27, 5:00pm	12855																				
131		6.2.4 Run usability tests session with diverse user groups (families, individuals)	10 days	24/6/27, 8:00am	7/7/27, 5:00pm	129																				
132		6.2.5 Collect data, user feedback and bug reports	10 days	24/6/27, 8:00am	7/7/27, 5:00pm	13155																				
133		6.2.6 Apply final fixes if needed	10 days	8/7/27, 8:00am	21/7/27, 5:00pm	132																				
134		Milestone 7	0 days	21/7/27, 5:00pm	21/7/27, 5:00pm	133																				
135		E.3 Market Release	15 days	22/7/27, 8:00am	11/8/27, 5:00pm																					
136		6.3.1 Create accounts in mobile app market (Google Play, App Store) (BS)	1 day	22/7/27, 8:00am	22/7/27, 5:00pm	133																				
137		6.3.2 Upload final version of app & metadata	1 day	23/7/27, 8:00am	23/7/27, 5:00pm	136																				
138		6.3.3 App market compliance checks & approval process	3 days	26/7/27, 8:00am	28/7/27, 5:00pm	137																				
139		6.3.4 Hold a marketing campaign	12 days	26/7/27, 8:00am	10/8/27, 5:00pm	13855																				
140		6.3.5 Official launch announcement (website, LifeLoop integration and social media)	1 day	10/8/27, 8:00am	10/8/27, 5:00pm	139FF																				
141		6.3.6 Inform with LifeLoop to highlight LifeLoop Tasks in their ecosystem	1 day	26/7/27, 8:00am	26/7/27, 5:00pm	13955																				
142		6.3.7 Perform soft launch in one region before global release	1 day	11/8/27, 8:00am	11/8/27, 5:00pm	140																				
143		Milestone 8	0 days	11/8/27, 5:00pm	11/8/27, 5:00pm	142																				
144		E.4 Post-launch Maintenance (Initial)	10 days	12/8/27, 8:00am	25/8/27, 5:00pm																					
145		6.4.1 Monitor system performance (uptime, response times)	5 days	12/8/27, 8:00am	18/8/27, 5:00pm	142																				
146		6.4.2 User onboarding & helpdesk support	5 days	12/8/27, 8:00am	18/8/27, 5:00pm	14555																				
147		6.4.3 Bug fixing & hot patches	5 days	12/8/27, 8:00am	18/8/27, 5:00pm	14655																				
148		6.4.4 Collect analytics & feedback for next iteration	5 days	12/8/27, 8:00am	18/8/27, 5:00pm	14755																				
149		6.4.5 Establish customer support channel	5 days	19/8/27, 8:00am	25/8/27, 5:00pm	148																				
150		6.4.6 Schedule a customer support channel	5 days	12/8/27, 8:00am	18/8/27, 5:00pm	1495F																				
151		6.4.7 Create a room for future updates or new version of app	5 days	19/8/27, 8:00am	25/8/27, 5:00pm	150																				

## Level 1: High-Level Phases

1. Project Initiation → ~1.5 months (43 days)
2. Requirements Gathering & Planning → ~2.5 months (75 days)
3. UI/UX Design → ~2 months (~67 days)
4. App Development → ~7 months (~190 days)
5. Testing & Quality Assurance → ~3.5 months (~105 days)
6. Deployment & Launch → ~2 months (60 days)

## **Level 2 & Example Task Durations**

### **1. Project Initiation (45 days)**

- 1.1 Define Objectives & Scope → 10 days
- 1.2 Identify Stakeholders & Roles → 6 days
- 1.3 Approve Budget → 3 days
- 1.4 Assign Roles → 4 days
- 1.5 Conduct Feasibility Analysis → 8 days
- 1.6 Prepare Initial Proposal → 11 days
- 1.7 Project Charter Approval → 5 days

### **2. Requirements Gathering & Planning (75 days)**

- 2.1 User Research → 20 days
- 2.2 Define Functional Requirements → 15 days
- 2.3 Define Non-Functional Requirements → 10 days
- 2.4 Develop Traceability Matrix → 10 days
- 2.5 Finalise Plan & Deliverables → 20 days

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### **3. UI/UX Design (60 days)**

- 3.1 Create Wireframes → 12 days
- 3.2 Develop Prototype → 12 days
- 3.3 Usability Testing → 16 days
- 3.4 Finalise UI/UX → 27 days

### **4. App Development (210 days)**

- 4.1 User Accounts/Profiles → 25 days
- 4.2 AI & Personalization → 35 days
- 4.3 UI & Accessibility Features → 45 days
- 4.4 Integrations & Cross-Platform → 40 days
- 4.5 Data Storage → 20 days
- 4.6 Security → 25 days

### **5. Testing & QA (105 days)**

- 5.1 Test Plan Creation → 5 days
- 5.2 Functional Testing → 25 days
- 5.3 Usability Testing → 25 days
- 5.4 Performance & Compatibility → 25 days

- 5.5 Bug Fixing & Reports → 25 days

## **6. Deployment & Launch (45 days)**

- 6.1 Deployment Prep → 10 days
- 6.2 Beta Testing → 25 days
- 6.3 Market Release → 15 days
- 6.4 Post-launch Maintenance (initial) → 10 days

## 3.5 Project Cost Management

### 3.5.1 Cost Model

WBS Items	Units/Hours	Cost/Unit or Hr	Subtotal (AUD)	WBS Level 2 Total	% of Total
<b>1. Project Management</b>				<b>\$36,000</b>	= 12%
1.1 Project Manager	300 hrs	\$120/hr	\$36,000		
<b>2. Requirements &amp; Design (43 days)</b>				<b>\$32,400</b>	= 10.8%
2.1 Business Analyst	90 hrs	\$110/hr	\$9,900		
2.2 Designers	150 hrs	\$120/hr	\$18,000		
2.3 Prototyping Tools	Lump	-	\$4,500		
<b>3. Development (190 days)</b>				<b>\$112,960</b>	= 37.7 %
3.1 Developers	1,000 hrs	\$105/hr	\$105,000		
3.2 IDEs & Dev Tools (PhpStorm, JetBrains..etc)		\$200/yr	\$2,000		
3.3 Server Lease (Dev/Test Environments)	2 small EC2 x 6 months	\$80/month	\$960		
3.4 CI/CD, GitHub, Monitoring Tools	Lump sum	-	\$5,000		

