User Interface And User Experience (UI/UX)

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UI/UX Design Final Report
"Case Study - Sports Training"

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Executive Summary

This case study presents the user-centered design of a sports training application for Paul, a busy young father preparing for his first triathlon while managing work, family constraints, and fear of re-injury. The project follows the full design process from the course: **Step 1** (problem analysis, user goals and tasks, and existing applications), **Step 2** (paper and Balsamiq prototyping), **Step 3** (task-centered walkthrough, usability testing with SUS, and heuristic evaluation), and **Step 4** (redesign based on findings). Results show that the prototype supports Paul's core tasks and achieves a **System Usability Scale (SUS) score of 76.25**, indicating good to excellent usability, but also reveal critical gaps in training-load messaging, rescheduling discoverability, and confirmation feedback, which are addressed in the redesign.

Step 1 – Problem Analysis, User Goals & Tasks, Existing Applications

1.0 Project Context

Many amateur endurance athletes like Paul must integrate structured training into already full lives that include demanding jobs, children, and ongoing health concerns. Existing training tools focus on logging and performance metrics, but rarely support planning around family schedules or provide injury-prevention guidance in a way that is immediately actionable for time-poor users. This project explores how to design a mobile interface that makes triathlon training compatible with family life and helps a user with a previous leg injury train safely and confidently.

1.1 Problem Analysis – Who is Paul?

Paul is a young dad who wants to train for his first triathlon. He has limited time each day because of work and kids. He broke his leg last year and worries about training too much and getting injured again. He needs to balance swimming, cycling, and running, but does not have much free time.

The Problem

- Not enough time to train (work + family).
- It's hard to plan to swim, bike, and run in the same week.
- Schedule changes every day (kids wake up sick, partner's plans change).
- Scared of overtraining and hurting his leg again.
- Does not know if he is pushing too hard.

What Paul Needs

A simple app that:

- Helps him plan training around his family schedule.
- Tells him which sport to do and for how long.
- Warns him if he is training too much.
- Let him change plans quickly if needed.
- Shows him the progress he is making.

1.2 Paul's Goals and Tasks

Goal 1: Plan My Training Week Around Family Time

- **Tasks:**
  - View the week ahead.
  - Locate free time slots (30 min – 1 hour).
  - Accept or modify the suggested workout (e.g., Monday 6:30 AM swim).
  - Receive a workout reminder 1 hour prior to the session.

Goal 2: Monitor My Training Load and Stay Safe

- **Tasks:**
  - Complete a workout (swim, bike, or run).
  - Monitor workout metrics (duration, intensity, and heart rate).
  - Check weekly training total calculation.
  - Receive a warning regarding high training load or rest recommendations.

Goal 3: Change My Plans When Life Gets Busy

- **Tasks:**
  - Assess daily availability (e.g., fatigue or family illness).
  - Review today's planned workout.
  - Modify the daily plan (skip workout, shorten duration, or switch sport).

Goal 4: See That I Am Getting Better

- **Tasks:**
  - View personal best records (e.g., 5K run time).
  - Check the countdown to race day.
  - Review monthly training summary (distances for swim, bike, and run).

1.3 Existing Apps Analysis

Current Solutions and Their Gaps

- **TrainingPeaks** – Professional triathlon platform. Very good at tracking training load and performance, but too complex for casual users, does not know anything about the family schedule, and requires a paid subscription.
- **Strava** – Social fitness app. Easy to use and good for motivation, but mainly acts as a diary; it does not truly support structured planning around constraints.
- **Garmin Connect** – Companion app for Garmin watches. Excellent automatic tracking and some adaptive training, but requires expensive hardware and ignores family schedule and injury context.
- **Apple Health / MyFitnessPal** – General fitness apps. Simple but not triathlon-specific, focused on logging and health metrics rather than training planning or injury prevention.
- **Calendar Apps** – Organize schedules but have no sports-training intelligence (no load, progress, or sport suggestions).

What Is Missing

No app combines all of the following:

- Triathlon-specific planning (swim + bike + run).
- Awareness of family/work schedule.
- Injury-prevention warnings related to training load.
- A fast plan changes when life happens.
- Simple interaction suitable for busy parents.

Paul needs an app that is smart about family life, safe for his injured leg, and easy to use on the phone.

Step 2 – UI Prototyping

2.1 Paper Prototypes

All eight main screens of the system were first sketched as paper prototypes: **Home**, **My week**, **Today's workout**, **Change today**, **Training load**, **Progress**, **Plan my week**, and **Suggested session**. Quick paper sketches allowed the group to explore different layouts for the weekly view, the "Change today" options, and the training-load panel before committing to a digital design. The paper prototype was briefly tested with classmates to check whether

Paul's main tasks (planning the week, adapting today, checking load and progress) were understandable and whether the navigation between screens was intuitive.

