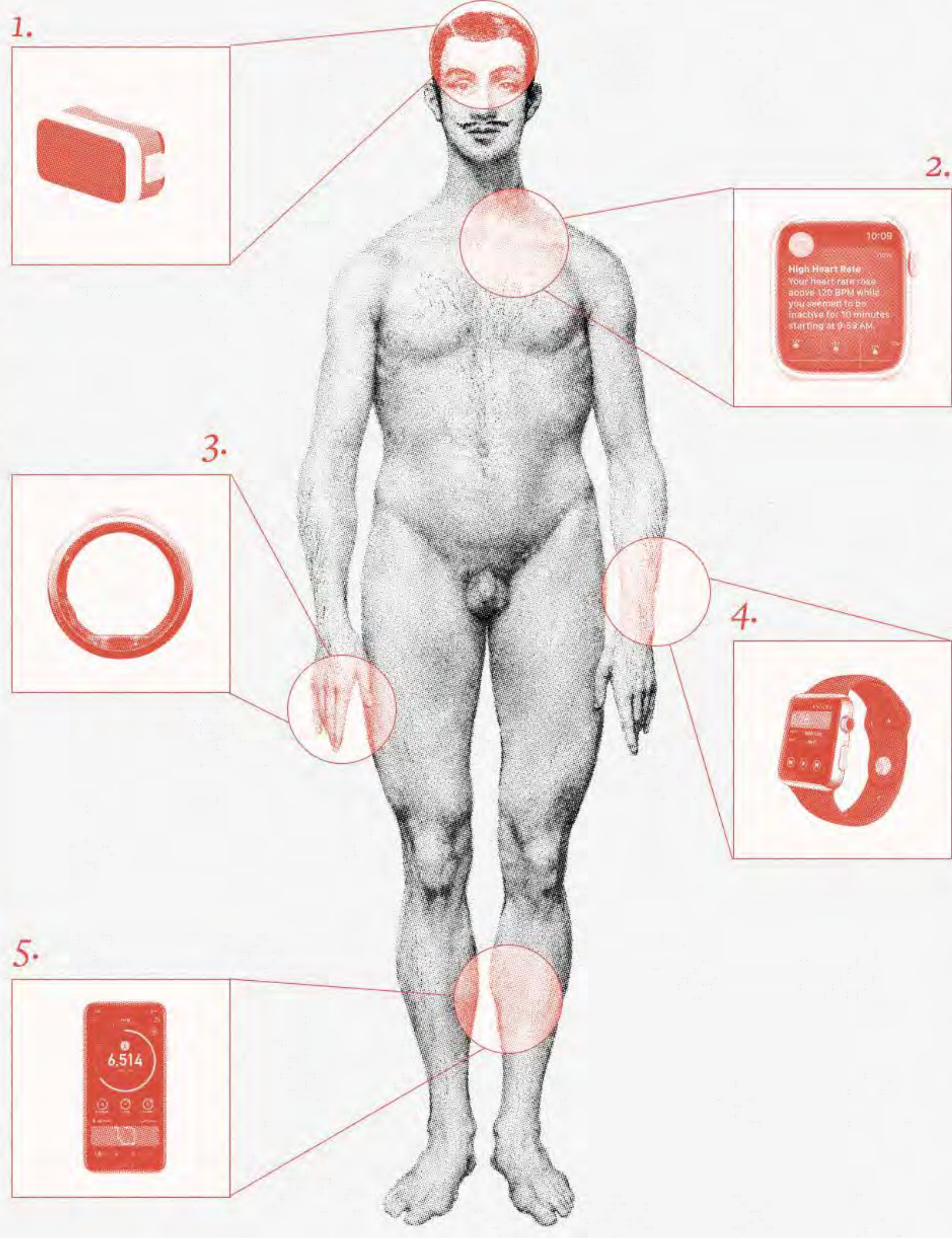


Workouts and Wellness: How Fit-Tech has Redefined Exercise Today



Now Form Research ×

Health ×

June 2023 ×

now form.

Now Form is a research-led strategic design studio focusing on user experience and user interface design. We work to uncover people's inherent needs and articulate larger cultural narratives through immersion and **design-led research practices**.

Rigorous design investigations and **co-creation methodologies** equip us to **drive innovation** and **effect positive change**.

At Now Form Research, we bring together experts from diverse disciplinary backgrounds to conduct research on the dynamics of **human interaction** with a rapidly evolving digital world. Our objective is to generate engaging and comprehensible knowledge products that provide valuable insights and actionable recommendations, all while upholding academic rigor and visual design excellence.

Our research activities are strategically designed to bridge disciplinary gaps and explore the intricacies of user behavior across **various sectors and industries**. We firmly believe that the design and development of new technologies should be rooted in an **evidence-based** foundation and established through **empirical research**. To achieve this, we employ a systematic and critical approach to research, investigating issues that empower stakeholders to make intentional and informed decisions. By incorporating a broad range of perspectives, we are actively striving to contribute to an **inclusive** and **meaningful** digital world that positively impacts individuals and communities.

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Introduction, industry context and approach

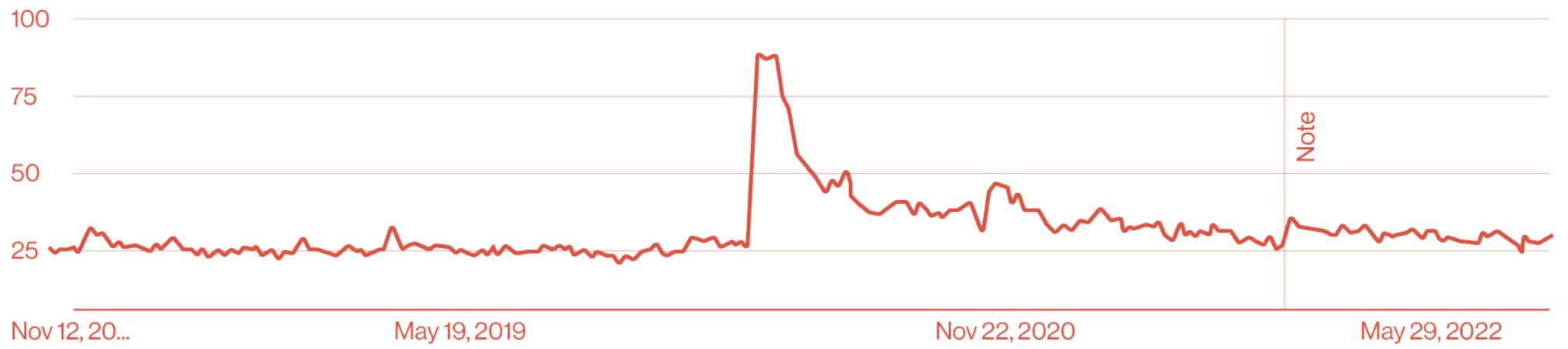


Introduction, industry context and approach

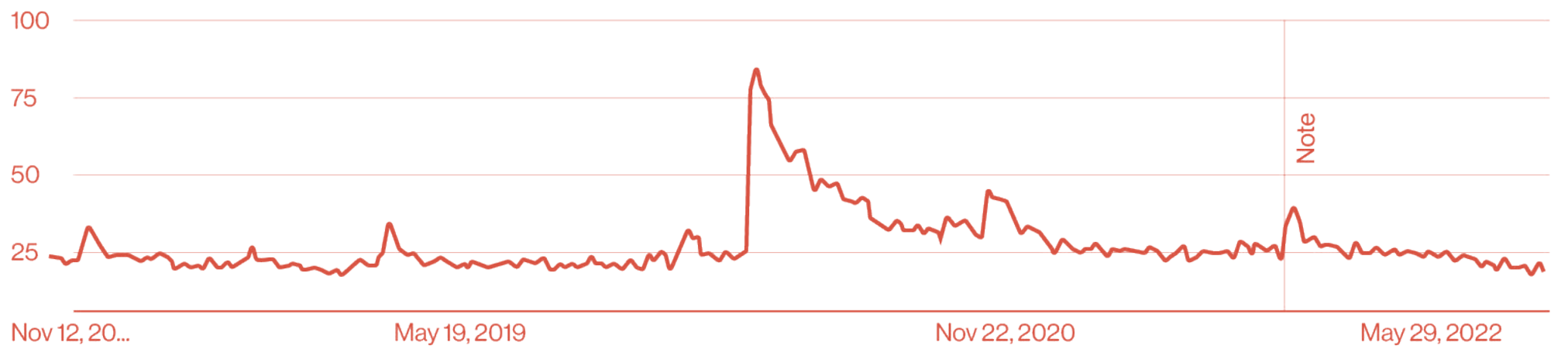
The combination of convenience, accessibility, variety, affordability, personalized guidance, and privacy offered by digital fitness solutions has made them an appealing option for many people looking to maintain their fitness levels during the pandemic and beyond, at home and outside.

Digital Fitness and the home-fitness revolution was growing fast, even before the COVID-19 crisis. The \$49.5 billion industry covers wearable devices, trackers, smart equipment, digital platforms, and software that makes fitness and physical activity more convenient, personalised, and affordable. Advances in wearable technology, high-tech equipment, AI/ML digital integrations, and virtual and augmented reality have fueled the rise of virtual workouts and digital fitness applications. Today, new apps promote fitness and wellness outcomes; they track activity and offer personalised workout plans, virtual fitness classes, monitor calorie intake and provide nutritional recommendations, and encourage mindfulness and positive mental health. The combination of **convenience, accessibility, variety, affordability, personalized guidance, and privacy** offered by digital fitness solutions made apps an appealing option for many people looking to maintain their fitness levels during the pandemic and beyond, at home and outside.