<b>4. Testing (105 days)</b>				<b>\$52,750</b>	= 17.6%
4.1 Testers	250 hrs	\$95/hr	\$23,750		
4.2 QA Vendor support	Lump sum	-	\$11,000		
4.3 Training	Lump sum	-	\$18,000		
<b>5. Deployment, Vendors &amp; Training (50 days)</b>				<b>\$20,543</b>	= 6.8%
5.2 Cloud setup & launch	Lump sum	-	<b>\$17,083</b>		
5.3 Third-party APIs/SDKs	Lump sum	-	<b>\$3460</b>		
<b>Project Subtotal</b>				<b>\$254,653</b>	= 84.9%
<b>6. Reserves</b>				<b>\$45,346</b>	= 15.1%
6.1 Contingency (15%)	-	-	<b>\$45,346</b>		
<b>TOTAL</b>				<b>\$299,999</b>	= 100%

### 3.5.2 Cost Model (Detailed Breakdown)

WBS Items	Units/Hour s	Cost/Unit or Hr	Subtotal (AUD)	WBS Level 2 Total	% of Total	Reference	WBS references
<b>1. Project Management</b>			<b>\$36,000</b>		= 12%		
1.1 Project Manager	300 hrs	\$120/hr	\$36,000			Hays. (2024). Hays salary guide FY24/25. Hays	The whole project

						Specialist Recruitment. <a href="https://d25zr1xy094zys.cloudfront.net/cf/14/cf14645e7191fcbd713fb127008549e2e9acbe65">https://d25zr1xy094zys.clo udfront.net/cf/14/cf14645e7 191fcbd713fb127008549e2 e9acbe65</a>	
<b>2. Requirements &amp; Design (43 days)</b>				<b>\$32,400</b>	<b>= 10.8%</b>		
2.1 Business Analyst	90 hrs	\$110/hr	\$9,900			Hays. (2024). <i>Hays salary guide FY24/25</i> . Hays Specialist Recruitment. <a href="https://d25zr1xy094zys.clo&lt;br/&gt;udfront.net/cf/14/cf14645e7&lt;br/&gt;191fcbd713fb127008549e2&lt;br/&gt;e9acbe65">https://d25zr1xy094zys.clo udfront.net/cf/14/cf14645e7 191fcbd713fb127008549e2 e9acbe65</a>	2. Requirement gathering & planning
2.2 Designers	150 hrs	\$120/hr	\$18,000			Hays. (2024). <i>Hays salary guide FY24/25</i> . Hays Specialist Recruitment. <a href="https://d25zr1xy094zys.clo&lt;br/&gt;udfront.net/cf/14/cf14645e7&lt;br/&gt;191fcbd713fb127008549e2&lt;br/&gt;e9acbe65">https://d25zr1xy094zys.clo udfront.net/cf/14/cf14645e7 191fcbd713fb127008549e2 e9acbe65</a>	3. UI/UX Design
2.3 Prototyping Tools	Lump	-	\$4,500			Stevens, E. (2025, January 14). <i>The 10 best prototyping tools for UI/UX designers [2025 Update]</i> . UX Design Institute. <a href="https://www.uxdesigninstitute.com/blog/best-prototyping-tools-for-ux-designers/">https://www.uxdesigninstitut e.com/blog/best-prototypi ng-tools-for-ux-designers/ e9acbe65</a>	3. UI/UX Design

						Figma, UXPin, Protio.io	
<b>3. Development (190 days)</b>				<b>\$112,960</b>	= <b>37.7 %</b>		
3.1 Developers	1,000 hrs	\$105/hr	\$105,000			Hays. (2024). <i>Hays salary guide FY24/25</i> . Hays Specialist Recruitment. <a href="https://d25zr1xy094zys.cloudfront.net/cf/14/cf14645e7191fcbd713fb127008549e2e9acbe65">https://d25zr1xy094zys.clo udfront.net/cf/14/cf14645e7 191fcbd713fb127008549e2 e9acbe65</a>	4. App Development
3.2 IDEs & Dev Tools (PhpStorm,Jetbrains..etc)		\$200/yr	\$2,000			<a href="https://www.jetbrains.com/store/?section=commercial&amp;billing=yearly">https://www.jetbrains.com/ store/?section=commercial &amp;billing=yearly</a>	4. App Development
3.3 Server Lease (Dev/Test Environments)	2 small EC2 x 6 months	\$80/month	\$960			<a href="https://aws-pricing.com/app-southeast-2-per-1.html">https://aws-pricing.com/ap- southeast-2-per-1.html</a>	4. App Development
3.4 CI/CD, GitHub, Monitoring Tools	Lump sum	-	\$5,000			GitHub Teams (\$4/user/mo), Sentry, Datadog	4. App Development
<b>4. Testing (105 days)</b>				<b>\$52,750</b>	= <b>17.6%</b>		
4.1 Testers	250 hrs	\$95/hr	\$23,750			Hays. (2024). <i>Hays salary guide FY24/25</i> . Hays Specialist Recruitment.	5. Testing & QA