**Figure 1 – Paper prototype overview (Home, My week, Today, Change today).**
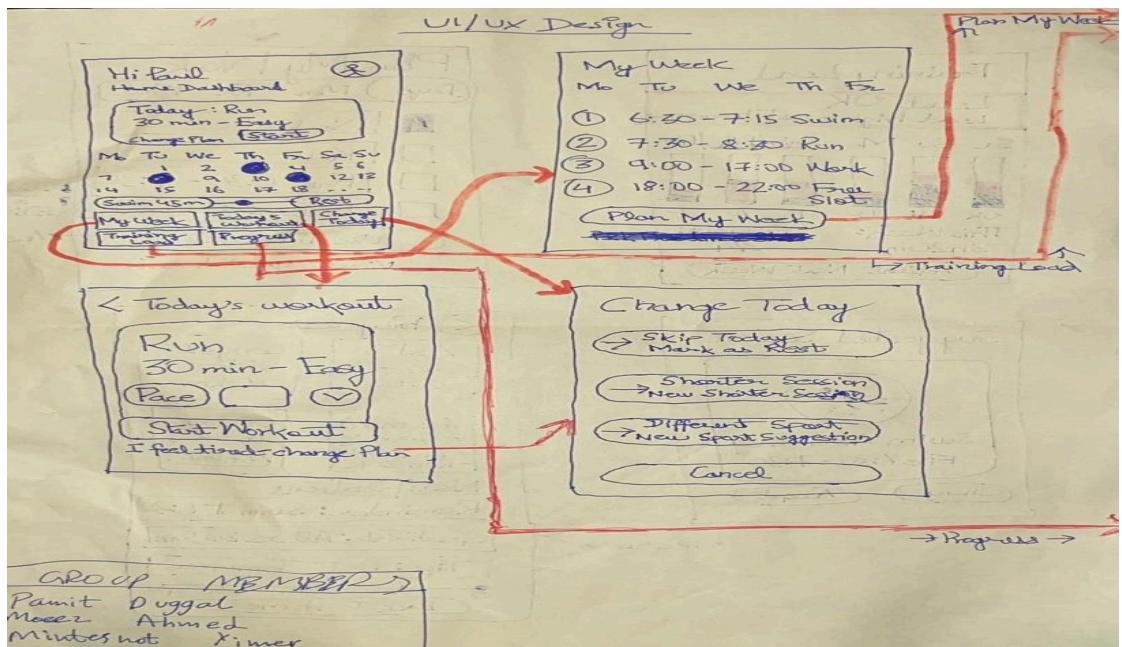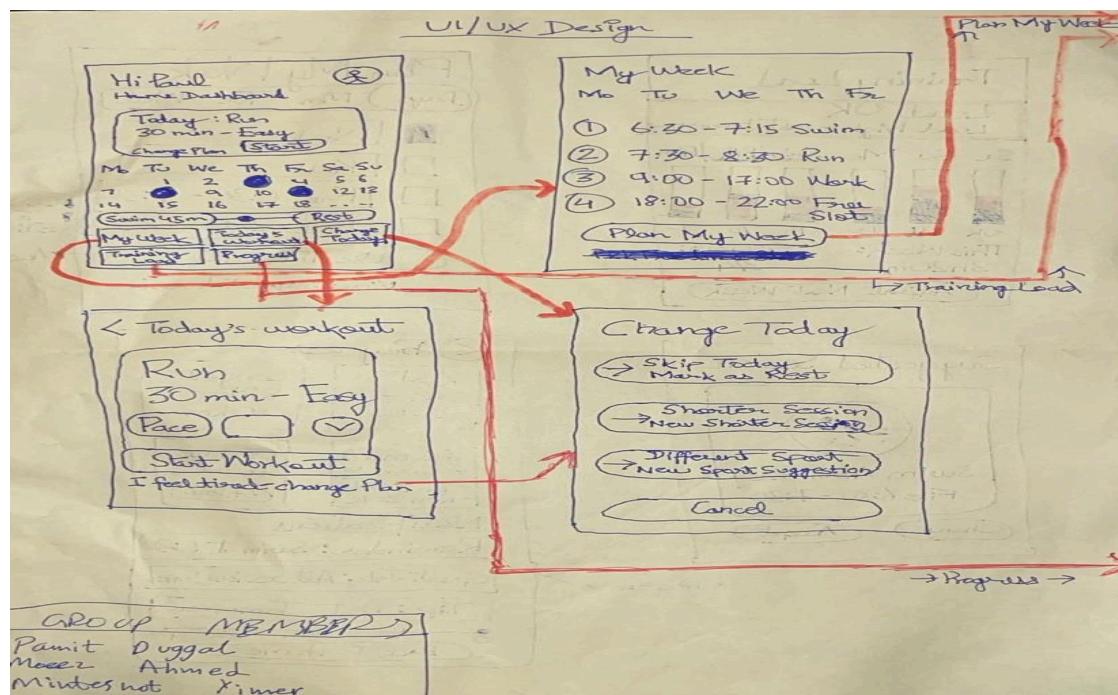
Figure 2 – Paper prototype cluster (Training load, Plan my week, Suggested session, Progress).

2.2 Medium-Fidelity Balsamiq Prototype

The final prototype was then recreated in Balsamiq as a medium-fidelity wireframe with ten interactive screens (eight functional screens plus login and registration). The visual style is simple and consistent (cards, clear headings, primary buttons), keeping the focus on task flows rather than on visual branding. All screens are clickable to simulate the main user journeys of planning training around family constraints, adapting sessions when life changes, monitoring training load, and viewing progress, as well as logging in and registering a new account.
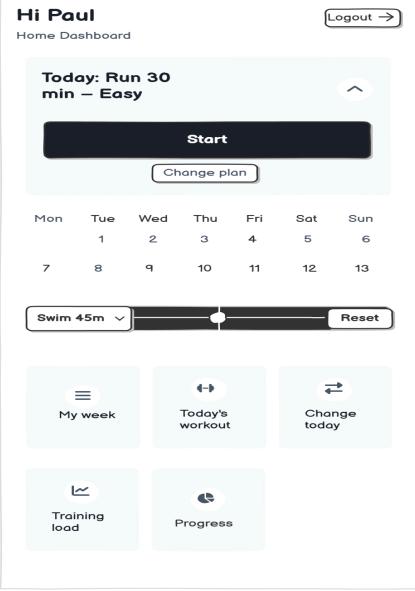
Interactive Links Between Screens

