An application that automatically creates routines with workout and nutritional plans for you with basis on user biometrical and inserted data and your fitness objectives, you can share your progress and data with friends and family.

Persona Creation

David Rodriguez

Age: 28

Occupation: Software Engineer

Background: Works long hours and struggles to find time to plan workouts and meals. Wants to build muscle efficiently but lacks nutritional knowledge. Needs a data-driven solution to eliminate guesswork and optimize his limited gym time.

Chloe Williams

Age: 31

Occupation: Marketing Manager

Background: A new mother trying to regain her pre-pregnancy fitness and energy levels. Feels overwhelmed by conflicting online advice. Needs a simple, personalized plan she can follow at home and wants to share milestones with her partner for support and accountability.

Robert Jenkins

Age: 67

Occupation: Retired Bank Manager

Background: His doctor advised him to improve his cardiovascular health and manage his weight. He is motivated but apprehensive about starting a new routine safely. Values clear, age-appropriate guidance and wants his family to see his progress for peace of mind.

Sophia Miller

Age: 22

Occupation: College Athlete

Background: A competitive swimmer looking for an edge in her off-season training. Needs her nutrition to perfectly complement her intense workout schedule to improve performance metrics. Wants to easily share her data and progress with her coach and teammates.

James Wilson

Age: 45

Occupation: Sales Director

Background: Frequent travel makes consistent healthy eating and gym attendance difficult. His primary goal is sustainable weight loss and improving energy. Needs a flexible plan that adapts to his location and wants a social feed to stay motivated with friends.

💬 Discussion Output

David Miller: Okay, let's break this down. So, the core idea is an app that acts as an automated personal trainer and nutritionist. You feed it your biometrics—I'm assuming things like age, weight, height, body fat percentage, maybe even things like resting heart rate if it syncs with a wearable—and your goals. It then spits out a complete, customized plan. No more spending my Sunday nights planning meals and workouts. That's the dream. But how "automatic" is it? Does it just give me one plan and that's it, or does it adapt?

Chloe Williams: That's my question too, David. And what kind of "inserted data"? As someone who's new to this, I have no idea what my body fat percentage is. Do I need to go buy special scales? Or can I just put in my weight and a picture of what I look like? I'm overwhelmed just thinking about what I'd need to input to get a good plan. And the nutrition part... does it give me a shopping list? Recipes? Because if it just says "eat 150g of protein," I'm lost.

Marcus Johnson: Great points. I think the "inserted data" could also include your lifestyle, right? Like, David, you said you work long hours. The app should ask how many days a week you can realistically work out and for how long. For me, it should ask about my athletic history so it knows not to start me as a complete beginner. The sharing part is key for me. "Share your progress and data with friends" – does that mean like a social feed? Can I create a private group with my buddies to keep each other accountable? That would be huge for motivation.

Sarah Li: As a nurse, my immediate concern is safety and trustworthiness. "Automatic" is concerning if it's not done correctly. Who is designing these algorithms? Are they based on established medical and nutritional science? For my cholesterol, I need a plan that specifically limits saturated fats and increases soluble fiber. Will the app know that? Or will it just give me a generic "heart-healthy" plan? And my doctor needs to be able to understand what I'm doing. Is the data exportable in a way he can review?

Jake Peterson: I love this. For me, the gold is in the progress tracking and sharing. You said "share your progress and data." I need that to be incredibly visual and seamless. Can it auto-generate progress recap videos? Charts of my strength gains? One-tap sharing to Instagram Stories and TikTok? That's content gold. Also, to break a plateau, the routines need to be highly optimized and change frequently—maybe even weekly based on my performance feedback. Does it learn and adjust if I'm stalling on a lift?

David Miller: Jake, that's a good point about adaptation. So, we're all thinking it needs to be a feedback loop. I input my data, it gives me a plan, I log my workouts and meals (or maybe it syncs with my Apple Watch and MyFitnessPal?), and then it uses that new data to adjust the next week's plan automatically. That's the level of automation I need. No thinking.

Chloe Williams: Yes, but the logging can't be a chore either. If I have to manually type in every single meal, I'll give up in a week. It needs to be simple. Maybe it has a big database of foods where I can just scan a barcode or search. And for workouts, maybe it has video demonstrations of the exercises so I know I'm doing them right. I need guidance, not just a list of exercises.

Marcus Johnson: Absolutely. So it's not just a plan generator; it's a coach. It holds your hand. For the sharing, if I can see that my friend David just crushed his deadlift PR, I can send him a virtual high-five right in the app. That community aspect turns a chore into something fun. But Sarah, you raised a critical point. This app needs to be built with medical oversight. There should be clear disclaimers for people with conditions like yours.

Sarah Li: Exactly. Perhaps there's a tier where my data can be reviewed by a certified nutritionist or a physiotherapist. Or at the very least, the app must have robust settings to input medical conditions and medications, and its recommendations must be calibrated against those. I can't have it recommending a high-sodium diet if I have hypertension, for example.