					<a href="https://d25zr1xy094zys.cloudfront.net/cf/14/cf14645e7191fcbd713fb127008549e2e9acbe65">https://d25zr1xy094zys.clo udfront.net/cf/14/cf14645e7 191fcbd713fb127008549e2 e9acbe65</a>	
4.2 QA Vendor support	Lump sum	-	\$11,000			5. Testing & QA
4.3 Training			<b>\$18,000</b>			
4.3.1. Risk-Based Training	2 attendees x 5 workshops	\$1000 per attendee	\$10,000		<p>IPEG. (n.d.). <i>We manage IP risk.</i> Intellectual Property Expert Group.  <a href="https://www.ipeg.com/we-manage-ip-risk/">https://www.ipeg.com/we-manage-ip-risk/</a></p> <p>APP. (n.d.). <i>Privacy training classes.</i> IAPP.  <a href="https://www.iapp.org/train/training-classes/">https://www.iapp.org/train/training-classes/</a></p> <p>Institute of Executive Coaching &amp; Leadership. (2025). <i>Organisational Coaching Level 1 certification.</i> IECL.  <a href="https://www.iecl.com/course-overview/certified-organisational-coach-level-1 IECL">https://www.iecl.com/course-overview/certified-organisational-coach-level-1 IECL</a></p> <p>Privacy108 Consulting Pty</p>	2. Requirement gathering & planning

					Ltd. (n.d.). <i>IAPP Certified Information Privacy Professional / Europe (CIPP/E) Online</i> . Privacy108 Consulting. <a href="https://www.privacy108.com.au/courses/cippe-online/">https://www.privacy108.com.au/courses/cippe-online/</a>	
4.3.2 Wellbeing and Leadership Workshop	10 participants x 1 workshop	\$200 per attendee	\$2,000		Institute of Executive Coaching & Leadership. (2025). <i>Coaching Essentials by IECL</i> . IECL. <a href="https://www.iecl.com/course-overview/coaching-essentials-by-iecl">https://www.iecl.com/course-overview/coaching-essentials-by-iecl</a>  Smiling Mind. (2024). <i>Business mental fitness</i> . <a href="https://www.smilingmind.com.au/business-mental-fitness/">https://www.smilingmind.com.au/business-mental-fitness/</a>	2. Requirement gathering & planning
4.3.3 Internal Resource Development (traceability matrices, manuals..etc)	Vendor package	Lump sum (per hour)	Est \$6,000		Atlassian. (n.d.). <i>Partner directory</i> . Atlassian. <a href="https://partnerdirectory.atlassian.com/">https://partnerdirectory.atlassian.com/</a>	2. Requirement gathering & planning

<b>5. Deployment, Vendors &amp; Training (50 days)</b>				<b>\$20,543</b>	= 6.8%	
5.2 Cloud setup & launch			<b>\$17,083</b>			4. App Development. 5. Testing & QA
5.2.1 Compute/Servers (Prod + Staging)	3 t3.medium EC2 instances x 12 mo	\$200/mo	\$7,200		Nils Knieling. (2025, September 12). <i>Amazon EC2 instance types, pricing, and related services in ap-southeast-2 (Perth), Australia. AWS Pricing.</i> <a href="https://aws-pricing.com/ap-southeast-2-per-1.html">https://aws-pricing.com/ap-southeast-2-per-1.html</a>	4. App Development. 5. Testing & QA
5.2.2 Storage/CDN/Backup	2TB S3 (\$0.04/GB/mo x 12 mo	\$80/mo	\$960		Amazon Web Services. (2025). <i>Amazon S3 pricing.</i> Amazon Web Services. <a href="https://aws.amazon.com/s3/pricing/">https://aws.amazon.com/s3/pricing/</a>	4. App Development. 5. Testing & QA
5.2.3 Identity/Security Vendor	Auth0 developer plan (12 mo)	\$53/mo	\$636		Auth0. (n.d.). <i>Pricing.</i> Auth0. <a href="https://auth0.com/pricing">https://auth0.com/pricing</a>	4. App Development. 5. Testing & QA
5.2.4 AI Chatbot Model (OpenAI GPT-4o mini)	15M tokens/mo x 12 mo	\$90/mo	\$1,080		Reuters. (2024, July 18). <i>OpenAI unveils cheaper small AI model GPT-4o mini.</i> Reuters. <a href="https://www.reuters.com/technology/artificial-intelligent">https://www.reuters.com/technology/artificial-intelligent</a>	4. App Development. 5. Testing & QA

					<p><a href="https://www.entrepreneur.com/openai-unveils-cheaper-small-ai-model-gpt-4o-mini-2024-07-18/">ce/openai-unveils-cheaper-small-ai-model-gpt-4o-mini-2024-07-18/</a></p> <p>OpenAI. (2025). <i>API pricing</i>. OpenAI.  <a href="https://openai.com/api/pricing/">https://openai.com/api/pricing/</a> OpenAI</p> <p>LLM Price Check. (n.d.).  <i>GPT-4o mini (OpenAI) pricing calculator – Costs, quality &amp; free trial.</i> LLM Price Check.  <a href="https://llmpricecheck.com/openai/gpt-4o-mini/">https://llmpricecheck.com/openai/gpt-4o-mini/</a></p>	
5.2.5 Weather API (OpenWeather “Startup”)	12 mo	\$60/mo	\$720		<a href="https://openweathermap.org/price">https://openweathermap.org/price</a>	4. App Development. 5. Testing & QA
5.2.6 Voice Licensing (generic AI voices)	10 units	\$330/script	\$3,300		Voice Artists Australia. (n.d.). <i>Voice over rates Australia</i> . Voice Artists Australia. <a href="https://voiceartistsaustralia.com.au/voiceovers/voice-over-ratesaustralia.php">https://voiceartistsaustralia.com.au/voiceovers/voice-over-ratesaustralia.php</a>	4. App Development. 5. Testing & QA