- When the app is opened, the Login screen is shown. "Log in" leads to the Home dashboard; "Create account" opens the Registration screen.
- On the Registration screen, "Sign up" creates the account and shows a short success toast ("Sign-up successful – please log in"), then returns to the Login screen.
- The Home / Dashboard screen contains shortcuts that link to: My week, Today's workout, Change today, Training load, and Progress.
- The My week screen has a "Plan my week" button that opens the Plan my week screen.
- The Today's workout screen has an "I feel tired – change plan" button that opens the Change today screen.
- The Change today screen includes a "Confirm" button that both returns to Today's workout and triggers a toast message confirming that the week was updated.
- The Training load screen has a "Plan next week based on load" button that opens Plan my week.
- The Plan my week screen has a "Use this slot" action that opens the Suggested session screen for the selected free time.
- The Suggested session screen has an "Accept" button that confirms the new session with a toast and then returns to Home.
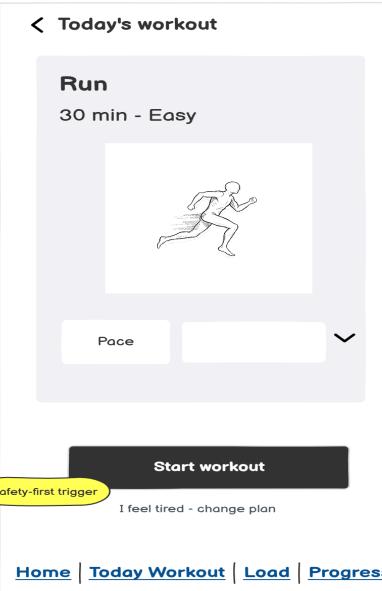
Each of the eight wireframes is annotated in Balsamiq with a short note explaining how the design supports Paul's goals (for example, quick access to key actions on the Home screen, clear options for adapting today's session, or explicit feedback about high training load).

For some key actions, alternate mockups illustrate toast notifications that confirm changes, such as "Week updated – new schedule saved" after using Change today, or "New session added to your week" after accepting a suggested session. These extra states are used only to demonstrate feedback, not as independent navigation targets.

Figure 3 – Overview of some of the main Balsamiq wireframes (Home, Today's workout Plan my week, Suggested session).

Hi Paul
Home Dashboard

Logout →

Today: Run 30 min — Easy

Start

Change plan

Mon	Tue	Wed	Thu	Fri	Sat	Sun
	1	2	3	4	5	6
7	8	9	10	11	12	13

Swim 45m ∨   Reset

My week | Today's workout | Change today

Training load | Progress
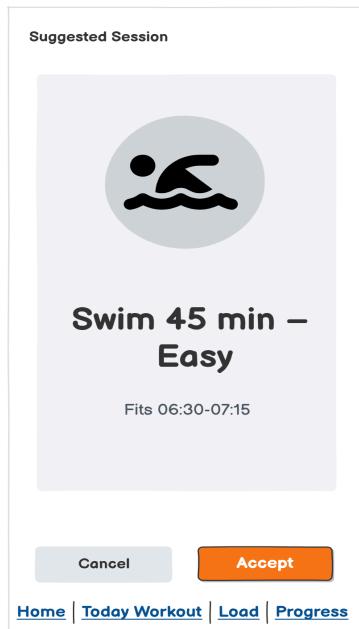
This screen gives Paul a quick overview of today's workout and shortcuts to Change today, Training load, and Progress so he can manage his training in a few taps around his busy schedule.

< **Today's workout**

Run
30 min - Easy

Pace ▢   ∨

Start workout

I feel tired - change plan

Safety-first trigger

Home | Today Workout | Load | Progress

This screen focuses on one simple session with an easy 'Start workout' button and a fatigue-sensitive link, helping Paul listen to his body and adapt his plan without complexity.

Plan My Week

Day	Mon	Tue	Wed

☐ Work

☐ Kids

☐ Swim

☑ Free 05:30—06:00

☐ Free 06:00—07:00

☐ Free 07:00—08:15

☐ Free 20:30—21:00

Use this slot

Home | Today Workout | Load | Progress

This view combines Paul's constraints (Work/Kids) with free slots so he can select realistic windows for training sessions that fit his specific family responsibilities.

Generates new session

Suggested Session

Swim 45 min — Easy

Fits 06:30-07:15

Cancel   **Accept**

Home | Today Workout | Load | Progress

The Suggested session screen proposes a concrete workout that fits a chosen free slot, reducing Paul's planning effort while allowing him to accept the change in a single tap.

Confirms and updates Session

Step 3 – Prototype Usability Testing

3.1 Task-Centered Walkthrough

3.1.1 Scenarios

The walkthrough focuses on Paul, a young dad preparing for his first triathlon who must balance family, work, and training while avoiding a new injury. Scenarios are built directly from his main goals and from the screens of the prototype (**Home**, **Today**, **My week**, **Plan my week**, **Change today**, **Training load**, **Progress**) Login and registration are modelled in the prototype but were not part of the main task flows for this evaluation.

Scenario A – Plan my training week around family time

"On Sunday evening, Paul wants to plan his training sessions for the coming week so that they fit around his work and kids' activities."

- **Tasks:**
    1. Open the app and go to "My week".
    2. Tap "Plan my week" and see the weekly calendar with work, kids, and free slots.
    3. Check "Work" or "Kids" to block times when Paul is not available.
    4. Identify a remaining "Free" window such as "Free 05:30–06:00".
    5. Tap "Use this slot" to generate a suggested session for that window and then accept or modify it.
    6. Review the suggested session (e.g., "Swim 45 min – Easy") and either "Accept" or "Change".
    7. Verify that "My week" now shows the updated sessions.

Scenario B – Monitor training load and stay safe

"After completing today's run, Paul wants to be sure he is not overtraining and that his injured leg is safe."

- **Tasks:**
    1. From the Home dashboard, see "Today – Run 30 min Easy – Start".
    2. Start/finish the workout (simulated) and go to the "Training load" section.
    3. Read the weekly load status ("Load OK" or "Load high – rest tomorrow").
    4. Review per-sport volume for the week (Swim, Bike, Run) and adjust next week if needed via "Adjust next week".