Jake Peterson: Totally. That makes it more credible for my audience too. I can say, "This app is legit, it takes real health metrics into account." Back to the sharing, if I'm doing a challenge, can I tag my friends in it? Can we compete on steps or calories burned in a healthy way? That would drive engagement for my followers and for us.

David Miller: So, to summarize, we're envisioning an app that:

Takes deep biometric and lifestyle data upfront.

Creates a truly personalized and dynamic plan for both workouts and nutrition that adapts weekly.

Makes logging effortless through integrations and a great UI.

Has built-in guidance like exercise videos and simple recipes.

Has robust social features for sharing, support, and friendly competition.

Is built on a foundation of verified science with safeguards for users with health conditions.

That's a tall order, but if it works, it solves all of our problems.

Chloe Williams: That sounds perfect. As long as it feels simple and guided on my end, and doesn't make me feel stupid for not knowing things.

Marcus Johnson: I'm sold. It's the community angle that makes it stick.

Sarah Li: I would need to see the credentials behind it, but the concept is exactly what my doctor told me to find.

Jake Peterson: And it's the content engine I need. Let's hope they build it.

🚀 Generated Sprints

Sprint 1: Unnamed Sprint

Duration: N/A

Goals: N/A

Tasks: N/A

Sprint 2: Core User & Plan Foundation

Duration: 3 weeks

Goals: Establish user onboarding, collect comprehensive biometric and health data, generate initial static workout plans, implement basic workout logging

Tasks: Develop user registration and profile system, Create guided onboarding questionnaire, Build algorithm for initial plan generation, Develop basic workout logging functionality

Sprint 3: Adaptive Engine & Social Seed

Duration: 3 weeks

Goals: Implement algorithm to adapt plans based on logged performance, introduce basic social connectivity and feed, add foundational nutritional guidance

Tasks: Develop adaptive planning algorithm, Build friend-connection system and activity feed, Create database of basic recipes and sample menus, Integrate plan adaptation with workout logs

Sprint 4: Enhanced Community & Analytics

Duration: 2 weeks

Goals: Deepen social features with groups and interaction, build a comprehensive progress dashboard for users, implement basic accountability notifications

Tasks: Develop user groups/crews feature, Build analytics dashboard with charts and graphs, Implement notification system for skipped workouts, Add social features like cheers and comments

Sprint 5: Content & Nutrition Suite

Duration: 2 weeks

Goals: Enable easy sharing of progress for social media, automate content creation, advanced meal planning tools

Tasks: Develop social media export API, Build auto-generated progress visualizations, Implement grocery list generator, Enhance recipe database with filtering and preferences

Sprint 6: Safety & Validation Expansion

Duration: 2 weeks

Goals: Implement a validated mode for users with medical conditions, add professional disclaimers, ensure compliance

Tasks: Develop medical disclaimer system, Create locked-down plan mode for health conditions, Establish framework for healthcare provider validation, Final security and data privacy audits

🚀 Cards que eu escolheria para as sprints acima

- Sprint 1: Erro na geração

- Sprint 2: #8 Data Quality , #9 Access to Data, #10 Human Agency, #0 Stakeholder Analysis

- Sprint 3: #17 Societal Effects, #20 Minimizing Negative Impacts, #5 Traceability

- Sprint 4: #14 Accessbility, #3 Communication, #6 System Reliability, #5 Traceability, #18 Auditability

- Sprint 5: #7 Privacy and Data, #12 System Security, #8 Data Quality, #2 Explainability, #15 Stakeholder Participation

- Sprint 6: #13 System Safety, #0 Stakeholder Analysis, #1 Types of Transparency, #11 Human Oversight, #18 Auditability

ECCOLA Cards Selected per Sprint

🚀 **Sprint 1: Foundation & Static Planning**

Duration: 3 weeks

Goals: Establish user profile database, Implement basic plan generation algorithm

Tasks: Create user onboarding flow with biometric/health data input, Develop static workout and nutrition plan generator, Implement basic educational tooltips, Add medical disclaimer system

📌 Stakeholder Analysis (#0 - Analyze)

Motivation: In order to understand the big picture, it is important to first understand who the system can affect and how. Try to also think past the obvious, direct stakeholders such as your end-users.

What to Do:

- Identify stakeholders.
- Who does the system affect and how? Stakeholders are not simply users, developers and customers.
- How are the various stakeholders linked together?
- Can these different stakeholders influence the development of the system? How?
- Remember that a user is often an organization and the end-user is an individual. Similarly, AI systems can treat people as objects for data collection.

Practical Example: Autonomous cars don't just affect their passengers. Anyone nearby is affected; some even change the way they drive. If at one point half of the traffic consists of self-driving cars, what are the societal impacts of such systems? E.g., how are the people who can't afford one affected? Regulations arising from such systems also affect everyone.