5.2.7 Monitoring/Logging (Datadog Starter + Sentry)	12 mo	\$250/mo	\$3,000				4. App Development. 5. Testing & QA
5.2.8 Launch & Scaling Prep			= \$187				4. App Development. 5. Testing & QA, 6. Deployment & Launch
5.2.8.1 Apple	12 mo	\$149/yr	\$149			Apple Developer. (n.d.). <i>Member-ship: What's included in the Apple Developer Program.</i> Apple Developer. <a href="https://developer.apple.com/programs/whats-included/">https://developer.apple.com/programs/whats-included/</a>	4. App Development. 5. Testing & QA, 6. Deployment & Launch
5.2.8.2 Google Play	Lump sum	\$38	\$38			Google Play Console Help. (n.d.). <i>Android Developer &amp; Play Console Help Center.</i> Google. <a href="https://support.google.com/googleplay/android-developer/">https://support.google.com/googleplay/android-developer/</a>	4. App Development. 5. Testing & QA, 6. Deployment & Launch
5.3 Third-party APIs/SDKs			<b>\$3460</b>				4. App Development, 5. Testing & QA, 6. Deployment & Launch,

5.3.1 Payment Gateway SDK (Stripe)	12 mo	\$50/mo	\$600		Stripe, Inc. (2025). <i>Pricing &amp; fees (Australia)</i> . Stripe. <a href="https://stripe.com/au/pricing">https://stripe.com/au/pricing</a>	4. App Development, 5. Testing & QA, 6. Deployment & Launch,
5.3.2 Location/Maps API (Google Maps)	12 mo	\$75/mo	\$900		Google. (2025). <i>Google Maps Platform pricing &amp; API costs</i> . <a href="https://mapsplatform.google.com/pricing/">https://mapsplatform.google.com/pricing/</a>	4. App Development, 5. Testing & QA, 6. Deployment & Launch,
5.3.3 Messaging SDK/ Notifications (OneSignal)	12 mo	\$80/mo	\$960		OneSignal. (n.d.). <i>Pricing</i> . OneSignal. <a href="https://onesignal.com/pricing/">https://onesignal.com/pricing/</a>	4. App Development, 5. Testing & QA, 6. Deployment & Launch,
5.3.4 Crash reporting SDK & Analytics (Firebase)	Lump sum	\$1,000	\$1,000		Google. (2025). <i>Firebase pricing</i> . Firebase. <a href="https://firebase.google.com/pricing">https://firebase.google.com/pricing</a> Firebase	4. App Development, 5. Testing & QA, 6. Deployment & Launch,
<b>Project Subtotal</b>			<b>\$254,653</b>	= 84.9%		
<b>6. Reserves</b>			<b>\$45,346</b>	= 15.1%		
6.1 Contingency (15%)	-	-	<b>\$45,346</b>		Refer to the <b>Risk Register</b> for allocation and	

						justification. With about 30% of reserve as buffer.	
<b>TOTAL</b>				<b>\$299,999</b>	<b>= 100%</b>		

### 3.5.2.1 Assumptions

#### 1. Labour

Our pricing assumes that employees will not negotiate pay rates and would accept the current estimated pay rates according to Hays benchmarks. And, that estimated hours stated are sufficient to cover all planned sprints and tasks throughout the 540 days of the project.

#### 2. Licensing, Subscriptions, Tools

Costs for IDEs, monitoring tools, APIs, prototyping, server leases are assumed to be stable over the course of the project, and lumps sum tools/vendor subscriptions such as GitHub and Sentry are assumed to cover all required individuals to use them.

Lastly, free tiers for Atlassian tools and Firebase are assumed to be sufficient for development and launch phases.

#### 3. API and Cloud Costs

Third-party APIs such as Google Maps, OpenWeather, OneSignal, OpenAI GPT-40 mini and so on are assumed to not exceed limits and stay within usage tiers, assuming no unplanned surcharges may surface over time.

#### 4. Employee Workshops and Training

This is assuming that employees are willing to attend workshops and all slots will be filled, with no wastage of allocated money to trainings, while also assuming that current published prices will remain consistent till the booking of the workshops for employees to attend.

## 5. Scope Creep

This model assumes that scope creep will be manageable, safeguarded by the contingency reserve that provides reasonable coverage, even with the contingency reserve sitting at the lower end of the 15-20% industry guideline.

## 6. Reserves

Risk exposures are assumed to be within the projected range indicated in the risk register.

### 3.5.3 Cost Estimation Methodology

The **bottom-up method** was used (PMBOK, 2021) for the initial phase of structuring the Cost Model, where it was built upon the WBS. Utilizing Analogous and Parametric estimation together, hourly rates, according to Hays Contractor Salary Guide and the Monash University casual rate card, were allocated to the differing roles such as Project Manager, Developers, and Testers. Estimated costs for software and hardware resources were determined through both analogous and parametric estimation as well, leveraging comparable market rates and parametric techniques were used to obtain a unit-based benchmark to obtain monthly rates from projected token volumes.

#### Labour Costs

The rates we've estimated for the various employee roles are below the Hays Contractor Salary Rates as our Work-From-Home (WFH) model allows us to operate slightly below these rates (PwC, 2022) while offering competitive total rewards through increased flexibility, remote work environment, autonomy, and healthy work culture (TRA, 2025). Assumptions made include employment for these roles will not come with negotiations that may lead to increased pay rates, hence, increased labour costs.

The hours for each role were estimated directly from the WBS and scope. For example, the WBS shows development as a major 190-days phase, so developers are assumed to be part-time workers that are paid across the duration of the Development (WBS 4), while the project manager is assumed to be part-time across all phases. Designers were only included in the design phase, and testers were only paid during the testing stage. This approach reflects the fact that not all roles are needed throughout the whole project and helps keep costs realistic.