In March 2020, online searches for “home exercise” and “home fitness” spiked dramatically, increasing 400% worldwide. While brick-and-mortar centres pulled down their shutters, the fitness industry received a huge boost through virtual trainers, digital health and fitness apps offering personalised diet and



Graph 1: Google trends graph for the term “home exercise” in the last 5 years



Graph 2: Google trends graph for the term “home fitness” in the last 5 years



exercise plans, and fitness equipment differentiated by proprietary software and digital interface.

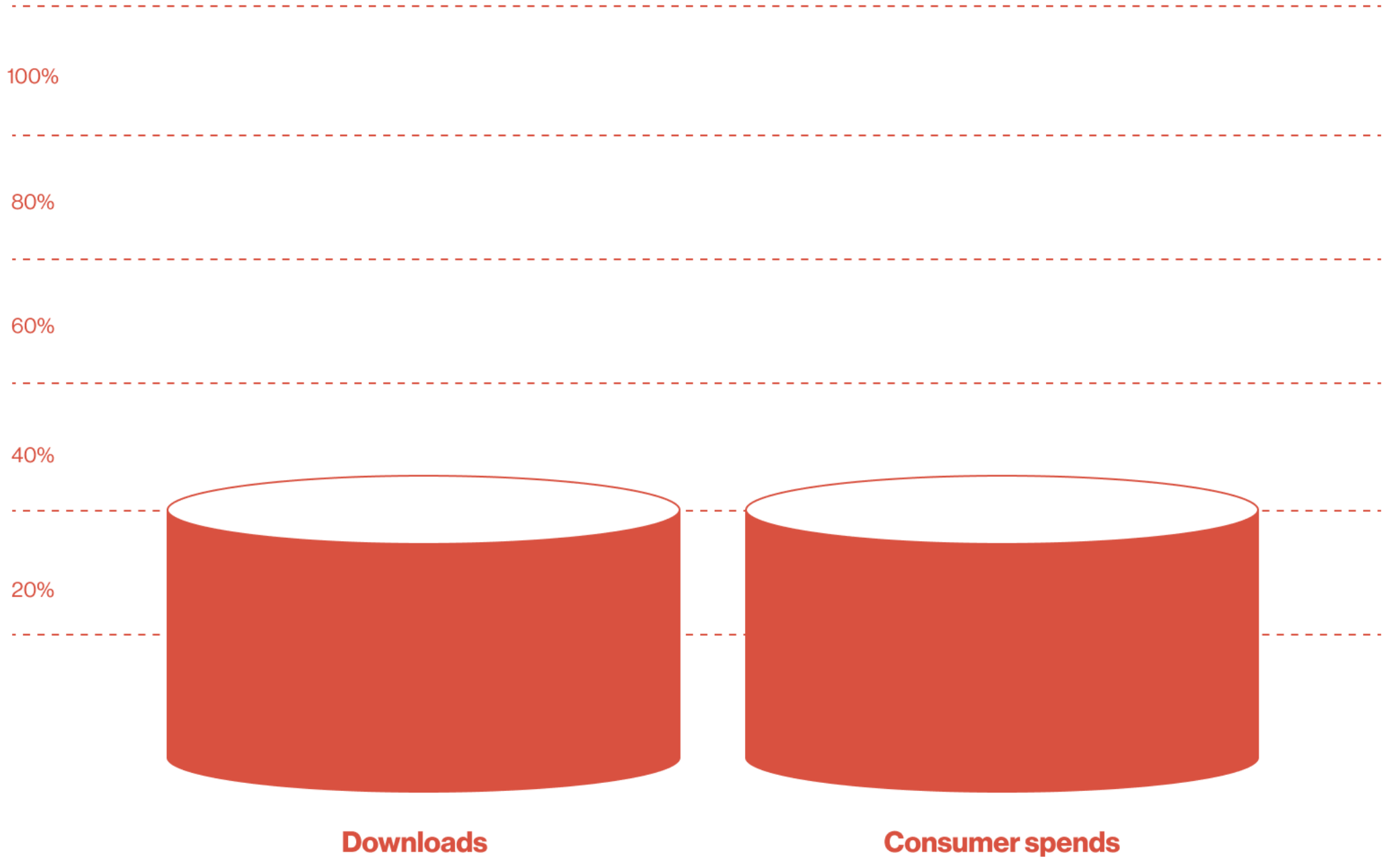
In 2020, the fitness technology market grew 29.1% compared to the previous year. The Global Wellness Institute (GWI) reported that consumer spending on fitness apps, streaming, and on-demand services increased by 40% in the same year due to the mandated lockdowns (GWI 2021). According to the GWI, fitness was the most impacted wellness sector during the pandemic, with a 37.1% decrease in spending, but this was partially offset by an increase in digital fitness spending, which prevented a 44% decline. In 2020 alone, consumer spending on fitness apps, streaming, and on-demand services rose by 40% due to COVID-related gym closures. As COVID-19 cases declined and restrictions eased, people gradually returned to in-person fitness, but digital fitness remained relevant and has continued to enhance users' regimes. GWI predicts that the global fitness market will nearly double to \$1.2 trillion by 2025 due to the opportunities that hybrid fitness services will offer.

A report by mobile data and analytics provider App Annie (2022) showed that the number of fitness apps launched rose 13% in 2020, reaching 71,000 globally. Additionally, both the number of downloads and consumer spending on health and fitness apps increased by 30% compared to 2019. In April 2020, barely a month after nations announced lockdowns, app downloads spiked 80% year-on-year to 276 million. Consumer spending hit a record high of \$185 million in August 2020, up 45% from the year before. App downloads and consumer spending increased across

1 The GWI's most recent research report on the global wellness economy includes a complete update on the six-sector physical activity market: fitness (\$77 billion), sports and active recreation (\$200 billion), mindful movement (\$30 billion), fitness technology (\$49.5 billion), sports and fitness equipment (\$105 billion), and sports apparel and footwear (\$293 billion). It reveals which segments were the "winners" and "losers" in

the pandemic year of 2020: from the fitness segment (gyms, studios, classes) taking the biggest hit (a 37% revenue drop) to fitness technology exploding by 29%. GWI finds that the total physical activity market stands at \$738 billion. And the future is very bright: revenues will nearly double between 2020-2025, to reach \$1.2 trillion.

Year-over-year growth in downloads and consumer spending in health and fitness apps worldwide from 2019 to 2020



Source: App Annie Intelligence

Note: Downloads & Consumer Spend are across iOS and Google Play. China is iOS only. Spend is gross - inclusive of any percent taken by the app stores.

Overall, these trends suggest that digital technologies are playing an increasingly important role in the fitness industry and are likely to continue to grow in popularity in the coming years.

all regions, but some markets saw exponential growth – India recorded an 80% increase in app downloads.

According to ACSM's Health & Fitness Journal's "Worldwide Survey of Fitness Trends 2022," four digital technologies ranked in the top 20 trends (Thompson 2022), with wearable technology taking the top spot, online and on-demand exercise classes ranked ninth, online personal training ranked 17th and fitness apps 16th. This highlights the growing popularity and adoption of digital fitness solutions, even beyond the pandemic-induced lockdowns. Online training and wearable technology have been widely adopted in recent years and offer a range of benefits, including convenience, flexibility, and the ability to track progress, making their high rank unsurprising. It's also noteworthy that virtual training and fitness apps are in the top 20, as these offerings provide a more personalised and interactive fitness experience. Overall, these trends suggest that digital technologies are playing an increasingly important role in the fitness industry and are likely to continue to grow in popularity in the coming years.

Method



In this report, we research current user sentiments and behaviours, identify and analyse major digital fitness trends, innovations, and tech interventions, and discuss the key global and localised insights emerging from the trends in the fit-tech industry. We carried out a competitive analysis of 12 digital fitness offerings (including Nike+ Training Club, Cure.fit, Apple Fitness, and Fitbit, among others; see Annexure 02). Our findings helped us better understand the existing landscape and identify core features and differentiators across the major fitness and health applications.

Our research began with a preliminary survey to understand existing and evolving user sentiments around health and fitness during the onset of the COVID-19 pandemic. We used a non-probability, purposive sampling approach to recruit participants for the various legs of our user-centred data collection process, i.e, focus groups, surveys, and user interviews. We conducted two user surveys (n=65) at different

points during the pandemic to gauge the shifts in user behaviour, needs, and preferences. For our user interviews, we recruited participants (n=11) through an Instagram post that was shared on Now Form's profile, in addition to the researcher's own personal page. The post invited "fitness enthusiasts" — people who have used digital fitness applications and/or engaged with online fitness communities — to participate in a semi-structured user interview on their experiences with digital fitness applications at-large. Since the study followed a self-selection sampling approach, the participants chose to take part in the study of their own accord and based on the criteria specified. Thus, this study is not representative of the broader population and might include biases, since the sample was not randomly selected.

A comprehensive literature review was conducted to understand the current state of research in the field of fitness technologies and user behaviour. Relevant academic journals, conference proceedings, and online sources were searched using keywords such as **digital fitness technologies, user behaviour fitness technology, and user adoption digital fitness.**

Our primary research throughout the pandemic revealed a trend among consumers towards embracing home-based physical activities and investing in digital fitness solutions. The latest round of user interviews survey indicates that the future of the fitness industry lies in hybrid regimes that offer a combination of in-person and digital services.