Justification: This sprint involves collecting biometric/health data and generating fitness plans, which directly affects users, but also healthcare providers, insurance companies, family members (through sharing features), and regulatory bodies. Understanding all stakeholders is crucial for ethical data handling and plan generation.

📌 Privacy and Data (#7 - Data)

Motivation: Privacy is a rising trend in the wake of various recent data misuse reveals. People are now increasingly conscious about handing out personal data. Similarly, regulations such as GDPR now affect data collection.

What to Do:

- Ask yourself:
- What data are used by the system?
- Does the system use or collect personal data? Why? How is the personal data used?
- Do you clearly inform your (end-)users about any personal data collection? E.g., ask for consent, provide an opportunity to revoke it etc.
- Have you taken measures to enhance (end-user) privacy, such as encryption or anonymization?
- Who makes the decisions regarding data use and collection? Do you have organizational policies for it?

Practical Example: Rather than collecting and selling data, appealing to privacy can also be profitable. Regulations are making it increasingly difficult to collect lots of personal data for profit. Privacy can be an alternate selling point in today's climate.

Justification: The sprint explicitly involves collecting sensitive biometric and health data during user onboarding. This raises significant privacy concerns regarding data storage, usage, and sharing that must be addressed from the foundation phase.

📌 Data Quality (#8 - Data)
Motivation: As AI are trained using data, the data used directly affects how the system operates. Both the nature and the quality and integrity of the data used has to align with goals of the system.

What to Do:

- Ask yourself:
- What are good or poor quality data in the context of your system?
- How do you evaluate the quality and integrity of your own data? Are there alternative ways?
- If you utilize data from external sources, how do you control their quality?
- Did you align your system with relevant standards (for example ISO, IEEE) or widely adopted protocols for daily data management and governance?
- How can you tell if your data sets have been hacked or otherwise compromised?

Practical Example: In 2017, Amazon scrapped its recruitment AI because of bad data. They used past recruitment data to teach the AI. As they had mostly hired men, the AI began to consider women undesirable based on the data.

Justification: The basic plan generation algorithm will rely on user-provided biometric data. Poor quality or inaccurate data input could lead to inappropriate workout/nutrition plans that might harm users, making data quality crucial from the start.

📌 Explainability (#2 - Transparency)

Motivation: If we cannot understand the reasons behind the actions of the AI, it is difficult to trust it.

What to Do:

- Ask yourself:
- Is explainability a goal for your system? How do you plan to ensure it?
- How well can each decision of the system be understood? By both developers and (end-)users?
- Did you try to use the simplest and most interpretable model possible for the context?
- Did you make trade-offs between explainability and accuracy? What kind of? Why?
- How familiar are you with your training or testing data? Can you change it when needed?
- If you utilize third party components in the system, how well do you understand them?

Practical Example: When interacting with a robot, users could ideally ask the robot 'why did you do that?' and receive an understandable response. This would make it much easier for them to trust a system.

Justification: The basic plan generation algorithm needs to be explainable to users so they understand why specific workouts/nutrition plans are recommended, especially since these recommendations impact their health and wellbeing.

📌 Communication (#3 - Transparency)

Motivation: In practice, communication is a big part of being transparent with your stakeholders. Being transparent in communication can generate trust.

What to Do:

- Ask yourself:
- What is the goal of the system? Why is this particular system deployed in this specific area?
- What do you communicate about the system to its users and end-users? Is it enough for them to understand how the system works?
- If relevant to your system, do you somehow tell your (end-)users that they are interacting with an AI system and not with another human being?
- Do you collect user feedback? How is it used to change/improve the system?
- Are communication and transparency towards other audiences, such as the general public, relevant?

Practical Example: Clearly stating what data you collect and why can make you seem much more trustworthy. Compare this to a cellphone application that just states it needs to access your camera and storage.

Justification: The sprint includes implementing educational tooltips and medical disclaimers, which are forms of communication crucial for informing users about data usage, plan generation logic, and limitations of the system.

🚀 Sprint 2: Workout Logging & Basic Sharing
Duration: 2 weeks

Goals: Enable users to record workout performance, Establish basic social sharing functionality

Tasks: Build workout logging interface, Create database schema for workout history, Develop simple "share completed workout" feature, Implement backend for storing performance data

📌 Privacy and Data (#7 - Data)
Motivation: Privacy is a rising trend in the wake of various recent data misuse reveals. People are now increasingly conscious about handing out personal data. Similarly, regulations such as GDPR now affect data collection.

What to Do:

- Ask yourself:
- What data are used by the system?
- Does the system use or collect personal data? Why? How is the personal data used?
- Do you clearly inform your (end-)users about any personal data collection? E.g., ask for consent, provide an opportunity to revoke it etc.
- Have you taken measures to enhance (end-user) privacy, such as encryption or anonymization?
- Who makes the decisions regarding data use and collection? Do you have organizational policies for it?