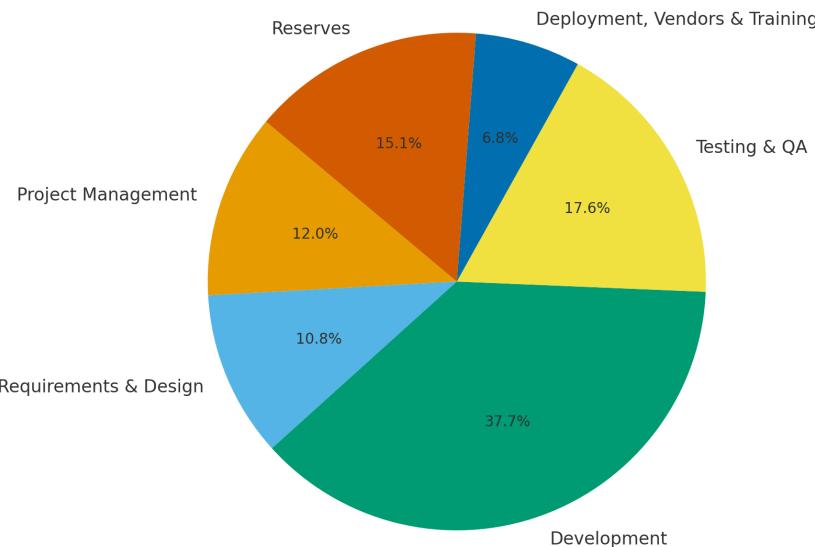
## **Non-labour costs**

Specific vendors and tools were selected based on both strategic fit and cost efficiency. Vendors that we had decided on through cost efficiency as they were cheaper alternatives widely used across the market, offering flexible licensing included Figma, UXPin, and Proto.io for prototyping, which provide scalable design collaboration at a fraction of the cost of enterprise-only tools. For development environments, JetBrains IDEs were selected due to their affordable licensing structure and strong market reputation among developers, ensuring heightened productivity without inflating costs. Amazon Web Services (AWS) was adopted for server hosting and storage because of its global reliability and flexible pay-as-you-go pricing, allowing the project to scale only as needed. Similarly, Auth0 was chosen for identity and access management, offering secure authentication at an entry-level cost suitable for early-stage deployments. To support operational reliability, Datadog and Sentry were selected as monitoring and logging tools, balancing affordability with advanced observability features. Finally, for integration, APIs such as Stripe, Google Maps, OneSignal, and Firebase were chosen because they are cost-effective, developer-friendly, and come with transparent subscription models that minimize the risk of cost escalation. ChatGPT-4o mini, for example, was chosen rather than other versions, it was understood that this version is cheaper yet well-recognized to be functional with API integrations (LLM Price Check, n.d.). Voice Artists Australia was chosen as an alternative for the “celebrity-voices” as a teaser prior to further improvement of this feature, which we aim to invest into greatly as a key feature of our app. All in all, careful consideration was practiced to ensure reduced budget wastage.

## **Contingency Reserve Justification**

Finally, we added a 15.1% contingency reserve. With higher uncertainty that is projected with technological companies, especially those with complex external technology such as API, Cloud, and AI models being integrated, it is recommended to keep the contingency reserve within the 15%-20% range (Bakshi et al., 2025; PMBOK, 2021). With projected risks (refer to 3.6.1 Risk Register), major cost exposures arise from data privacy, intellectual property compliance, and overtime work that is of high risk due to our projects' heavy dependence on external partnerships. Our strategy aims to ensure contingency is maintained without jeopardizing funding for all planned sprints.

## Conclusion



The final estimate came to \$299,999, aligning with the \$300,000 budget, demonstrating deliberate and prudent distribution of funds. Changes like trimming scope, phasing delivery of features, or negotiating cheaper vendor services, would continue through the project to ensure optimal utilization of resources. Overall, our model aims to demonstrate how using the bottom-up, analogous, parametric methods, applying realistic assumptions about staff usage, and accounting for both non-labour and risk reserves makes the estimate both practical and aligned with project management best practices (PMBOK, 2021).