The literature review aimed to identify the key themes, trends, and gaps in the existing research in this field. The findings from the literature review were synthesised to provide an understanding of the current state of research in the field of fitness technologies and user behaviour, and then used to inform the research questions and hypotheses for the study. The literature included psychological, sociological, and user-centred design research on the adoption and use of technology, specifically exploring the factors that influence user behaviour, such as motivation, attitudes, and self-efficacy, and explored how social norms and peer influence impact the adoption and use of fitness technologies aimed to understand the role of social factors in shaping user behaviour and the extent to which they impact the adoption and continued use of fitness technologies ●

GOALS AND NEEDS

PAIN-POINTS AND FRUSTRATIONS



- × Athletic ×
- × Driven ×
- × Social ×

NAME	VEER GUJRAL
GENDER	MALE
AGE	48
OCCUPATION	RETIRED
LOCATION	PONDICHERRY, INDIA
STATUS	UNMARRIED
HOUSEHOLD INCOME	20 LACS PA

FITNESS

NOT ACTIVE ACTIVE EXTREMELY ACTIVE


TECH SAVVY

BEGINNER MODERATE ADVANCED


FITNESS EXPERIENCE

BEGINNER MODERATE ADVANCED


BIO

Veer, a 48-year-old retired investment banker, has been active his entire life. He is an avid long-distance cyclist and competes in races and marathons worldwide. Veer enjoys the challenge of pushing himself to his physical limits and is proud of his accomplishments. He values community and support, often participating in outdoor activities with friends he met through running and cycling events. Veer uses fitness apps like Strava and Nike Running to stay connected with his friends and track his progress. He retired early to dedicatedly improve his athletic performance and is always looking for new ways to improve.

GOALS AND NEEDS:

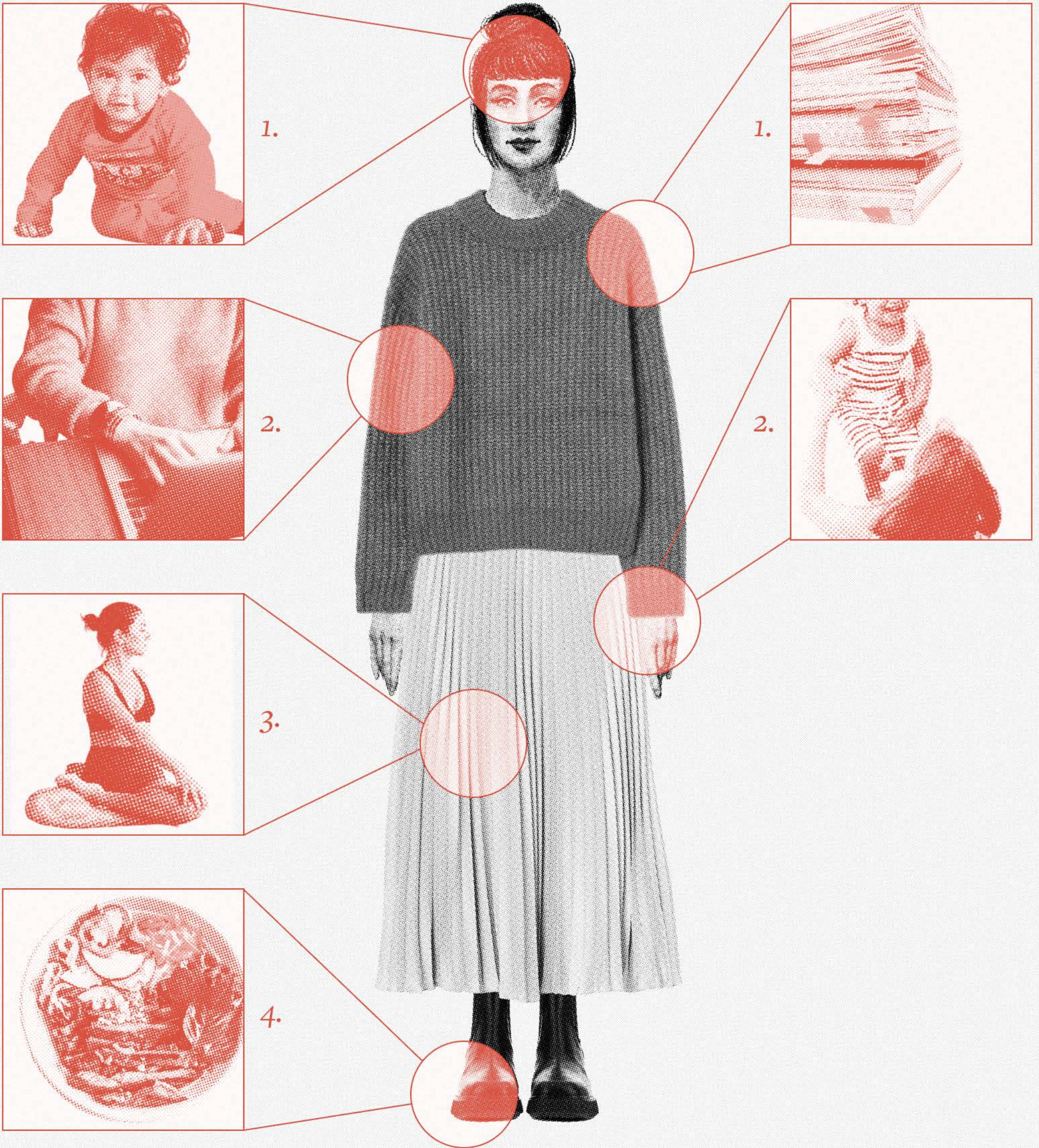
1. A fitness app to accurately track his runs, cycles, and calories burned during workouts
2. Being able to share workout data with friends and connect with them for motivation and support
3. A diverse range of workout programs and challenges to prevent boredom and sustain his interest.

PAIN-POINTS AND FRUSTRATIONS:

1. Veer often reaches a fitness plateau and requires more advanced workouts or programs to continue to challenge himself.
2. He would like to customise his workout routine according to his preferences, but finds it difficult to do so with standard workout programs.

GOALS AND NEEDS

PAIN-POINTS AND FRUSTRATIONS



NAME	PRIYA WALIA
GENDER	FEMALE
AGE	35
OCCUPATION	HOME BAKER, SOCIAL MEDIA INFLUENCER
LOCATION	NEW DELHI, INDIA
STATUS	MARRIED (HAS A 2 YEAR OLD SON)
HOUSEHOLD INCOME	25 LACS PA

FITNESS

NOT ACTIVE ACTIVE EXTREMELY ACTIVE

TECH SAVVY

BEGINNER MODERATE ADVANCED

FITNESS EXPERIENCE

BEGINNER MODERATE ADVANCED

BIO

Priya is a passionate self-taught home baker who has recently embarked on a new venture by starting her own small-scale online bakeshop from her house in Defence Colony. Her specialty lies in creating healthy baked goods using wholesome ingredients such as wheat, oats, and jaggery. Priya's mornings are dedicated to maintaining her health and wellness. She starts each day with an online group yoga class tailored for moms. She juggles her time between her family, new business, and her health.

GOALS AND NEEDS:

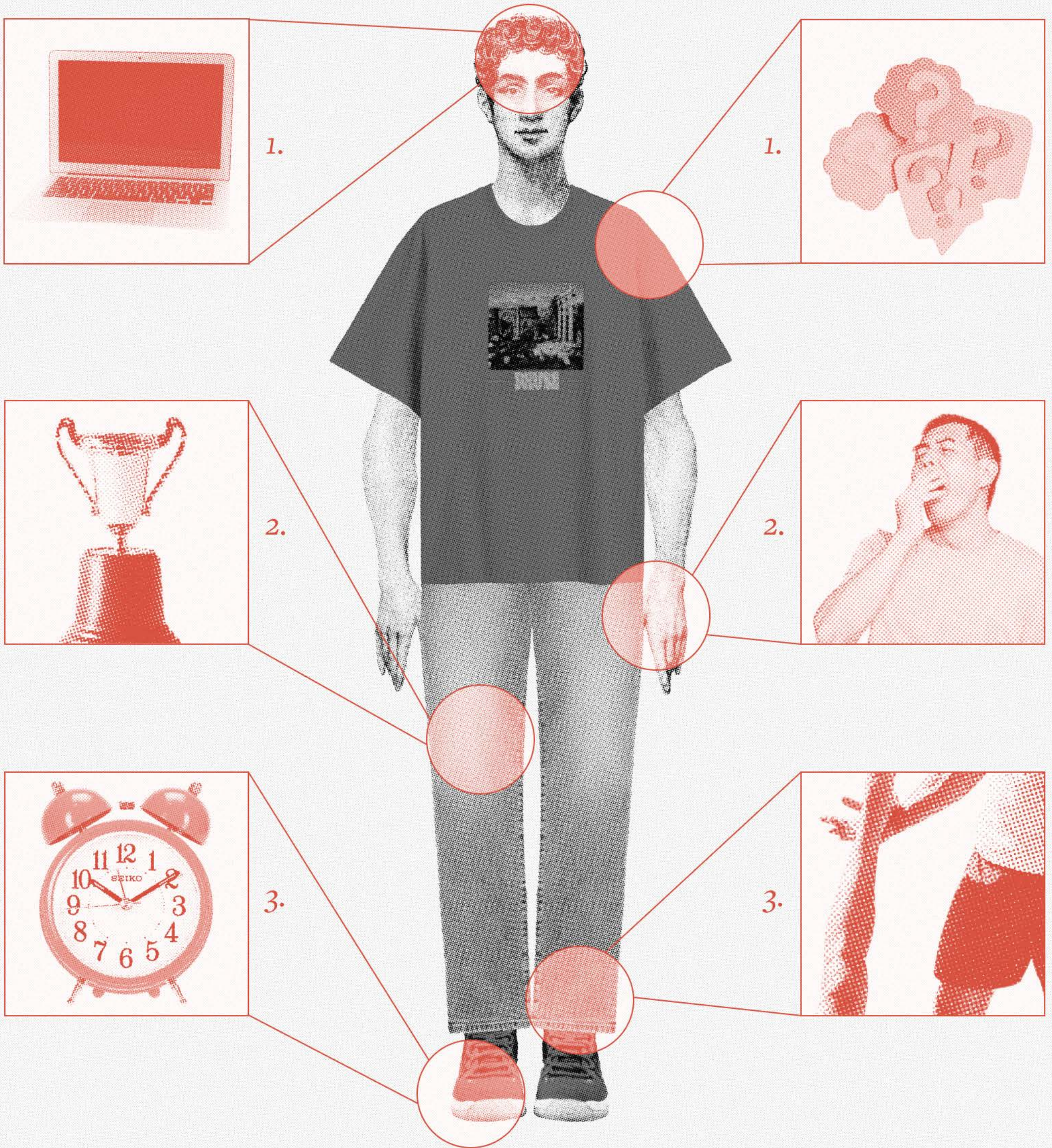
1. Raising a two year old in a healthy environment with adequate attention
2. Expanding her new business with the correct marketing scheme
3. Working on the fitness of her post pregnancy body
4. Gaining muscle strength along with eating healthy.