Practical Example: Rather than collecting and selling data, appealing to privacy can also be profitable. Regulations are making it increasingly difficult to collect lots of personal data for profit. Privacy can be an alternate selling point in today's climate.

Justification: This sprint involves collecting and storing biometric and workout data, which is personal and sensitive. Ensuring privacy is crucial to comply with regulations like GDPR and to build user trust by informing them about data collection and usage, especially with the sharing feature.

📌 Access to Data (#9 - Data)

Motivation: Aside from carefully planning what data you collect and how it is also important to plan how it can or will be used and by whom.

What to Do:

- Ask yourself:
- Who can access the users' data, and under what circumstances?
- How do you ensure that the people who access the data: 1) have a valid reason to do so, and 2) adhere to the regulations and policies related to data?
- Do you keep logs of who accesses the data and when? Do the logs also tell why?
- Do you use existing data governance frameworks or protocols? Does your organization have its own?
- Who handles the data collection, storage and use?

Practical Example: Third parties you give access to the data can misuse it. A prominent example of this is the case of Cambridge Analytica and Facebook, in which data from Facebook was used questionably. However, such incidents can also paint your organization in a bad way.

Justification: The sharing functionality means that user data could be accessed by friends and family or potentially others. It's essential to control and log data access to prevent misuse and ensure that only authorized parties can view shared information, aligning with data governance policies.

📌 Communication (#3 - Transparency)
Motivation: In practice, communication is a big part of being transparent with your stakeholders. Being transparent in communication can generate trust.

What to Do:

- Ask yourself:
- What is the goal of the system? Why is this particular system deployed in this specific area?
- What do you communicate about the system to its users and end-users? Is it enough for them to understand how the system works?
- If relevant to your system, do you somehow tell your (end-)users that they are interacting with an AI system and not with another human being?
- Do you collect user feedback? How is it used to change/improve the system?
- Are communication and transparency towards other audiences, such as the general public, relevant?

Practical Example: Clearly stating what data you collect and why can make you seem much more trustworthy. Compare this to a cellphone application that just states it needs to access your camera and storage.

Justification: With data collection and sharing features, clear communication is needed to inform users about what data is being logged, how it's used, and the implications of sharing. This builds trust and ensures users are aware of their privacy choices.

📌 Human Agency (#10 - Agency & Oversight)
Motivation: People interacting with the system or using it should be able to understand it sufficiently. Users should be able to make informed decisions based on its suggestions, or to challenge its suggestions. AI systems should let humans make independent choices.

What to Do:

- Ask yourself:
- Does the system interact with decisions by human actors, i.e. end users (e.g. recommending users actions or decisions, or presenting options)?
- Does the system communicate to its (end) users that a decision, content or outcome is the result of an algorithmic decision? Into how much detail does it go?
- In the system's use context, what tasks are done by the system and what tasks are done by humans?
- Have you taken measures to prevent overconfidence or overreliance on the system?

Practical Example: A medical system recommends diagnoses. How does the system communicate to doctors why it made a recommendation? How should the doctors know when to challenge the system? Does the system somehow change how patients and doctors interact?

Justification: Users must have control over what they share and understand the sharing process. This card applies because the sprint involves features where users decide to share their workout data, ensuring they can make informed and independent choices without being forced or misled.

📌 System Security (#12 - Safety & Security)
Motivation: While cybersecurity is important in any system, AI systems present new challenges. Cyber-physical systems can even cause fatalities in the hands of malicious actors.

What to Do:

- Ask yourself:

- Did you assess potential forms of attacks to which the system could be vulnerable? Did you consider ones that are unique or more relevant to AI systems?
- Did you consider different types of vulnerabilities, such as data pollution and physical infrastructure?
- Have you verified how your systems behaves in unexpected situations and environments?
- Does your organization have cybersecurity personnel? Are they involved in this system?

Practical Example: The autonomous nature of AI systems makes new vectors of attack possible. A white line drawn across a road can confuse a self-driving vehicle. What happened to Microsoft's Tay Twitter bot is another example of a new type of attack.

Justification: Storing performance data in the backend and enabling sharing introduces security risks. Protecting against data breaches, unauthorized access, and ensuring the system's resilience is critical to safeguard user information and maintain trust.

🚀 Sprint 3: Adaptive Algorithm & Progress Tracking
Duration: 3 weeks

Goals: Introduce plan adaptation based on user performance, Provide visual progress feedback

Tasks: Develop algorithm to auto-adjust workout weights, Create basic progress charts and analytics, Implement front-end for viewing workout history and trends, Enhance plan generator to use logged performance data

📌 Explainability (#2 - Transparency)
Motivation: If we cannot understand the reasons behind the actions of the AI, it is difficult to trust it.