### 3.5.4 Cost Baseline

WBS name	Units/Hours	Rate/Unit	Subtotal	M1	M2	M3	M4	M5	M6	M7	M8	M9	M10	M11	M12	M13	M14	M15	M16	M17	M18	Total
<b>1. Project Management</b>																						
1.1 Project Manager	300 hrs	\$120/hr	\$36,000	\$4800	\$3960	\$3120	\$3120	\$2160	\$1500	\$1320	\$1320	\$1320	\$1320	\$1260	\$1200	\$1200	\$1320	\$2112	\$1488	\$36000		
<b>2. Requirements &amp; Design</b>																						
2.1 Business Analyst	90 hrs	\$110/hr	\$9900			\$3960	\$3960	\$1980														\$9900
2.2 Designers	150 hrs	\$120/hr	\$18000					\$8057.14	\$8057.14	\$1885.71												\$18000
2.3 Prototyping Tools	Lump	-	\$4,500					\$2250	\$2250													\$4500
<b>3. Development</b>																						
3.1 Developers (2 people)	1000 hrs	\$105/hr	\$105,000					\$17131.8	\$15473.85	\$17131.8	\$16578.45	\$17131.8	\$16578.45	\$14973.85								\$105000
3.2 IDEs & Dev Tools (PhpStorm, JetBrains, etc)	10 seats	\$200/yr	\$2,000					\$2000														\$2000
3.3 Server Lease (Dev/Test Environments)	2 small EC2 x 6 months	\$80/month	\$960					\$160	\$160	\$160	\$160	\$160	\$160									\$960
3.4 CI/CD, GitHub, Monitoring Tools	Lump sum	-	\$5,000					\$5000														\$5000
<b>4. Testing</b>																						
4.1 Testers	250 hrs	\$95/hr	\$23750																			\$23750
4.2 QA Vendor support	Lump sum	-	\$11,000																			\$11000
<b>4.3 Training</b>																						
4.3.1 Risk-Based Training	2 attendees x 5 workshops	\$1000 per attendee	\$10,000		\$6000	\$4000																\$10000
4.3.2 Wellbeing and Leadership Workshop	10 participants x 1 workshop	\$200 per attendee	\$2,000		\$2000																	\$2000
4.3.3 Internal Resource Development (traceability matrices, manuals, etc)	Vendor engagement (package)	Lump sum (per hour)	Est \$6,000		\$6000																	\$6000
<b>5. Deployment, Vendors &amp; Training</b>																						
5.2 Cloud setup & launch																						
5.2.1 Compute/Servers (Prod + Staging)	3 t3.medium EC2 instances x 12 mo	\$200/month	\$7,200					\$200	\$200	\$200	\$200	\$200	\$200	\$200	\$200	\$200	\$200	\$200	\$200	\$200	\$7200	
5.2.2 Storage/CDN/Backup	2TB S3 (\$0.04/GB/mo x 12 mo)	\$80/month	\$960					\$80	\$80	\$80	\$80	\$80	\$80	\$80	\$80	\$80	\$80	\$80	\$80	\$80	\$960	
5.2.3 Identity/Security Vendor	Auth0 developer plan (12 mo)	\$53/month	\$636					\$53	\$53	\$53	\$53	\$53	\$53	\$53	\$53	\$53	\$53	\$53	\$53	\$53	\$53	\$636
5.2.4 AI Chatbot Model (OpenAI GPT-4o mini)	15M tokens/mo x 12 mo	\$90/month	\$1,080					\$90	\$90	\$90	\$90	\$90	\$90	\$90	\$90	\$90	\$90	\$90	\$90	\$90	\$1080	
5.2.5 Weather API (OpenWeather "Startup")	12 mo	\$50/month	\$720					\$60	\$60	\$60	\$60	\$60	\$60	\$60	\$60	\$60	\$60	\$60	\$60	\$60	\$720	
5.2.6 Voice Licensing (generic AI voices)	10 units	\$330/script	\$3,300					\$3300														\$3300
5.2.7 Monitoring/Logging (Datadog Starter + Sentry)	12 mo	\$250/month	\$3,000					\$250	\$250	\$250	\$250	\$250	\$250	\$250	\$250	\$250	\$250	\$250	\$250	\$250	\$3000	
5.2.8 Launch & Scaling Prep	-							\$1610														
5.2.8.1 Apple	12 mo	\$149/year	\$149																			\$149
5.2.8.2 Google Play	Lump sum	\$38/year	\$38																			\$38
5.3 Third-party APIs/SDKs																						
5.3.1 Payment Gateway SDK (Stripe)	12 mo	\$50/mo	\$600					\$50	\$50	\$50	\$50	\$50	\$50	\$50	\$50	\$50	\$50	\$50	\$50	\$50	\$600	
5.3.2 Location/Maps API (Google Maps)	12 mo	\$75/mo	\$900					\$75	\$75	\$75	\$75	\$75	\$75	\$75	\$75	\$75	\$75	\$75	\$75	\$75	\$900	
5.3.3 Messaging SDK/ Notifications (OneSignal)	12 mo	\$80/mo	\$960					\$80	\$80	\$80	\$80	\$80	\$80	\$80	\$80	\$80	\$80	\$80	\$80	\$80	\$960	
5.3.4 Crash reporting SDK & Analytics (Firebase)	Lump sum	\$1,000	\$1,000																			\$1000
6.1 Contingency (15%)			\$45346																			\$45346

[https://docs.google.com/spreadsheets/d/18\\_LoSSD3PRZZs8Xr5907dSx5kIZpnqxFPowoF37dKbl/edit?usp=sharing](https://docs.google.com/spreadsheets/d/18_LoSSD3PRZZs8Xr5907dSx5kIZpnqxFPowoF37dKbl/edit?usp=sharing)

## 3.6 Project Risk Management

### 3.6.1 Risk Register

RISK ID	RANK	RISK DESCRIPTION	IMPACT DESCRIPTION	IMPACT LEVEL	PROBABILITY LEVEL	PRIORITY LEVEL	RISK RESPONSE	OWNER
R01	1	<p><b>Staff Fatigue and Burnout:</b> Tight deadlines, limited control over tasks, changing workload, and working overtime are likely situations that occur during project sprints. Emotional exhaustion may lead to unproductivity as indicated by the Demand-Control-Support model. (Pinto et al. 2014)</p> <p>Given the scale of our project, most of the pay rates are slightly below Melbourne rates under the Hays Salary Guide 2025, which may lead to unhappiness amongst the employees.</p>	<p>Lack of productivity as a result of burnout could result in missed deadlines and postponing the overall timeline, or may potentially lead to overtime work during certain seasons.</p> <p>Systematic reviews demonstrate a clear inverse correlation between burnout and employee productivity, with performance declines of 20–30%, increased absenteeism, poor quality of work, and stakeholder dissatisfaction (Ali et al. 2024).</p> <p>Such project environments garner reduced motivation and energy that lead to missed deadlines, compromised</p>	5	4	20	<p><b>WFH model:</b> This project will adopt a 3 days work-from-home (WFH) model where the 2 days staff are required to come to work for team meetings. WFH models have proven to improve mental health and reduce stress (Wells et al. 2023).</p> <p><b>Demand-Control-Support model:</b> increased employee autonomy, social and managerial support, well-defined role expectations (Pinto et al. 2014)</p>	Project Manager

			deliverables, and reduced team cohesion.				<b>Contingency planning:</b> \$15,000 will be set aside from the Contingency Reserve, according to rates we've allocated to each role (HAYS 2025) in the event of overtime.	
R02	2	<b>Intellectual Property &amp; Licensing</b> <b>Risks.</b> When integrating third-party software solutions (e.g., weather APIs and OpenAI platforms), risks may arise around intellectual property ownership, copyright, and licensing compliance. These risks include potential overlap in usage rights, limitations in redistribution of proprietary assets, and exposure to litigation if licensing terms are breached. The PMBOK Guide (2021) highlights the importance of considering governance and compliance risks when external vendors or proprietary technologies are integrated into project deliverables.	Failures during the development phase (WBS 4) and testing (WBS 5) may occur due to incompatible licensing models and usage rights, which may lead to delayed deployment - potentially forcing redesign of key features, or requiring replacement of third-party components. Higher costs, legal liabilities, tainting reputation, and delayed launch may result (PMI, 2021; Digital Guardian 2025) which would affect our companies' competitive edge and financial resilience. For example, reliance on celebrity-voice packs or proprietary datasets without proper licensing could trigger copyright infringement claims, which may not only halt project progress but also expose the organization to financial	4	4	<b>16</b>	<b>Contingency planning:</b> On top of \$10,000 allocation to Risk-based training in the Cost Model, a total of \$8,000, according to analogous estimations of lawyer consultation fees (Solo, 2025) and licensing costs (Tran, 2024), will be allocated from the Contingency Reserves for the following. Firstly, Software-as-a-service (SaaS) solutions such as Software Composition Analysis (SCA) and document traceability softwares, which support remediation, further analysis of licensing risks especially with open-source vendors, and creates component inventories (Worthington et al., 2025) Secondly, towards sourcing for alternative providers with clear	Project Manager