PAIN-POINTS AND FRUSTRATIONS:

1. Juggling with too many aspects in life that require attention – a toddler, upscaling a new business, family responsibilities and health
2. Unable to expand on her fitness routine because she can't stay away from home for long intervals

GOALS AND NEEDS

PAIN-POINTS AND FRUSTRATIONS



- × Beginner ×
- × Curious ×
- × Fun-Loving ×

NAME	SANKET RICHARD
GENDER	MALE
AGE	19
OCCUPATION	COLLEGE STUDENT
LOCATION	NOIDA, UTTAR PRADESH
STATUS	SINGLE; LIVES IN COLLEGE DORM
INCOME	NOT EARNING

FITNESS

NOT ACTIVE ACTIVE EXTREMELY ACTIVE


TECH SAVVY

BEGINNER MODERATE ADVANCED


FITNESS EXPERIENCE

BEGINNER MODERATE ADVANCED


BIO

Sanket is a 19-year-old college student with a busy schedule. During the week, he attends classes and studies hard, but on the weekends, he likes to unwind and relax. He has moved to Noida for college and enjoys exploring new places in the city with his friends. He's a fast learner who loves to explore new things, whether it's going on hikes or reading challenging books. He has joined the intramural soccer team, to motivate him to stay active.

GOALS AND NEEDS:

1. Guided workouts and instructional videos, as he is new to fitness and requires guidance to perform exercises correctly
2. Needs a fitness app that offers constant motivation and positive reinforcement
3. A fitness app that offers flexibility in terms of workout schedules and location to fit his busy school schedule, but also offers him opportunities to explore the city through fitness

PAIN-POINTS AND FRUSTRATIONS:

1. Feels intimidated by the gym environment and lacks knowledge about fitness and nutrition
2. Struggles to find the time and enthusiasm to start and stick to routines
3. Lacks accountability and finds it difficult to stay committed to his fitness goals

Understanding user behaviour and sentiments towards digital fitness



Understanding shifting user behaviour and sentiments towards digital fitness

① Fitness and the Quantified Self

Self-tracking involves monitoring and recording personal details such as one's activities, body, and lifestyle to achieve self-awareness and self-improvement. Although this impulse to record, reflect upon, and regulate one's bodily states and processes (through, for example, diaries, scales, wristwatches, and thermometers) has been a human practice for centuries (Crawford et al. 2015), digital tools such as smartphones and wearables have revolutionised the practice, allowing for continuous monitoring of the body and physiological states for health and well-being (Schüll 2016). Biosensors that collect data on heart function, glucose levels, stress, mood, or exertion are now readily available to retail consumers in the form of wearable devices such as rings, bracelets, patches, and watches, all integrated with smartphone applications (Grinberg 2018). These technologies collect and manage biometric data, offering individuals insights to effect behaviour change and a platform to share this information with each other.

As a result, the average person can now collect more discrete and a much wider range of information about their own body and behaviour. By allowing users “self-knowledge through numbers” (Wolf 2010), these tools and technologies provide a new data-driven approach to health, viewing the human body as a collection of data and information, leading to behavioural implications for individual users, and have socio-political implications on how health, life, and the human body is understood.

“..individuals are invested in deriving a different sort of value from their own tracked and quantified self-data. Individuals collect and reflect upon their data intentionally, gathering information about themselves so as to learn new things and experiment with self-transformation. In this sense, data-tracking technologies provide a new inflection point for older technologies of the self” (Schüll 2019)

A consumer behaviour study by Etkin (2016) found that prolonged self-tracking activities can have unintended and negative consequences (Etkin 2016). A person can enjoy a tracked activity less, despite the potential motivation to do more. The study found that research participants who tracked the distance they covered walking ended up walking more, but reported the activity as less enjoyable compared to those who did not track it. Etkin attributes these results to the power of framing in shaping people's subjective experiences. When people feel obligated to do something, they tend to resist it, draining their energy and reducing their enjoyment of the activity. Conversely, people find an activity energising when they are wholly engaged and absorbed in it. Measurement draws attention to the quantitative outcome of engaging in enjoyable activities, making them feel like work, which can reduce enjoyment, the continuation of engagement, and overall satisfaction. Emphasising the external benefits of engaging in an activity, or focusing on the quantitative outcome, can undermine intrinsic motivation. While self-tracking tools have their benefits, such as breaking down tasks into manageable chunks, they can also lead to short-term results at the expense of long-term motivation. Thus, as per Etkin's research, gamifying activities could potentially have harmful effects on fitness behaviours and user motivation when in prolonged use, making digital interventions that primarily rely on such features unsustainable for the long term.

Theorists who view data through a neoliberal lens argue that digital devices have actually increased the responsibility and decision-making power of individuals. This perspective is particularly evident in the context of health and, by extension, fitness. Digital monitoring tools that track heart rate, steps taken, and food intake, among other indicators, allow individual users, and

Measurement draws attention to the quantitative outcome of engaging in enjoyable activities, making them feel like work, which can reduce enjoyment, continuation of engagement, and overall satisfaction. By emphasising the external benefits of engaging in an activity, or focusing on the quantitative outcome, intrinsic motivation can be undermined.

“Inviting digital tools and epistemologies to partake in their self-transformational ethics, they [users] gain new methods for apprehending, knowing, and inhabiting their lives — and, potentially, for resisting, repurposing, and rendering uncertain the normative proxies, behavioural categories, and governing logics that would seek to drive their conduct down certain pathways.” Schüll (2019)

not just medical professionals, to keep track of their health, furthering the idea of **responsibilisation and individualising health concerns**. On the flip side, having access to one's own personal fitness record through digital applications could be seen as a move away from medical paternalism, which empowers users with the ability to be more involved in their own health, making them more self-sufficient. But, depending on the features, functionalities, and framing of applications, they could just as easily divert attention and resources away from systemic solutions to healthcare issues and shift the burden from the institution to the individual.²

² See Lupton 2013a, 2013b; Sharon and Zandbergen 2016; Dormeh 2014

...gamifying activities could potentially have harmful effects on fitness behaviours and user motivation when in prolonged use, making digital interventions that primarily rely on such features unsustainable for the long term.





② Fitness and Social Identity

Expanding beyond the consequences of self-monitoring on satisfaction or enjoyment, scholars in digital media also highlight how these tools function as a form of surveillance or biopolitics and modulate users' sense of freedom and agency. The use of fitness apps for social purposes, such as sharing workout progress with others or connecting with other users, is a form of active interaction that takes advantage of the social features offered by the apps. Users have a significant level of control and agency in choosing and utilising the features of these apps to satisfy their own needs. This is supported by empirical research which suggests that the social aspect of health apps is largely driven by users' motivations, including the desire for socialisation. In this manner, the social use of fitness apps represents an active engagement with the apps, motivated by the individual user's needs and goals.



A study by Barkley et al. (2020) investigated the relationship between the use of fitness apps and physical activity, and how exercise identity — the degree to which an individual identifies with being physically active — mediates this relationship. The study found a positive relationship between the use of fitness apps and physical activity, suggesting that people who have a strong exercise identity are more likely to use fitness apps and engage in physical activity. It recommended that fitness apps should be designed to increase the likelihood of their usage, and hence physical activity, by supporting users in achieving their goals and facilitating habit formation.

Another relevant study investigates the impact of social networking features of fitness apps on users' physical activity levels (Huang et al. 2022). The study used WeRun, a Chinese fitness app, and analysed its impact on users' step counts through a survey of 643 app users. The results showed that the frequency of using the app and the size of the users' core network — the number of friends on the app — were positively correlated with physical activity levels. Social comparison mechanisms had an effect on physical activity levels, while social support did not. Upward comparison was positively associated with physical activity levels, while downward comparison was negatively associated. The study also found that upward comparison was a mediator between the frequency of using the app, the core network size, and physical activity levels. These findings provide insight into the impact of fitness app features on physical activity and can inform the design of fitness applications.