What to Do:

- Ask yourself:
- Is explainability a goal for your system? How do you plan to ensure it?
- How well can each decision of the system be understood? By both developers and (end-)users?
- Did you try to use the simplest and most interpretable model possible for the context?
- Did you make trade-offs between explainability and accuracy? What kind of? Why?

- How familiar are you with your training or testing data? Can you change it when needed?
- If you utilize third party components in the system, how well do you understand them?

Practical Example: When interacting with a robot, users could ideally ask the robot 'why did you do that?' and receive an understandable response. This would make it much easier for them to trust a system.

Justification: The sprint involves developing an adaptive algorithm that auto-adjusts workout weights based on user performance. Users need to understand why adjustments are made to trust and effectively use the system, making explainability critical.

📌 Privacy and Data (#7 - Data)
Motivation: Privacy is a rising trend in the wake of various recent data misuse reveals. People are now increasingly conscious about handing out personal data. Similarly, regulations such as GDPR now affect data collection.

What to Do:

- Ask yourself:
- What data are used by the system?
- Does the system use or collect personal data? Why? How is the personal data used?
- Do you clearly inform your (end-)users about any personal data collection? E.g., ask for consent, provide an opportunity to revoke it etc.
- Have you taken measures to enhance (end-user) privacy, such as encryption or anonymization?
- Who makes the decisions regarding data use and collection? Do you have organizational policies for it?

Practical Example: Rather than collecting and selling data, appealing to privacy can also be profitable. Regulations are making it increasingly difficult to collect lots of personal data for profit. Privacy can be an alternate selling point in today's climate.

Justification: The system uses biometric and performance data to adapt plans and track progress. Handling sensitive personal data requires strict privacy measures, consent mechanisms, and compliance with regulations like GDPR.

📌 Data Quality (#8 - Data)
Motivation: As AI are trained using data, the data used directly affects how the system operates. Both the nature and the quality and integrity of the data used has to align with goals of the system.

What to Do:

- Ask yourself:
- What are good or poor quality data in the context of your system?
- How do you evaluate the quality and integrity of your own data? Are there alternative ways?
- If you utilize data from external sources, how do you control their quality?
- Did you align your system with relevant standards (for example ISO, IEEE) or widely adopted protocols for daily data management and governance?
- How can you tell if your data sets have been hacked or otherwise compromised?

Practical Example: In 2017, Amazon scrapped its recruitment AI because of bad data. They used past recruitment data to teach the AI. As they had mostly hired men, the AI began to consider women undesirable based on the data.

Justification: The algorithm relies on logged performance data to adapt workout plans. Poor data quality could lead to ineffective or harmful recommendations, emphasizing the need for rigorous data evaluation and integrity checks.

📌 Human Agency (#10 - Agency & Oversight)
Motivation: People interacting with the system or using it should be able to understand it sufficiently. Users should be able to make informed decisions based on its suggestions, or to challenge its suggestions. AI systems should let humans make independent choices.

What to Do:

- Ask yourself:
- Does the system interact with decisions by human actors, i.e. end users (e.g. recommending users actions or decisions, or presenting options)?
- Does the system communicate to its (end) users that a decision, content or outcome is the result of an algorithmic decision? Into how much detail does it go?
- In the system's use context, what tasks are done by the system and what tasks are done by humans?
- Have you taken measures to prevent overconfidence or overreliance on the system?

Practical Example: A medical system recommends diagnoses. How does the system communicate to doctors why it made a recommendation? How should the doctors know when to challenge the system? Does the system somehow change how patients and doctors interact?

Justification: The adaptive algorithm makes workout adjustments, but users must retain control and understanding to avoid overreliance. Ensuring users can challenge or customize recommendations supports their autonomy and safety.

📌 Traceability (#5 - Transparency)

Motivation: Traceability supports explainability. It helps us understand why the AI acts the way it does.

What to Do:

- Document different types of documentation (code, project etc.) are typically key in producing transparency.
- How have you documented the development of the system, both in terms of code and decision-making? How was the model built or the AI trained?
- How have you documented the testing and validation process? In terms of data and scenarios used etc.
- How do you document the actions of the system? What about alternate actions (e.g. if the user was different but the situation otherwise the same)?

Practical Example: When the system starts making mistakes, by aiming for traceability, it will be easier to find out the cause. Consequently, it will also be faster and possibly easier to start fixing the underlying issue.

Justification: Tracking how the algorithm adapts plans based on user data requires clear documentation of decisions, model changes, and testing processes. This ensures transparency and facilitates debugging or improvements.

🚀 Sprint 4: Enhanced Nutrition & Social Accountability

Duration: 3 weeks

Goals: Deepen nutritional guidance, Build community and accountability features

Tasks: Develop sample menus and recipe database, Build grocery list generator, Create user groups and community features, Implement accountability notifications for skipped workouts

📌 Privacy and Data (#7 - Data)

Motivation: Privacy is a rising trend in the wake of various recent data misuse reveals. People are now increasingly conscious about handing out personal data. Similarly, regulations such as GDPR now affect data collection.