			penalties and loss of stakeholder trust.				intellectual property frameworks in the case that high compliance risk are evident from suppliers.	
R03	3	<b>Data Privacy and Consent Risks.</b> Integration of third-party APIs, poses consent and privacy risks for our users, especially if sensitive and personal information is collected. In our case, personal schedules, sharing of current location, and so on. In regulated domains like healthcare, AI-driven data usage can erode traditional informed consent norms, leading to unauthorized use or repurposing of personal information (Andreotta et al., 2021).	Lack of strict compliance with consent frameworks poses the risk of regulatory fines, legal liability, and tainting of reputation. In other industries AI scenarios, inadequate transparency or anonymization intensifies ethical and legal exposure (Murdoch, 2021), eroding individual's autonomy, perception, and trust (Andreotta et al., 2021), risking reduced user base.	5	3	<b>15</b>	<b>Privacy-by-Design</b> <b>Frameworks through robust consent mechanisms:</b> Ensure "informed" consent frameworks are built with clear, meaningful disclosures and opt-in protocols (Rasdch, 2025).  <b>Contingency plan:</b> Allocating \$6,000 to third-party API vetting, to acquire proper certifications such as GDPR/CCPA compliance and SOC Type II (Murdoch, 2021), and penetration testing, which ensure strict limits on data collection.	Security Lead
R04	4	<b>Vendor Lock-In &amp; Cost Escalation .</b> Vendor lock-in emerges from dependency on a single provider's proprietary technologies or services, making switching costly, complex, and risky (Outsystems 2025). In IT and cloud contexts, a lack of standardization exacerbates	Lock-in limits, drives up operating costs, inhibits innovation, and reduces negotiating leverage. Suboptimal long-term contracts may lead to escalated costs and	2	3	<b>6</b>	<b>Predictive Analysis:</b> Using frameworks like Cloud Vendor Lock-In Prediction (CVL) for cost exposure, dependency, risk factors across providers (Alhosban et al., 2024)	Project Manager

		this dependency by undermining portability and interoperability (Opera-Martins et al., 2016)	challenges that require strategic approaches.				<b>Diversify Providers:</b> Ensure multi-cloud and hybrid models, and negotiating flexible contract terms to preserve leverage (Forbes, 2025)  <b>Contingency plan:</b> Allocating \$2,000 to kickstart Annual Cost Benchmarking reports, to ensure provider pricing trends are compared consistently (BrandoutAdv 2025).	
R05	5	<b>Low-User Adoption to Post-Launch.</b> User adoption of new systems or features often falters when user needs, environmental factors, or organizational contexts are insufficiently addressed, hence, initial user acquisition may fall short of expectations. Theories such as Innovation Diffusion Theory (IDT), the Technology–Organization–Environment (TOE) framework, and UTAUT describe how adoption is influenced by individual perceptions, task-technology fit, and social factors (Taherdoost 2018; Taherdoost et al. 2024; Granic 2023). Secondly, users may find that the launched version less	Poor adoption means reduced system usage, diminished return on investment, and failure to realise strategic value. Users may abandon new tools if usability, benefit, or support are lacking—jeopardizing project success and stakeholder engagement.	2	2	<b>4</b>	<b>Adoption Strategy Design:</b> Leverage adoption models (UTAUT and TOE) to identify influencing factors—e.g., perceived ease of use, social influence, and support structures—and embed them into onboarding and design (Granic, 2023)  <b>Iterative Improvement:</b> After launch, monitor adoption metrics and user sentiment to drive continuous enhancements.  <b>Contingency plan:</b> Allocation \$1,000 towards	Business Analyst

		engaging as anticipated due to limited “celebrity-voices” options. Budget limitations have reduced versatility in this rolled out function.					Design-Thinking training for marketing employees.	
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## 4. Reflection

### 4.1 Group Reflection

Our team worked together to finish the project plan for LoopyAssistant. At the start we created a working agreement or team charter that set clear our objectives, communications and code of conduct. This agreement became the foundation for how we managed our collaboration throughout assignment. As now, our team can see that we followed expectations really closely, but there is still room for improvement.

Leadership in our team was shared depending on the task we were assigned too, which showed our commitment to fair workloads and ownership. Naomi often took the lead in planning discussions and ensuring deadlines were met on time. Angus and Chloe concentrated on technical parts of the project such as Gantt chart and WBS. Ananda focused on the cost model and secured data deliverables. This worked out well because it shared responsibilities among our team members, allowing everyone to contribute their strengths, and it also stopped someone taking all responsibility alone. This approach improved the quality of our outputs, as each deliverable was handled by the person suited to it.

Support was another strength of our collaboration. Our team charter highlighted values of cooperation and reliability, and we tried to follow it precisely. For example, when the cost model was too difficult to complete for Ananda, other team members stepped in to help and adjust everything, so it will be correct. Similarly everyone helped with WBS because it is a huge part of a project and it will be really hard just for two members to finish. These moments showed that the team was committed to help each other and to be successful in overall assignment, not just finishing their own parts. Because of this, difficult tasks such as the cost model and WBS ended up being more accurate and complete than they would have been otherwise.