Teng and Bao (2022) investigated the factors that affect the stickiness of fitness apps ("stickiness" refers to how often people return to an app). They used the S-O-R (stimulus-organism-response) perspective to study the environmental stimuli, internal states,

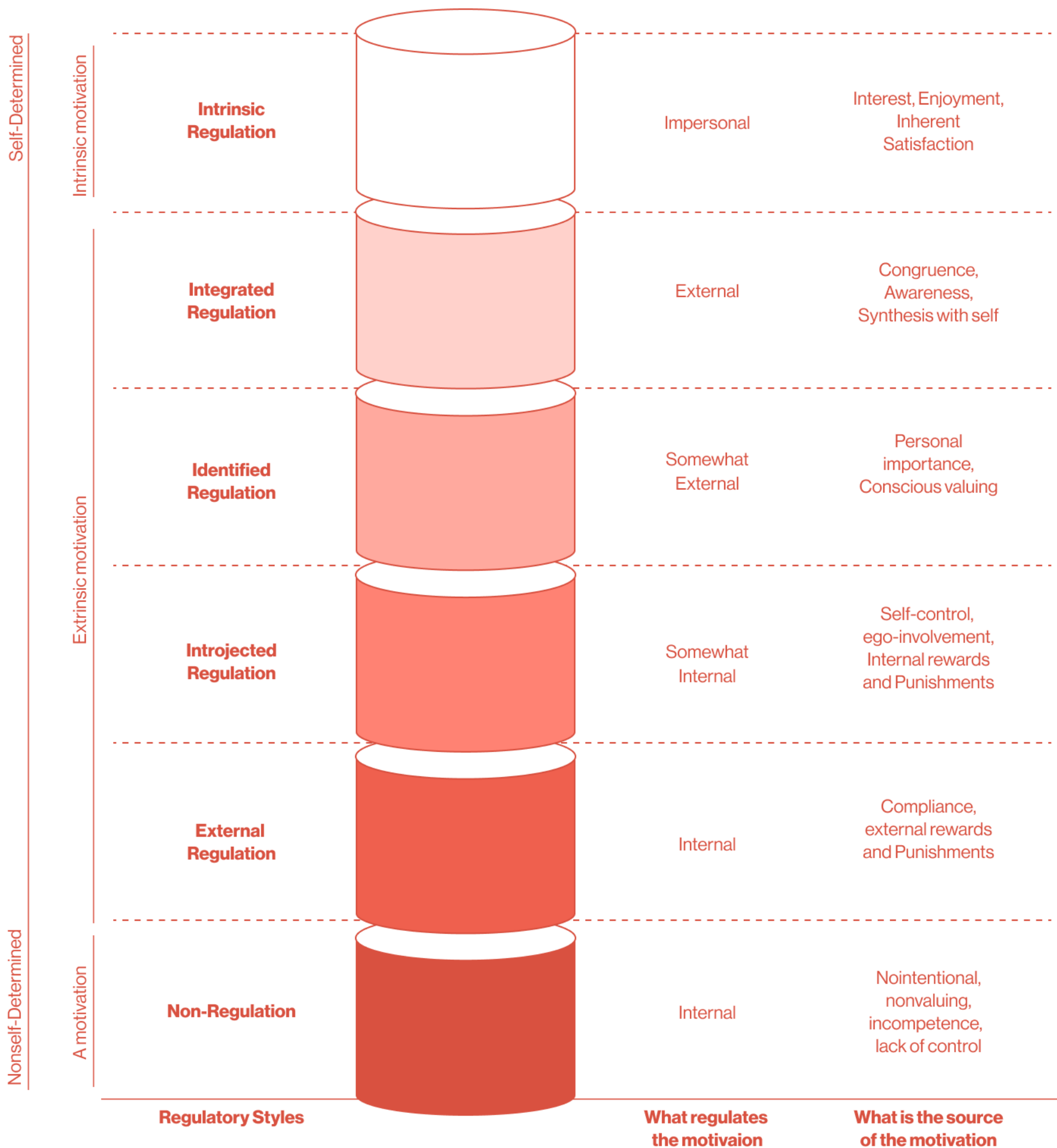
and behavioural responses of users. They found that human-to-information interaction and human-to-human interaction as environmental stimuli affect individuals' internal state, including social comparison and perceptions of fitness self-management, which subsequently influence the stickiness of fitness apps. The study highlights the importance of considering the social aspects of digital health interventions, which can greatly influence user engagement and users' sustained usage of apps.



③ Fitness and Motivation

Motivation is a critical factor in supporting sustained fitness through activity and nutrition, which in turn are associated with positive health outcomes. Teixeira et al. (2012) argue that the lack of motivation to engage in being fit through physical activity can be attributed to two main factors: individuals may not have sufficient interest or value the outcomes of physical activity enough to make it a priority in their lives, with other demands such as education, work, and family taking precedence; alternatively, some individuals may lack the perceived competence to participate in physical activities, feeling physically unfit or unskilled, or experiencing health limitations that hinder their participation. These factors result in a large proportion of the population being either unmotivated or insufficiently motivated to engage in physical activity. Additionally, some individuals who express personal motivation to exercise regularly may lack follow-through due to controlled motivations, where participation is based on a sense of external regulation rather than genuine interest.

The Self Determination Continuum



The concept of motivation is central to numerous social psychological paradigms aimed at comprehending behaviour, with self-determination theory (SDT) having emerged as a particularly seminal and impactful perspective on human motivation over the past three decades. SDT is a comprehensive and evolving macro-theory of human personality and motivated behaviour that is uniquely placed to examine the differential effects of different types of motivation on behaviour. Participants in our user interviews reported themes related to SDT, where they demonstrated the importance of autonomy to foster motivation and engagement with their self-adopted fitness regimes and the role of digital interventions.

According to Boiché et al. (2008), there are different types of regulation that fall along the continuum of self-determination. At one end of the continuum, there is amotivation, where individuals lack a sense of purpose or motivation to engage in an activity, and on the other end is intrinsic motivation, where the activity itself is appealing, enjoyable, and fulfilling. In the middle there are stages of external regulation, where behaviour is driven by external factors such as rewards, guilt, or punishment. There are four types of extrinsic motivation which vary based on the level of internalisation of the behaviour and self-determination of the individual. These four types are:

1 - External Regulation

This is where the behaviour is regulated by external factors such as rewards or punishment and is not yet internalised by the individual.

2 - Introjected Regulation

This type of regulation is where the behaviour is regulated by internal factors such as guilt or the need to improve self-esteem.

3 - Identified Regulation

In this type of regulation, the individual understands and values the benefits of performing a task.

4 - Integrated Regulation

This type of regulation is where the behaviour is integrated into the individual's values and beliefs.

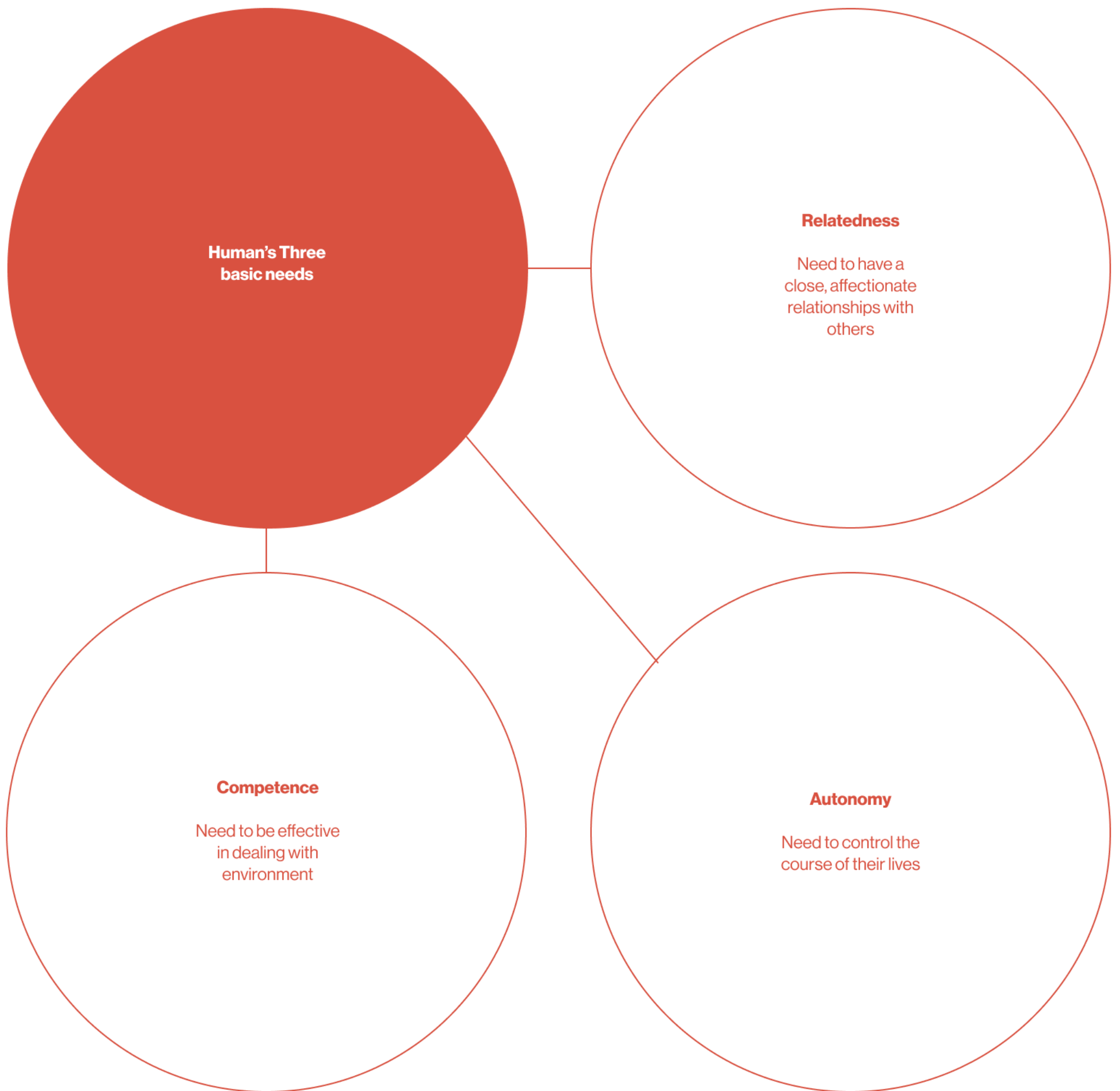
SDT suggests that more self-determined forms of regulation are associated with increased well-being, satisfaction, and long-term engagement in an activity, whereas less self-determined forms are associated with decreased engagement and negative outcomes (Ryan & Deci, 2017). Thus, the stability of motivation depends on its qualitative features, particularly the level of perceived autonomy and internal locus of causality. The METUX (motivation, engagement, and thriving in user experience) model links SDT to technology design by evaluating the impact of technologies on psychological well-being, defined as “optimal psychological functioning and experience” (Peters et al., 2018). It focuses on three key constructs: autonomy (perception of choice), competence (belief in capabilities), and relatedness (interpersonal connections). The model suggests that psychological needs must be analysed from five different perspectives for effective technology design:

- 1) **Adoption:** The point of technology adoption
- 2) **Interface:** During interaction with the interface
- 3) **Task:** As a result of engagement with technology-specific tasks
- 4) **Behaviour:** As part of the technology-supported behaviour
- 5) **Life:** As part of an individual's life overall.

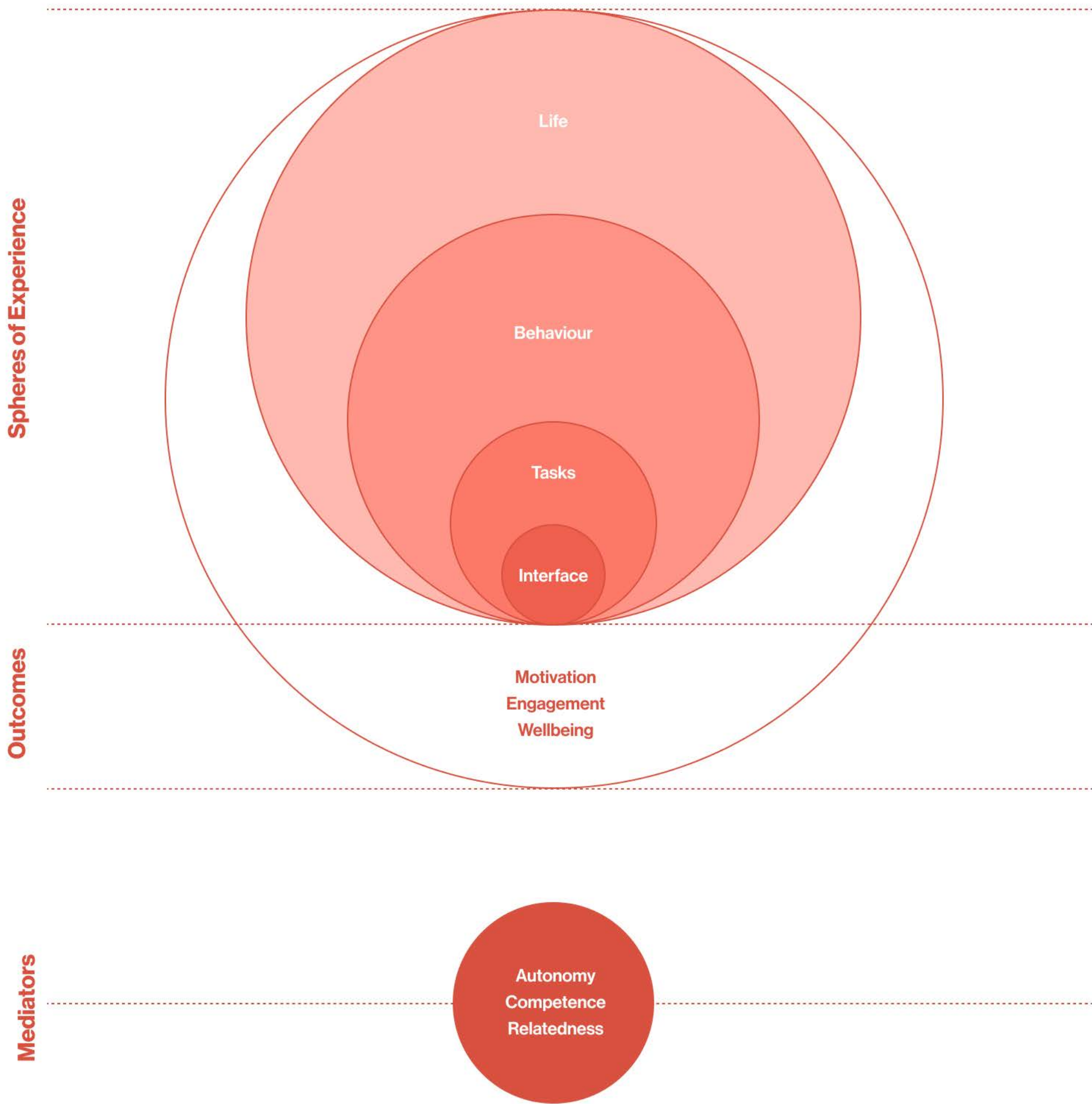
These operate within a sixth sphere of shared experience, i.e **society**, which encompasses both direct and collateral effects of technology use, as well as non-user experiences.

An approach to exercise that emphasises external factors, such as pressure from social and medical institutions to lose weight or exercise, may not be effective in promoting long-term fitness behaviour. Instead, environments and interventions that support users' psychological needs and foster intrinsic motivation for competency, relatedness, and autonomy will lead to more successful outcomes (Ryan & Deci, 2017).

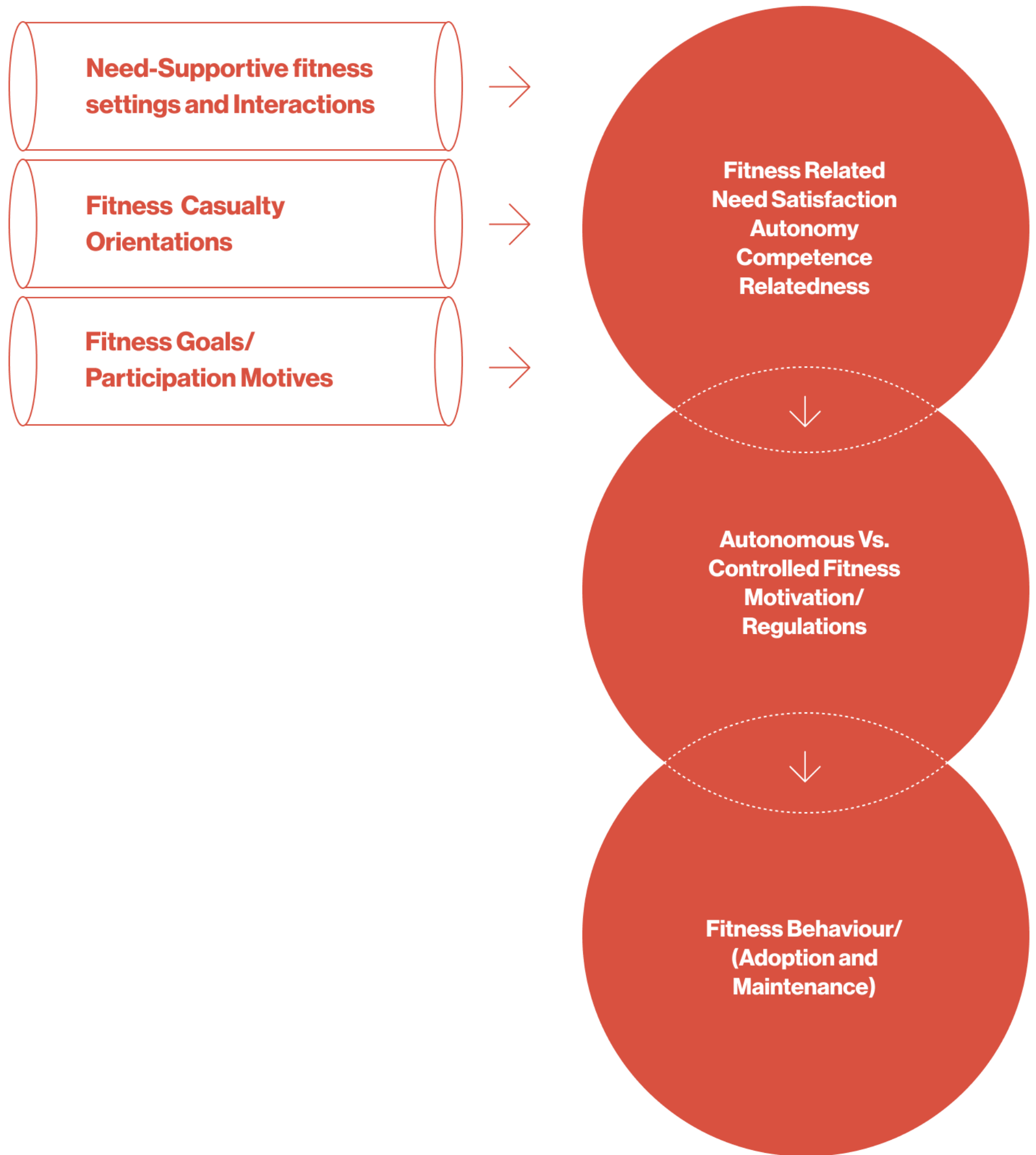
The Self Determination Theory



User Experience



Design



The above process model for fitness behaviour is adapted from the general SDT process model and the exercise behaviours process model, and includes 5 groups of variables that impact users’ fitness behaviours. The model depicts the expected relationships between these variables and fitness behaviour in a simplified form. Although this model only covers direct relationships, it assumes that a significant amount of the variance associated with SDT variables can also be explained through indirect mechanisms.