What to Do:

- Ask yourself:
- What data are used by the system?
- Does the system use or collect personal data? Why? How is the personal data used?
- Do you clearly inform your (end-)users about any personal data collection? E.g., ask for consent, provide an opportunity to revoke it etc.

- Have you taken measures to enhance (end-user) privacy, such as encryption or anonymization?
- Who makes the decisions regarding data use and collection? Do you have organizational policies for it?

Practical Example: Rather than collecting and selling data, appealing to privacy can also be profitable. Regulations are making it increasingly difficult to collect lots of personal data for profit. Privacy can be an alternate selling point in today's climate.

Justification: This sprint involves collecting sensitive biometric and nutritional data, plus sharing progress with others. This raises significant privacy concerns regarding data collection, storage, and sharing that must be addressed.

📌 Access to Data (#9 - Data)
Motivation: Aside from carefully planning what data you collect and how it is also important to plan how it can or will be used and by whom.

What to Do:

- Ask yourself:
- Who can access the users' data, and under what circumstances?
- How do you ensure that the people who access the data: 1) have a valid reason to do so, and 2) adhere to the regulations and policies related to data?
- Do you keep logs of who accesses the data and when? Do the logs also tell why?
- Do you use existing data governance frameworks or protocols? Does your organization have its own?
- Who handles the data collection, storage and use?

Practical Example: Third parties you give access to the data can misuse it. A prominent example of this is the case of Cambridge Analytica and Facebook, in which data from Facebook was used questionably. However, such incidents can also paint your organization in a bad way.

Justification: The social sharing features require careful management of data access permissions and logging, making data access control critically important for this sprint.

📌 Communication (#3 - Transparency)
Motivation: In practice, communication is a big part of being transparent with your stakeholders. Being transparent in communication can generate trust.

What to Do:

- Ask yourself:

- What is the goal of the system? Why is this particular system deployed in this specific area?
- What do you communicate about the system to its users and end-users? Is it enough for them to understand how the system works?
- If relevant to your system, do you somehow tell your (end-)users that they are interacting with an AI system and not with another human being?
- Do you collect user feedback? How is it used to change/improve the system?
- Are communication and transparency towards other audiences, such as the general public, relevant?

Practical Example: Clearly stating what data you collect and why can make you seem much more trustworthy. Compare this to a cellphone application that just states it needs to access your camera and storage.

Justification: The AI-generated nutrition plans and accountability notifications require clear communication about how recommendations are made and what data is used, ensuring users understand the system's functioning.

📌 Human Agency (#10 - Agency & Oversight)
Motivation: People interacting with the system or using it should be able to understand it sufficiently. Users should be able to make informed decisions based on its suggestions, or to challenge its suggestions. AI systems should let humans make independent choices.

What to Do:

- Ask yourself:
- Does the system interact with decisions by human actors, i.e. end users (e.g. recommending users actions or decisions, or presenting options)?
- Does the system communicate to its (end) users that a decision, content or outcome is the result of an algorithmic decision? Into how much detail does it go?
- In the system's use context, what tasks are done by the system and what tasks are done by humans?
- Have you taken measures to prevent overconfidence or overreliance on the system?

Practical Example: A medical system recommends diagnoses. How does the system communicate to doctors why it made a recommendation? How should the doctors know when to challenge the system? Does the system somehow change how patients and doctors interact?

Justification: The AI-generated nutrition and workout plans must preserve user autonomy, allowing users to understand, modify, or reject recommendations rather than blindly following automated suggestions.

📌 Ability to Redress (#19 - Accountability)
Motivation: Making sure people know they can be compensated in some way in the event something goes wrong with the system is important in generating trust. Such scenarios should be planned in advance to what extent possible.

What to Do:

- Ask yourself:
- What is your (developer organization) responsability if the system causes damage or otherwise has a negative impact?
- In the event of negative impact, can the ones affected seek responsability?
- How do you inform users and other third parties about opportunities for redress?

Practical Example: AI systems can inconvenience users in unforeseen, unpredictable ways. Depending on the situation, the company may or may not be legally responsible for the inconvenience. Noetheless, by offering a digital platform for seeking refress, your company can seem more trustworthy while also offering additional value to your users.

Justification: If AI-generated nutrition plans cause health issues or social sharing features lead to privacy violations, users need clear mechanisms for redress and accountability.

🚀 Sprint 5: Advanced Sharing & Content Creation
Duration: 2 weeks

Goals: Enable seamless social media export, Automate progress content generation

Tasks: Build one-tap share to Reels/TikTok/YouTube, Develop automated progress video/graphic generator, Create customization options for shared content, Implement content export functionality

📌 Privacy and Data (#7 - Data)
Motivation: Privacy is a rising trend in the wake of various recent data misuse reveals. People are now increasingly conscious about handing out personal data. Similarly, regulations such as GDPR now affect data collection.