Communication mostly followed our team charter expectations. We used Instagram chat for day-to-day updates, Google Drive for sharing, and weekly online calls via Instagram or Google Meet to check progress. Everyone usually responds within a day, the moment they have the opportunity to do so or on time we agreed. This helped us to stay on track of assignments and what parts are completed so far. However, one area where we struggled a bit was with the 48-hour buffer for tasks. Some sections ended up being finished closer to the deadline than planned, which added stress and limited the time for feedback. This is something we would like to improve in future projects.

Feedback sharing was done in a respectful way. Team members felt comfortable sharing their opinion on how certain things could be improved, and the person responsible accepted the suggestions without conflict. For example, cost estimation has been revised by other group members, but this improved quality overall. The team's willingness to listen and adapt showed that we were open to learn from each other.

Conflict resolution went perfectly. There were no disputes whatsoever between group members. Everyone managed things calmly, either by redistributing the workload or offering extra help. The team fully matched the conflict management approach.

## 4.2 Individual Reflection

### Chun Lau (33906092):

Throughout the assignment, me and my team have collaborated well to develop and manage a smart daily routine organizer step by step. I mainly took part in creating the project scope statement, gantt chart and the cost baseline, defining the overall purpose, the flow and the expense of the project.

At the very start, I was kind of confident on the project as most of the knowledge was the same in FIT2001 which I took last semester. But as the progress goes on, I realized that there is more detailed and in depth knowledge required in order to complete every part of the project.

I feel frustrated working on the gantt chart as it is confusing to work on project libre, me and my teammates struggling to make the gantt chart as the software keeps making the work harder with confusing automation.

However, besides the struggle on the gantt chart, we put extra effort on collaborating with each other and completed the project, especially the cost model and baseline, we keep doing meetings throughout the project, and brainstorming on how to develop a well-developed AI assistant within a 300K limit.

I would rate myself a B, as I think I have contributed enough for the project, involving most of the meetings and have done all the work assigned by my teammates, to make sure to keep our work running smoothly.

In the future, I hope to improve on the efficiency of working on those frameworks with the experience of this project, it improves my technical knowledge of creating scopes, strengthening my teamwork, and communication with my team.

**Chloe Wang (35407492):**

During this assignment, our team collaborated on developing the project plan for Loopy Assistant, a smart daily management application designed to improve productivity and coordination. My main contributions included participating in project discussions, assisting with parts of the Work Breakdown Structure (WBS) and gantt chart sections.

At first, I felt slightly overwhelmed by the amount of project management concepts, especially since I was unfamiliar with frameworks like WBS and Gantt charts. However, working closely with my teammates helped me learn faster than just reading lecture slides. I found group discussions particularly useful for connecting theories to practical examples.

Overall, I believe I performed well and contributed consistently in the team, actively participated in meetings, completed my assigned tasks, and supported teammates when needed. Based on my performance, I would rate myself B+.

Regarding the team's performance, most members collaborated effectively and showed strong commitment to meeting deadlines. However, we faced challenges when one task was delayed and required additional revisions. While this caused some stress, the team managed it well by redistributing responsibilities and offering support. I would give the team an overall rating of B+.

This project highlighted the importance of clear communication, time management, and shared accountability. I realised how essential it is to confirm task progress early to avoid last-minute corrections.

For future projects, I aim to strengthen my understanding of project management tools and proactively check progress during early stages to ensure smoother teamwork and fewer last-minute changes.

**Yan Min Naomi Lim (32971850):**

This project required consistency, initiation, and steadfastness. There was little room for our group to push back deadlines or to slack off at doing our individual parts given the tedious work required. My contributions were the Cost Model, Cost Estimation Methodology, and Risk Register.

It was enjoyable working with my team, as the majority of the group members took initiative consistently, offered extra help to ensure project deliverables were executed accurately and met standards, and put in additional effort to ensure Unit content was well understood to execute tasks well.

Working timelines and job scopes were continually being refined due to overlaps, and there were setbacks due to working timelines not being defined properly which resulted in delays of critical tasks that affected others. I offered to swap with a team member and take on the Cost Model due to the other team member not understanding Unit content adequately. However, I believe a better approach would have been to establish a better planned timeline that would allow for mutual support, rather than swapping roles which intensified workloads at the last minute.

I would rate myself a B+ with the initiation and additional responsibilities I took on when problems arose, and similarly with my group, who I would give an A for the hardwork and teamplayer mentality that the majority of them put forth clearly, who offered to doublecheck each others' work to ensure consistency.

For future projects, I would ensure that a clear working timeline and work distribution was decided from the very beginning, and encourage the whole team to be well-verses with the project requirements and unit content prior to the execution of tasks.

### Ananda Tsynguev (33749493):

In this assignment me and my group created a project plan for LoopyAssistant. It's a smart daily routine organiser. This assignment I mainly contributed by defining secured data features, milestones, project charter and overall helping with any other task I've been assigned to. However I tried to do a cost model and cost estimation methodology and justification, but I did not fully correct, because it was not easy for me to get everything balanced within the budget and I missed some parts of our WBS in cost model, so my team decided to help me out with it. Although I did not complete the cost model correctly on my own, working through feedback and team discussions helped me to understand where I went wrong and what to improve. At first I felt really frustrated because project cost modelling seemed confusing and I wasn't sure how to apply PMBOK concepts properly. However, through the time I got experience and learned how important it is to use realistic assumptions and document them clearly. I highly appreciated how supportive my team members were. Instead of letting it be like it is, they gave input and helped me with the cost model and justification. Collecting everything together, I believe I contributed fairly in terms of my abilities by engaging with difficult tasks, even if I struggled at first. I rate my own performance at B or B-, because I took ownership of my role but still need to improve accuracy and time management. For the team, I would give them a solid A, as everyone not only did their part of the project, but also helped me as well. All of them communicated well and always were ready to help each other when it was needed.

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I acknowledge the use of ChatGPT (<https://chat.openai.com/>) to generate materials that were included in the final submission. I entered the following prompts:

- “Help me correct my language”
- “Check my english grammar and highlight the errors”
- “Help me arrange my references in alphabetical order and remove repeats”