Scenario C – Change my plan when life gets busy

"On Wednesday morning, Paul's child is sick, so he cannot do the planned run and needs to adapt today and the rest of the week."

- **Tasks:**
    1. On Home, look at "Today's workout – Run 30 min – Easy pace".
    2. Tap "Change today" to open the "Change today" options.
    3. Choose one option (e.g., "Skip today – Mark as rest", "Shorter session – New shorter suggestion", or "Different sport – New sport suggestion").
    4. Confirm the change and verify that "My week" and "Training load" reflect the update.

Scenario D – See that I am getting better

"Paul wants to quickly see whether he is progressing and how far he is from race day."

- **Tasks:**
    1. Open "Progress" from the Home dashboard.
    2. Check "Best 5K 28:00", "Longest ride 60 km", and this month's totals per sport.
    3. Check the countdown ("67 days to race").

3.1.2 Walkthrough Method and Main Findings

For each scenario, the evaluators went through the steps using the prototype screens and answered three questions at each step:

1. Is Paul motivated to perform this action now?
2. Does he have the knowledge to do it?
3. Is the action visible and possible in the UI?

Issues were logged with comments and proposed fixes.

Table 1 – Example excerpt – Scenario C ("Change today")

User step	Motivated?	Knowledge?	Possible/visible?	Comment / problem	Proposed solution
Tap "Change today" on Today screen	Yes	Yes	Yes	Clear and well-placed button.	–
Choose "Shorter session"	Yes	Yes	Yes	Options are clear but all look similar in layout.	Add brief explanation text under each option.
Understand new shorter suggestion details	Yes	Maybe	Partly	Duration/intensity not visually contrasted enough.	Highlight new duration and pace; add "–15 min vs original".
Check that week and training load updated	Yes	Maybe	Partly	No explicit confirmation that the week has changed.	Show a short confirmation and highlight updated sessions.

Main Predicted Issues (Examples Tied to Paul's Goals)

- **Planning around family time:** While "Plan my week" and "Use this slot" are clear, it is not obvious that sessions can be moved later if life changes after planning.
- **Training safety:** The "Load OK / Load high – rest tomorrow" message is visible, but the link between colors, numbers, and injury risk is not explicit enough for someone worried about a previous leg fracture.
- **Progress:** The "Progress" screen shows many numbers (PB, longest ride, monthly totals, race countdown), which may be dense for a busy parent checking quickly.

These problems guide redesign and are later checked in usability tests with real users.

3.2 Usability Test and SUS

3.2.1 Objectives and Participants

The usability test empirically evaluates whether users similar to Paul can efficiently achieve the main goals using the prototype and how usable they perceive it, measured by the **System Usability Scale (SUS)**. The main assumptions are:

- **A1:** Users can plan a full training week around constraints in under 5 minutes without critical errors.
- **A2:** Users understand training-load warnings and can adapt their plan accordingly.
- **A3:** The prototype's SUS score is at least 68, indicating acceptable usability.

Target participants are adults with work and personal constraints who train for or are interested in endurance sports and use a smartphone regularly. Two participants matching this profile were recruited for a formative evaluation.

3.2.2 Tasks and Protocol

Each session follows a simplified usability-test process. After a short introduction and consent, participants perform four tasks built from the scenarios:

- **T1 – Weekly planning:** Using "My week" and "Plan my week", create a training plan for next week that fits around three given work/family events, accepting or modifying suggested sessions.
- **T2 – Training-load check:** After a simulated run, open "Training load" and decide whether you should rest or train tomorrow, using the load status and per-sport totals.
- **T3 – Changing today:** From "Today", use "Change today" to adapt the session (choose between "Skip", "Shorter session", or "Different sport") and then verify the updated training week.
- **T4 – Progress overview:** From "Progress", check your best 5K time, longest ride, monthly volume, and the number of days to race.

During tasks, participants think aloud, while observers record completion (success/partial/failure), errors, help requests, and approximate time on task. At the end, each participant completes the standard 10-item SUS questionnaire without any change to the wording.

3.2.3 Data and Analysis of Results

The usability test was conducted with 2 participants recruited to match the persona profile: busy working adults with limited free time, interest in endurance sports, and regular smartphone use. While a formative sample of 2 users is smaller than the recommended 5, it provided valuable insights into the usability of key tasks and revealed areas for refinement.

Effectiveness and Efficiency

- **Task T1 – Weekly Planning:** Both participants (100%) successfully created a training plan for the following week by navigating to "My week", selecting "Plan my week", and accepting or modifying suggested sessions. Average time on task was **2 minutes 15 seconds**, comfortably within the target of under 5 minutes (**Assumption A1 validated**). Both participants noted that the "Suggest Session" feature was helpful in speeding up the planning process, though neither participant spontaneously discovered how to move or reschedule sessions after initial planning—an observation that informed the proposed improvements.

- **Task T2 – Training Load Check:** Participant 1 immediately understood the "Load OK / Load high – rest tomorrow" message and correctly decided to rest the next day based on the weekly training totals. Participant 2 hesitated when reading the message, asking whether it meant skipping all sports or just the high-impact ones like running. This confusion shows a gap in clarity regarding **Assumption A2**: users understand training-load warnings and can adapt their plan accordingly. The participant understood the concept but needed clearer guidance on which sport to avoid, which aligns with Paul's fear of re-injuring his leg.

- **Task T3 – Changing Today:** Both participants successfully opened "Change today" and selected an adaptation option ("Skip today", "Shorter session", or "Different sport") in under 5 seconds. They confirmed that the options were clear and easy to identify. However, neither participant received an explicit confirmation that the weekly schedule and training load had updated after their change, motivating the improvement proposal for confirmation feedback.

- **Task T4 – Progress Overview:** Both participants opened "Progress" and quickly found their best 5K time, longest ride, monthly totals, and race countdown. One participant remarked that the layout was information-dense but acceptable for quick checks; the other had no comment, suggesting the minimalist design met the needs of busy parents.