What to Do:

- What data are used by the system?

- Does the system use or collect personal data? Why? How is the personal data used?
- Do you clearly inform your (end-)users about any personal data collection? E.g., ask for consent, provide an opportunity to revoke it etc.
- Have you taken measures to enhance (end-user) privacy, such as encryption or anonymization?
- Who makes the decisions regarding data use and collection? Do you have organizational policies for it?

Practical Example: Rather than collecting and selling data, appealing to privacy can also be profitable. Regulations are making it increasingly difficult to collect lots of personal data for profit. Privacy can be an alternate selling point in today's climate.

Justification: The sprint involves sharing user biometric and fitness data, which is highly sensitive personal information. Ensuring privacy through proper data handling, consent mechanisms, and compliance with regulations like GDPR is critical to prevent misuse and build trust.

📌 Communication (#3 - Transparency)
Motivation: In practice, communication is a big part of being transparent with your stakeholders. Being transparent in communication can generate trust.

What to Do:

- What is the goal of the system? Why is this particular system deployed in this specific area?
- What do you communicate about the system to its users and end-users? Is it enough for them to understand how the system works?
- If relevant to your system, do you somehow tell your (end-)users that they are interacting with an AI system and not with another human being?
- Do you collect user feedback? How is it used to change/improve the system?
- Are communication and transparency towards other audiences, such as the general public, relevant?

Practical Example: Clearly stating what data you collect and why can make you seem much more trustworthy. Compare this to a cellphone application that just states it needs to access your camera and storage.

Justification: Clear communication about what data is shared, how the automated content generation works, and obtaining explicit consent for social media exports is essential for transparency and user trust in this sprint's features.

📌 Human Agency (#10 - Agency & Oversight)

Motivation: People interacting with the system or using it should be able to understand it sufficiently. Users should be able to make informed decisions based on its suggestions, or to challenge its suggestions. AI systems should let humans make independent choices.

What to Do:

- Does the system interact with decisions by human actors, i.e. end users (e.g. recommending users actions or decisions, or presenting options)?
- Does the system communicate to its (end) users that a decision, content or outcome is the result of an algorithmic decision? Into how much detail does it go?
- In the system's use context, what tasks are done by the system and what tasks are done by humans?
- Have you taken measures to prevent overconfidence or overreliance on the system?

Practical Example: A medical system recommends diagnoses. How does the system communicate to doctors why it made a recommendation? How should the doctors know when to challenge the system? Does the system somehow change how patients and doctors interact?

Justification: Users must have control over the automated content generation and sharing process, including customization options and the ability to opt-out or modify shared content, to ensure they are not coerced and can make informed decisions.

📌 Access to Data (#9 - Data)
Motivation: Aside from carefully planning what data you collect and how it is also important to plan how it can or will be used and by whom.

What to Do:

- Who can access the users' data, and under what circumstances?
- How do you ensure that the people who access the data: 1) have a valid reason to do so, and 2) adhere to the regulations and policies related to data?
- Do you keep logs of who accesses the data and when? Do the logs also tell why?
- Do you use existing data governance frameworks or protocols? Does your organization have its own?
- Who handles the data collection, storage and use?

Practical Example: Third parties you give access to the data can misuse it. A prominent example of this is the case of Cambridge Analytica and Facebook, in

which data from Facebook was used questionably. However, such incidents can also paint your organization in a bad way.

Justification: When content is exported to social media platforms, it's crucial to control and monitor who can access the user's data, implement access logs, and ensure compliance with data governance to prevent unauthorized use or breaches.

📌 Societal Effects (#17 - Wellbeing)
Motivation: The impacts a system has go beyond its userbase. A system may well affect negatively even those who do net use it nor wish to use it.

What to Do:

- Did you assess the brader societal impact of the AI system's use beyond the individual (end-)users? Consider stakeholders who might be indirectly affected by the system.
- How will the systems affect society when in use?
- What kind of systemic effects could the system have?

Practical Example: Surveillance technology utilizing facial recognition AI has long=reaching impacts. People may wish to avoid areas that utilize such surveillance, negatively affecting businesses in said area. People may become stressed at the mere thought of such surveillance. Some may even emigrate as a result.

Justification: Sharing fitness progress on social media can influence societal norms around body image, privacy, and mental health, potentially leading to issues like cyberbullying, social pressure, or unintended normalization of data sharing, which requires assessment and mitigation.

🚀 **Sprint 6: User Onboarding & Algorithm Refinement**
Duration: 2 weeks

Goals: Improve new user experience, Enhance AI recommendations for plateau breaking

Tasks: Develop guided onboarding and tutorial system, Implement algorithm for suggesting deload weeks and exercise variations, Conduct usability testing and refine UI, Polish overall user experience

📌 Explainability (#2 - Transparency)
Motivation: If we cannot understand the reasons behind the actions of the AI, it is difficult to trust it.