④ Health, Wellness, and Fitness

The notion of fitness has received considerable attention in recent times, as it is perceived as a significant aspect of modern society and is widely legitimised by health and medicine. Fitness is widely viewed as the ideal state of an individual's body and is believed to bring improved health and well-being to the social sphere.

“...on the basis of the seemingly incontrovertible evidence that physical activity and exercise contribute in a simple causal manner in improving health, it is now commonly thought that fitness is the most desirable state of the individual's body in modern society – something akin to the new health – and promises nothing less than new and improved standards of wellbeing in the public domain.” (Neville 2012)

However, the focus on fitness has also been criticised for being politically motivated and aligned with economic interests, leading to the privatisation of social risk. In modern times, the concept of a person's corporal self identity is closely tied to “fitness.” The term “fitness” can thus be used to describe a way of life that continuously and wholeheartedly strives for the achievement of what is sometimes referred

to as the “ideal body” or the “body associated with high social status” (Mansfield 2005). Freund and Martin (2004) argue that fitness is better understood as a consumptive relationship, detached from its progressive aim of improving health and wellbeing. Smith Maguire’s (2008) work highlights the complex relationship between fitness and health, where fitness is more of a consumer activity than a means to improve health – she argues that fitness “is about possessing the appropriate capacities and resources to undertake the project of the self in a competent fashion, minimizing health risks, and maximizing market value. Fitness is a measure of aptitude for life in consumer culture and a service economy.” Thus, fitness encompasses more

“[Health] is a norm, and norms are clearly delineated from above and below alike. ‘Fitness’ has perhaps its lower, though rather blurred and murky threshold, but cannot, by definition, have an upper limit; ‘fitness’ is, after all, about the constant ability to move further on, to rise to ever higher levels of experience. Hence ‘fitness’ will never acquire the comforting exactitude of a norm. ‘Fitness’ is a never-to-be-reached horizon looming forever in the future.”
(Bauman 1998)

than just healthy eating, regular exercise, or pursuing a career in a sporting activity – instead it denotes an enterprise that governs the self through the project of achieving **the high-status body**.

In the contemporary world, the focus has shifted from ultimate human life goals to practical means, with fitness replacing health as the desired status of the corporal body. Bauman (1998) sees this as problematic, as **fitness presents self-referential issues** that health was free from. According to Bauman (2000), health was valued in early twentieth-century societies as a physical state necessary for fulfilling societal roles. It involved maintaining a normative physical condition to carry out work, familial and social responsibilities. Health was defined by empirical and measurable terms set by modern medicine. On the other hand, fitness in consumer-driven societies is motivated by desire rather than necessity or duty. Fitness is subjective, and based solely on one's lived experiences and internalized cultural ideals. The pursuit of fitness promises ongoing victories but lacks a final triumph. The fit body is portrayed as **flexible, absorptive, and adjustable**, always ready for new experiences and increasing its desirability (Bauman 2000).

As digital health technologies continue to advance and become more popular, there has been a growing interest in the relationship between digital fitness apps and well-being, and in the potential for these apps to improve connected health outcomes. With a growing focus on the self-management of fitness and health, mobile applications are increasingly becoming sites of behavioural health interventions (Milne-Ives et al. 2020). The vast diversity among mobile fitness applications, including in their intended user group, focus on health behaviours and methods and features used for promoting change, has led to a substantial body of literature. At large, the research reviewed suggests

that users' perceptions are generally positive when it comes to fitness and health applications and that there is a statistically significant correlation between the use of digital fitness interventions and the users' health behaviour (Han and Lee 2018; Zhao et al. 2016). But **not all digital intervention tools are equally effective** — the mere inclusion of digital technology and mobile applications is inadequate to modify users' fitness habits, satisfaction, or intention (Valcarce-Torrente et al. 2021). Strategies such as **self-monitoring, self-motivation, goal setting, personalised feedback, participant engagement, and psychological empowerment** can lead to more successful fitness outcomes (Compernelle et al. 2016); however, since apps contain a limited number of these techniques, multiple apps may be necessary to effectively promote fitness activity in completely sedentary individuals.²⁶ The research reviewed suggests that the active use of fitness apps is helpful in promoting fitness activity in the short term, but, as a behavioural change intervention, there is no evidence to suggest that individuals who choose to use fitness apps are more physically active than those who do not (Barkley et al. 2020).

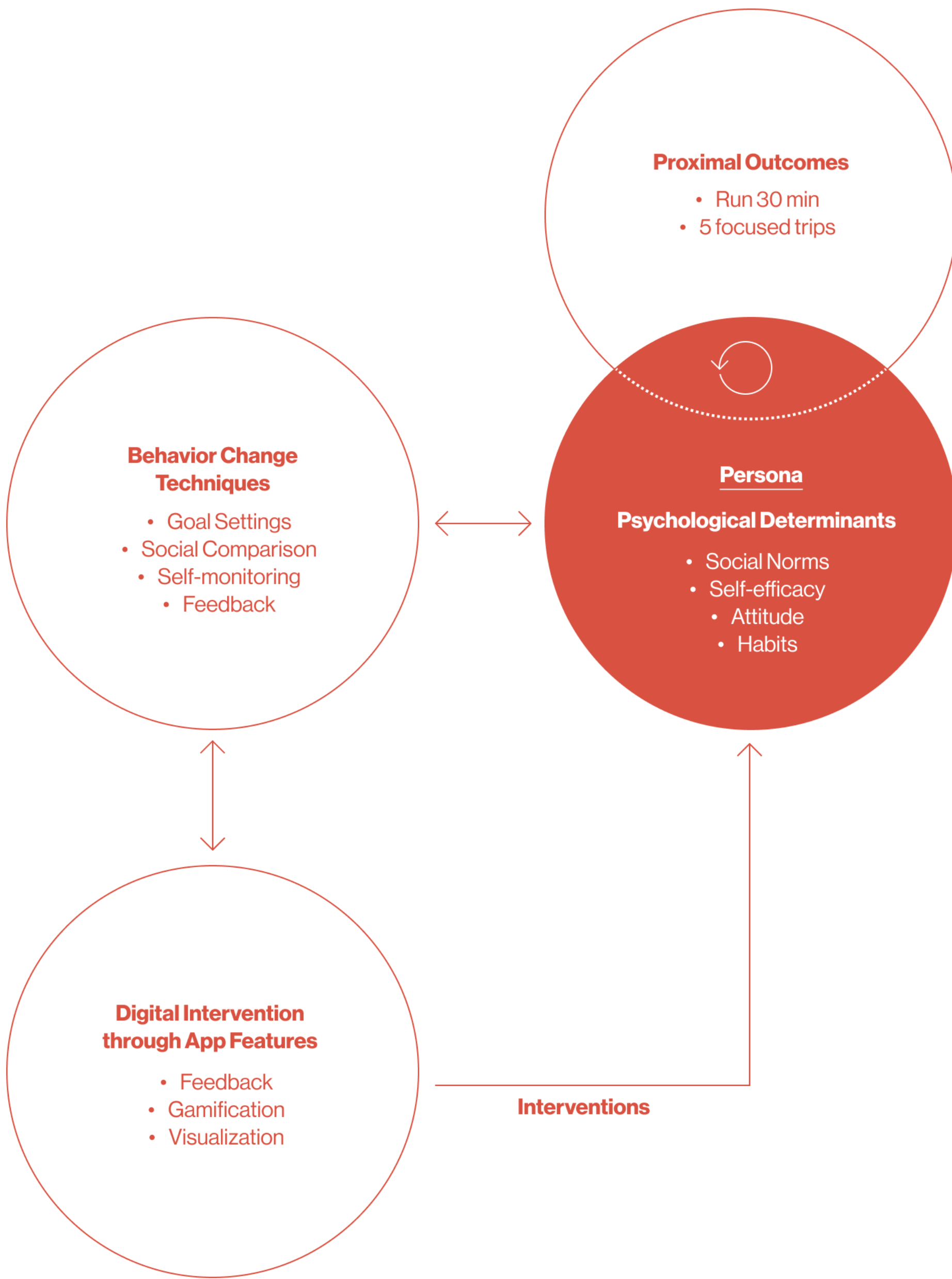
In a systematic review conducted by Chatterjee et al. (2021) to evaluate the effectiveness of digital interventions for healthy lifestyle management, the authors found that interventions that included **personalisation and behaviour change techniques** were more effective than those that did not. Romeo et al. (2019) conducted a systematic review and meta-analysis to evaluate the effectiveness of smartphone apps in increasing physical activity and found that fitness apps were particularly effective in increasing physical activity when they were used in combination with other interventions such as text messaging or coaching. They also found that apps that focused on goal-setting, feedback, and self-monitoring were more effective than those that did not. A pre-

pandemic study (Chen et al. 2014) examined the motivational aspects of social interactions on fitness apps. Gamification typically plays a role in most fitness apps, with competitive activities dominating, while aspects of social interaction play a less important role. The authors recommended options for app design that included cooperative features, as opposed to competitive features.