System Usability Scale (SUS) Analysis

The System Usability Scale questionnaire was administered immediately after the tasks. The mean SUS score was **76.25**, calculated from the two participants' responses using the standard SUS algorithm (for each odd item, score = rating − 1; for each even item, score = 5 − rating; sum all scores and multiply by 2.5). According to standard SUS benchmarks, a mean score of 76.25 places the prototype between "good" and "excellent" usability. This supports **Assumption A3** (SUS score at least 68) and suggests that the overall design resonates with the target user profile.

Key Findings

Strengths

- Both participants scored Item 3 ("I thought the system was easy to use") as 5/5, confirming that the minimalist design and clear visual hierarchy suit busy parents who need quick interactions.
- Both participants scored Item 5 ("I found the various functions in this system were well integrated") as 4/5, suggesting that the structure of **Home → Today → My week → Training load → Progress** flows intuitively.

Weaknesses

- Item 2 ("I found the system unnecessarily complex") had mixed responses: Participant 1 rated 2 (disagree), but Participant 2 rated 3 (neutral). When asked for clarification, Participant 2 explained that the "Load high – rest tomorrow" message felt vague, making the system seem slightly more complex than it should be for its target audience.
- Item 10 ("I needed to learn a lot of things before I could get going with this system") was rated 2 by Participant 1 but 4 by Participant 2, indicating that one participant felt some learning curve was needed. Follow-up remarks revealed this was due to unfamiliarity with the app's terminology (for example, what "Load high" means in the context of training safety).

Validation of Assumptions

- **Assumption A1** (under 5 minutes, no critical errors): **Confirmed**.
- **Assumption A2** (users understand training-load warnings): **Partially confirmed**.
- **Assumption A3** (SUS score ≥ 68): **Confirmed**.

Summary of Findings

The test confirms that the prototype's core interaction flows are sound and the overall usability is good. However, confusion around training-load messaging represents a critical gap for Paul's primary use case (staying safe from re-injury).

The lack of explicit confirmation feedback when modifying schedules is also a usability gap that should be addressed in the next iteration to strengthen user confidence in the system's responsiveness.

3.3 Heuristic Evaluation

3.3.1 Method

A heuristic evaluation was conducted by two evaluators using **Nielsen's 10 usability heuristics**. Each evaluator independently reviewed the main flows (**Home**, **Today**, **My week**, **Plan my week**, **Change today**, **Training load**, **Progress**) by inspecting each screen against the heuristics and logging issues with severity ratings (0 = cosmetic, 1 = minor, 2 = major, 3 = catastrophe). The heuristics used were:

1. Visibility of system status
2. Match between system and the real world
3. User control and freedom
4. Consistency and standards
5. Error prevention
6. Recognition rather than recall
7. Flexibility and efficiency of use
8. Aesthetic and minimalist design
9. Recognize, diagnose, and recover from errors
10. Help and documentation

3.3.2 Example Issues and Severities

Table 2 – Selected Heuristic Evaluation Issues

Screen / Element	Problem Description	Violated Heuristic(s)	Severity
Training load – "Load OK / Load high – rest tomorrow"	Feedback text is short and color-based; the link between high load and injury risk (Paul's core concern) is not explicit. "Rest tomorrow" is ambiguous about which sport.	Visibility of system status; Match with real world	2
Plan my week – free slots and suggested session	"Use this slot" and "Suggested session" are clear, but how to reschedule a session already in the plan is not obvious. Rescheduling feels like a hidden feature.	User control and freedom; Flexibility and efficiency of use	2
Change today – options list	Options ("Skip today", "Shorter session", "Different sport") are presented in a similar visual style; no visual distinction makes quick scanning harder.	Recognition rather than recall; Aesthetic and minimalist design	1
Progress – dense metrics	Many metrics (Best 5K, Longest ride, Monthly totals per sport, Race countdown) are shown on one screen and may overwhelm a busy parent doing a quick check.	Aesthetic and minimalist design	1
Navigation – no confirmation on schedule change	After modifying a session in "Change today", there is no explicit confirmation message showing the week has been updated; users must go back to "My week" to verify.	Visibility of system status; User control and freedom	1–2
Help and documentation	There is no in-app help, tooltips, or explanations for key terms (for example, "Load high", "intensity"), which may confuse users unfamiliar with triathlon apps.	Help and documentation	1

3.3.3 Prioritized Improvements from Heuristic Evaluation

High‑priority issues (severity 2) directly linked to Paul's use cases

- **Clarify training‑load messaging** – Change "Load high – rest tomorrow" to more specific and actionable text that addresses injury concerns, such as "High leg impact – swap Run for Swim today, or Rest to recover safely."
- **Make rescheduling obvious** – Add an explicit "Move" or "Reschedule" button or gesture on planned sessions in "My week" to help users flexibly adapt their plan without having to discover the feature by trial and error.
- **Add confirmation feedback** – Show a brief, clear notification (for example, "Week updated – new schedule saved") when a user modifies or confirms a schedule change.

Medium‑priority issues (severity 1)

- **Increase visual distinction in "Change today" options** – Add icons, different button colors, or separators between "Skip today", "Shorter session", and "Different sport" to improve scanability and reduce accidental selection.
- **Simplify the "Progress" screen** – Consider a tab or expandable section to show metrics progressively (for example, show "Race countdown" and "This month totals" by default, with "Best records" available on tap) to reduce cognitive load.
- **Add contextual help** – Include brief tooltips or a "?" icon explaining key terms like "Training load" and "Intensity" to onboard new users faster.

3.4 Prototype Improvements

Based on the issues identified in the task‑centered walkthrough, the usability test with two users, and the heuristic evaluation, several focused improvements were defined for the next iteration of the prototype.