What to Do:

- Ask yourself:
- Is explainability a goal for your system? How do you plan to ensure it?
- How well can each decision of the system be understood? By both developers and (end-)users?
- Did you try to use the simplest and most interpretable model possible for the context?
- Did you make trade-offs between explainability and accuracy? What kind of? Why?
- How familiar are you with your training or testing data? Can you change it when needed?
- If you utilize third party components in the system, how well do you understand them?

Practical Example: When interacting with a robot, users could ideally ask the robot 'why did you do that?' and receive an understandable response. This would make it much easier for them to trust a system.

Justification: This sprint focuses on enhancing AI recommendations for plateau breaking, such as suggesting deload weeks and exercise variations. Users need to understand why these recommendations are made to trust the system and ensure their safety, making explainability crucial.

📌 Communication (#3 - Transparency)
Motivation: In practice, communication is a big part of being transparent with your stakeholders. Being transparent in communication can generate trust.

What to Do:

- Ask yourself:
- What is the goal of the system? Why is this particular system deployed in this specific area?
- What do you communicate about the system to its users and end-users? Is it enough for them to understand how the system works?
- If relevant to your system, do you somehow tell your (end-)users that they are interacting with an AI system and not with another human being?
- Do you collect user feedback? How is it used to change/improve the system?
- Are communication and transparency towards other audiences, such as the general public, relevant?

Practical Example: Clearly stating what data you collect and why can make you seem much more trustworthy. Compare this to a cellphone application that just states it needs to access your camera and storage.

Justification: The sprint involves developing a guided onboarding system, which requires clear communication about data collection, AI usage, and sharing features to build user trust and ensure informed consent.

📌 Privacy and Data (#7 - Data)
Motivation: Privacy is a rising trend in the wake of various recent data misuse reveals. People are now increasingly conscious about handing out personal data. Similarly, regulations such as GDPR now affect data collection.

What to Do:

- Ask yourself:
- What data are used by the system?
- Does the system use or collect personal data? Why? How is the personal data used?
- Do you clearly inform your (end-)users about any personal data collection? E.g., ask for consent, provide an opportunity to revoke it etc.
- Have you taken measures to enhance (end-user) privacy, such as encryption or anonymization?
- Who makes the decisions regarding data use and collection? Do you have organizational policies for it?

Practical Example: Rather than collecting and selling data, appealing to privacy can also be profitable. Regulations are making it increasingly difficult to collect lots of personal data for profit. Privacy can be an alternate selling point in today's climate.

Justification: Onboarding collects sensitive biometric data, and the sharing feature involves personal progress data. This card is relevant to ensure ethical handling, consent, and compliance with privacy regulations during data collection and use.

📌 Data Quality (#8 - Data)
Motivation: As AI are trained using data, the data used directly affects how the system operates. Both the nature and the quality and integrity of the data used has to align with goals of the system.

What to Do:

- Ask yourself:
- What are good or poor quality data in the context of your system?
- How do you evaluate the quality and integrity of your own data? Are there alternative ways?
- If you utilize data from external sources, how do you control their quality?
- Did you align your system with relevant standards (for example ISO, IEEE) or widely adopted protocols for daily data management and governance?

- How can you tell if your data sets have been hacked or otherwise compromised?

Practical Example: In 2017, Amazon scrapped its recruitment AI because of bad data. They used past recruitment data to teach the AI. As they had mostly hired men, the AI began to consider women undesirable based on the data.

Justification: The algorithm refinement for AI recommendations depends on high-quality biometric and user-input data to avoid biases and ensure accurate, safe fitness plans, making data quality a key concern in this sprint.

📌 Access to Data (#9 - Data)
Motivation: Aside from carefully planning what data you collect and how it is also important to plan how it can or will be used and by whom.

What to Do:

- Ask yourself:
- Who can access the users' data, and under what circumstances?
- How do you ensure that the people who access the data: 1) have a valid reason to do so, and 2) adhere to the regulations and policies related to data?
- Do you keep logs of who accesses the data and when? Do the logs also tell why?
- Do you use existing data governance frameworks or protocols? Does your organization have its own?
- Who handles the data collection, storage and use?

Practical Example: Third parties you give access to the data can misuse it. A prominent example of this is the case of Cambridge Analytica and Facebook, in which data from Facebook was used questionably. However, such incidents can also paint your organization in a bad way.

Justification: The feature allowing users to share progress with friends and family requires careful management of data access controls to prevent unauthorized use and ensure privacy, which is directly addressed in this sprint's scope.

Aviso: Devido ao tempo de processamento elevado, não foi possível concluir as fases 6, 7 e 8.