- **Clarify training‑load messaging:** The message "Load OK / Load high – rest tomorrow" was found to be ambiguous, especially for Paul who fears re‑injuring his leg. The improvement is to use context‑specific messages that clearly indicate what to change (for example, swapping a run for a swim or taking a full rest day).
- **Add confirmation feedback on schedule changes:** After using "Change today", users were not sure whether their modifications had been applied. A short confirmation message (such as "Week updated – new schedule saved") is added to increase confidence and visibility of system status.
- **Make rescheduling in "My week" explicit:** Users did not spontaneously discover that planned sessions could be moved. Explicit "Move" or "Reschedule" affordances are introduced on session cards to support flexible planning when life changes.
- **Increase visual distinction in "Change today" options:** The three options ("Skip today", "Shorter session", "Different sport") originally looked very similar. Icons and

visual differentiation are added so that busy users can quickly scan and select the right option.

- **Streamline the "Progress" screen:** The Progress view displayed many metrics at once and felt dense. The information is reorganized so that race countdown and monthly totals are highlighted first, with best records presented in a secondary area.

These improvements guide the redesign described in Step 4 and aim to better support Paul's goals: planning around family constraints, staying safe from overtraining, and adapting quickly when plans change.
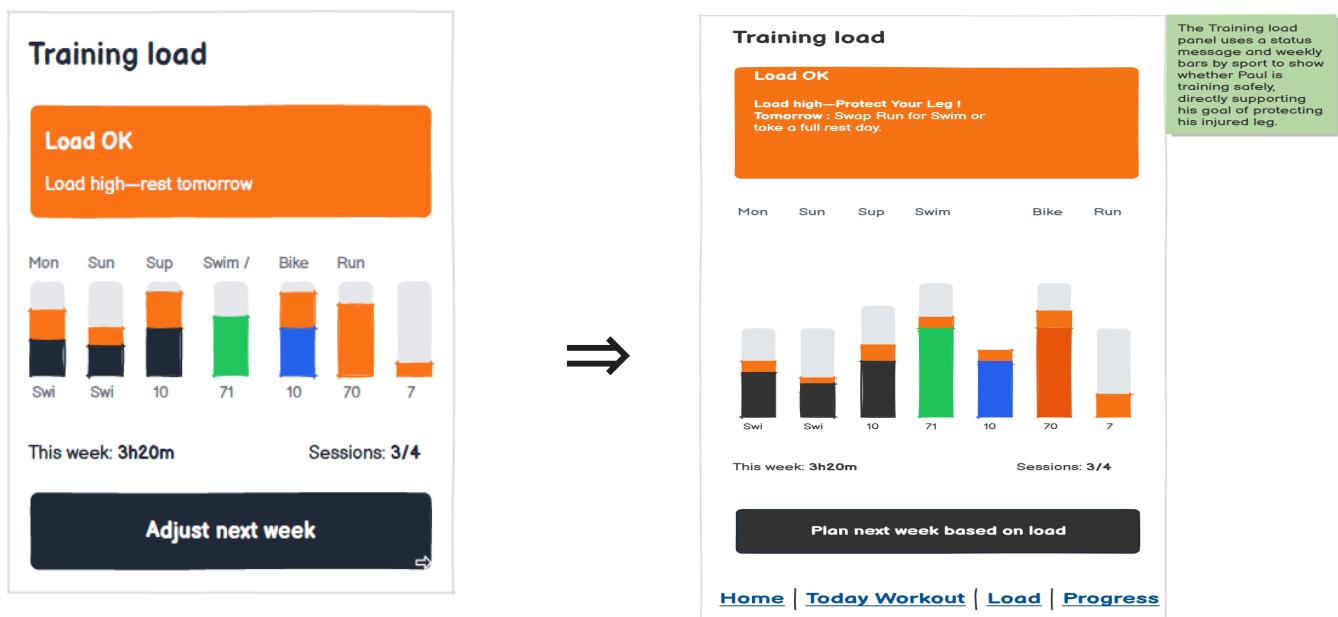
Step 4 – Redesign

After the task-centered walkthrough, usability test with two users, and heuristic evaluation, several targeted improvements were implemented in the prototype to better support Paul's goals of safe, flexible training.

4.1 Training Load Screen
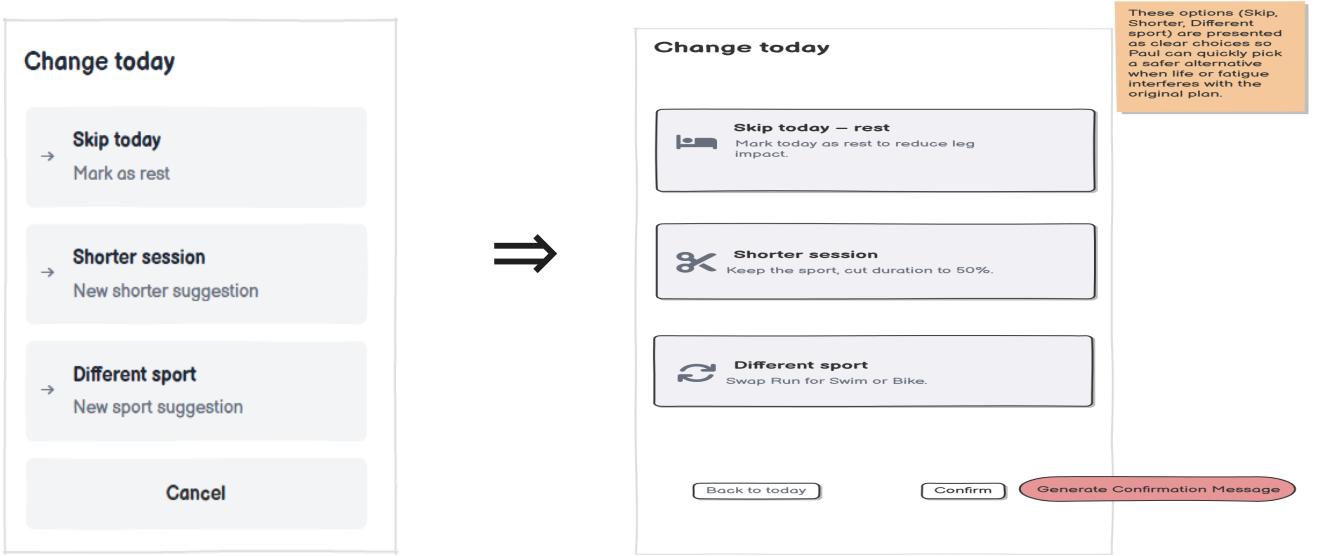
The training-load panel was redesigned to clarify messages about overtraining and injury risk. The generic text "Load high – rest tomorrow" was replaced with more actionable recommendations such as "High load – protect your leg. Tomorrow: swap Run for Swim or take a full rest day." The goal is to remove ambiguity about what Paul should actually change in his plan when load is high and to reassure him when load is OK.

Figure 4 – Redesigned Training load screen with clearer, injury-aware messaging.

The "Change today" screen was updated to make options more distinguishable and reduce selection errors. Each option ("Skip today – rest", "Shorter session", "Different sport") is now presented as a separate card with its own icon and short explanation. This improves scanability and supports quick decisions when Paul is busy or stressed.
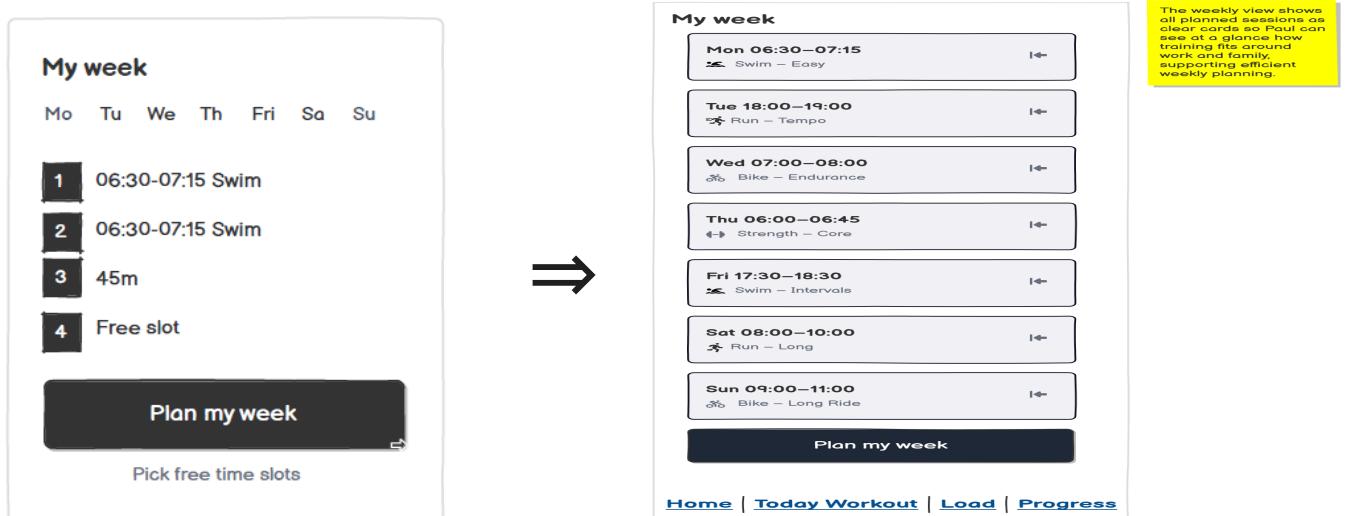
Figure 5 – Redesigned Change today screen with icons and clearer options.


4.3 My Week Screen
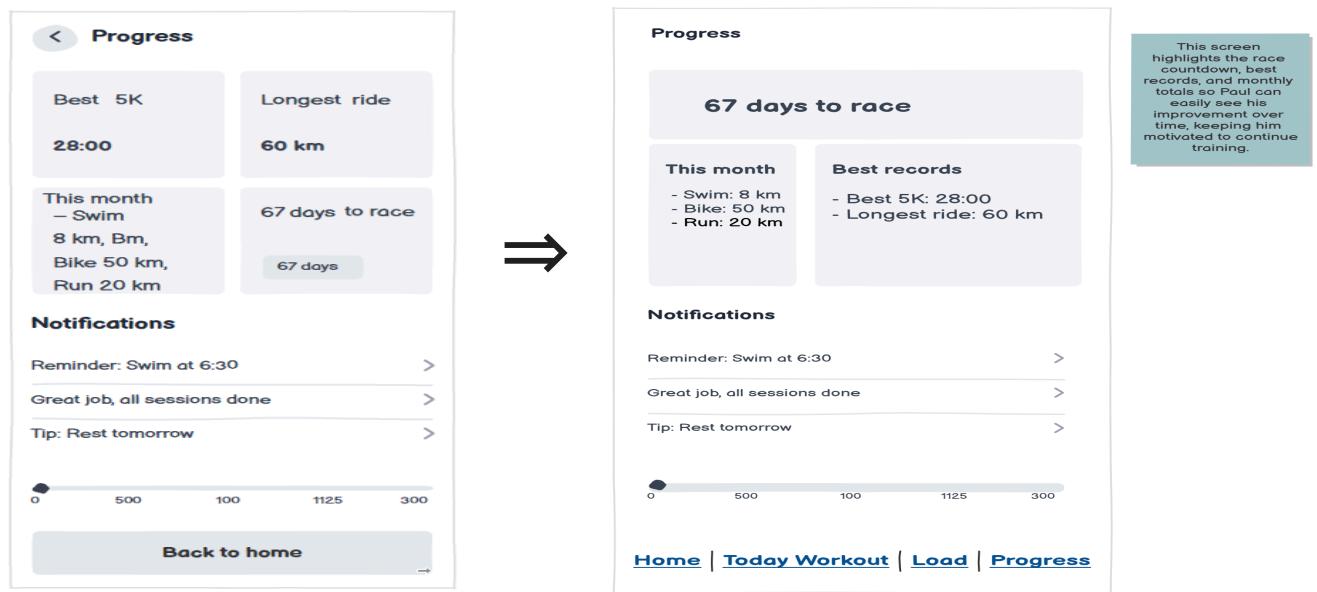
On the "My week" screen, each planned session is now displayed as a card with a small "Reschedule" affordance. This makes it explicit that sessions can be moved after initial planning, addressing the earlier issue that rescheduling was not discoverable. This change directly supports Paul's need to adapt training when his family schedule changes.

Figure 6 – Redesigned My week screen with explicit reschedule controls.

The "Progress" screen was reorganized to reduce information density and surface the most important information first. A prominent card now shows the race countdown, followed by grouped sections for "This month" totals and "Best records". This helps a busy user like Paul quickly understand how he is progressing without being overwhelmed.

Figure 7 – Redesigned Progress screen with clearer hierarchy.

4.5 Feedback and Visibility of Changes

Across these screens, small confirmation messages were added (for example, a brief "Week updated – new schedule saved" toast after modifying a plan). These confirmations increase visibility of system status and give users confidence that their actions, such as changing today's session or rescheduling a workout, have been correctly applied.

4.6 Access and Onboarding (Login & Registration)

To support realistic access and onboarding, two additional screens were added: a Login screen and a Registration screen. The login screen lets returning users enter email and password, recover a forgotten password, or navigate to account creation.

The registration screen collects name, email, and password, along with consent to the terms, and then displays a brief success toast ("Sign-up successful – please log in") before returning to the login screen. This keeps authentication simple while still aligning with Paul's context as a busy parent who needs to get into the app quickly and safely.

Step 5 – Key Findings and Discussion

The three evaluation methods used in Step 3 – task-centered walkthrough, usability test with SUS, and heuristic evaluation – converge on a consistent set of usability strengths and weaknesses. The prototype strongly supports Paul's core tasks of weekly planning, checking progress, and adapting today's workout, but leaves ambiguity around training-load safety messages and does not always make rescheduling or confirmation feedback visible enough.

First, the walkthrough and usability test confirm that the constraint-aware planning flow (**My week → Plan my week → Suggested session**) is effective and fast: both participants completed the weekly planning task well under the five-minute target. Second, both the usability test and the heuristic evaluation highlight that Paul needs injury-aware, concrete training-load messages, not just numeric bars and vague "rest tomorrow" text, to feel safe about his recovering leg. Third, evaluators and users noted that after changing today's plan there was no explicit confirmation that the week had updated, which led directly to the redesign decisions about toast messages and clearer rescheduling affordances.

The **SUS score of 76.25**, together with high ratings for "easy to use" and "functions well integrated", shows that the overall interaction design is solid for a formative prototype. However, mixed answers on items about complexity and learning effort, as well as comments about terminology like "Load high", suggest that future iterations should add lightweight onboarding or contextual help to support less experienced athletes.

Step 6 – Conclusion and Future Work

This project applied the full UI/UX design process from the course to design and evaluate a sports-training app tailored to Paul, a busy parent and first-time triathlete with a history of leg injury. Through problem analysis, structured goals and tasks, paper and Balsamiq prototyping, task-centered walkthroughs, a usability test with SUS, and a heuristic evaluation, the team produced and iteratively refined an eight-screen mobile prototype.

The evaluations show that the prototype already enables efficient weekly planning around family constraints and provides clear access to "Change today", "Training load", and "Progress" features, resulting in a **SUS score of 76.25** and generally positive qualitative feedback. At the same time, they expose critical improvement areas: training-load messages must explicitly address injury risk, rescheduling needs clearer affordances, and users require immediate confirmation when plans change. Step 4's redesign directly targets these issues with more specific load messages, improved visual distinction of options, explicit rescheduling controls, and toast notifications after changes.

Future work should focus on implementing these redesigned screens in a higher-fidelity prototype and running another usability test with a slightly larger and more diverse sample of endurance athletes. Additional studies could also explore personalisation of load messages based on medical history and integration with wearable sensors, further aligning the design with Paul's real-world constraints and concerns.

Appendix A – SUS Questionnaire and Responses

System Usability Scale Items and Scores

Item	Statement (short)	Participant 1	Participant 2
1	I think that I would like to use this system frequently.	4	3
2	I found the system unnecessarily complex.	2	3
3	I thought the system was easy to use.	5	5
4	I think that I would need the support of a technical person to use this system.	2	2
5	I found the various functions in this system were well integrated.	5	5
6	I thought there was too much inconsistency in this system.	2	2
7	I would imagine most people would learn to use this system very quickly.	5	4
8	I found the system very cumbersome to use.	2	2
9	I felt very confident using the system.	4	4
10	I needed to learn a lot of things before I could get going with this system.	2	4

Converted SUS scores:

- **Participant 1:** SUS = **82.5**
- **Participant 2:** SUS = **70**
- **Mean SUS = 76.25**

Link to Full SUS Report For User 1

- https://docs.google.com/spreadsheets/d/12doZBRBhXHEKE0xpqLwHyRm-h4KOgFTJT31tQPwm84Y/edit?usp=sharing

Link to Full SUS Report For User 2

- https://docs.google.com/spreadsheets/d/1q3fivgSBugmH5JDr4AT-w7E2mOnL0CIoEj68xrCVWCo/edit?usp=sharing