McKay et al. (2019a, 2019b) used two scales to rate smartphone apps: Mobile Application Rating Scale (MARS) for functionality, and the Application Behavior Change Scale (ABACUS) to determine the potential for behaviour change (Stoyanov et al. 2015). The most common behaviour change techniques included in apps in this study were those related to **practice and rehearsal, instruction, self-monitoring behaviour, customising features, and the inclusion of reminders or activity prompts**. Of these, the features that encouraged practice or rehearsal in addition to daily activities were the most commonly identified, followed by the feature to allow the user to self-monitor behaviour.

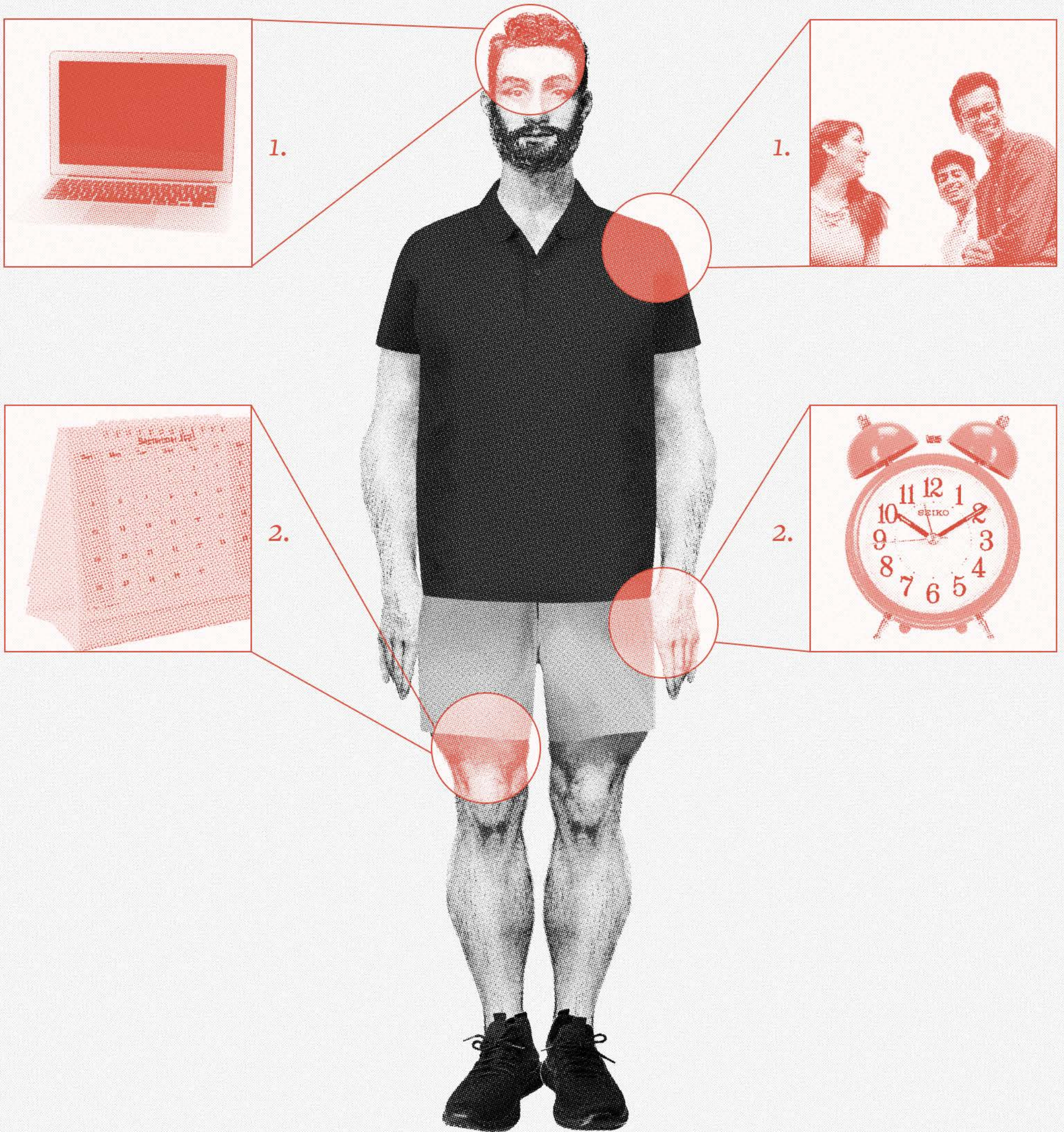
The study also noted that despite existing literature and user research identifying **goal setting** as important in achieving behaviour change, a disappointingly low number of applications included an option for users to set and change goals. A gross majority of the applications reviewed also failed to enable the user the ability to plan for constraints, export data from the app (i.e. to a health care professional), or gather background on willingness for behaviour change ●

Behaviour Change Theories



GOALS AND NEEDS

PAIN-POINTS AND FRUSTRATIONS



- ✕ Easy-Going ✕
- ✕ Social ✕
- ✕ Hard-Working ✕

NAME	KARAN TALWAR
GENDER	MALE
AGE	27
OCCUPATION	PROGRAMMER
LOCATION	GURGAON, INDIA
STATUS	UNMARRIED
HOUSEHOLD INCOME	18 LACS PA

FITNESS

NOT ACTIVE ACTIVE EXTREMELY ACTIVE


TECH SAVVY

BEGINNER MODERATE ADVANCED


FITNESS EXPERIENCE

BEGINNER MODERATE ADVANCED


BIO

Karan is a software engineer at Infosys. At work he is vibrant and contributes to open discussions. In his free time he likes to keep up-to-date with the latest IT trends and learn new programming languages. He also enjoys meeting his friends over drinks during the weekend. Due to his busy schedule, he's unable to make time for fitness and over time, he sees his body slowly getting unfit due to his desk job. To fix this, he wants to incorporate a short intense workout in his daily routine.

GOALS AND NEEDS:

1. Seeks fitness solutions that can be completed in a short amount of time, allowing him to achieve maximum results within his limited availability.
2. Needs flexibility in his fitness routine. He wants the ability to exercise at any time, whether it's during the day or evening, without being bound by specific class or gym timings.
3. Has limited knowledge about fitness, thus seeks guidance from experts or reliable sources

PAIN-POINTS AND FRUSTRATIONS:

1. His demanding job and long hours sitting at a desk, which limit his ability to engage in regular physical activity.
2. Experiencing decreased energy levels, muscle weakness, and a decline in overall stamina and endurance, which is impacting his work and overall quality of life.

GOALS AND NEEDS

PAIN-POINTS AND FRUSTRATIONS



- × Positive ×
- × Health Conscious ×
- × Caring ×

NAME	SHIVANGI KHANNA
GENDER	FEMALE
AGE	43
OCCUPATION	HOME MAKER
LOCATION	GURGAON, NCR
STATUS	MARRIED (HAS 2 CHILDREN)
HOUSEHOLD INCOME	N/A

FITNESS		
NOT ACTIVE	ACTIVE	EXTREMELY ACTIVE

TECH SAVVY		
BEGINNER	MODERATE	ADVANCED

FITNESS EXPERIENCE		
BEGINNER	MODERATE	ADVANCED

BIO Shivangi Khanna is a stay-at-home-mom who believes in the importance of staying fit and active as a family. She is a mother of two young children and lives with her husband and his parents in Gurgaon. She believes that maintaining an active and healthy lifestyle is important for her entire family's well-being and hopes to find a fitness app that can help her achieve this goal. Despite her busy schedule managing her family and household, Shivangi is committed to making time for fitness and encourages her extended family to participate in fun and engaging workouts together.

GOALS AND NEEDS:

1. Find a fitness app that offers workouts suitable for all ages and fitness levels
2. Incorporate fitness into the family's routine
3. Track family's fitness progress over time
4. Share progress and workouts with family members who are not in the same location

PAIN-POINTS AND FRUSTRATIONS:

1. Difficulty finding workouts that are suitable for all ages and fitness levels
2. Lack of motivation to exercise alone
3. Limited time to spend with family due to busy schedule
4. Difficulty tracking family's fitness progress over time
5. Inability to easily share progress and workouts with family members who are not in the same location

GOALS AND NEEDS

PAIN-POINTS AND FRUSTRATIONS



- Health Conscious
- Ambitious
- Disciplined

NAME	SANCHIT SHETTY
GENDER	MALE
AGE	41
OCCUPATION	CORPORATE EXECUTIVE
LOCATION	BANGALORE, INDIA
STATUS	MARRIED (HAS AN 8 YEAR-OLD DAUGHTER)
HOUSEHOLD INCOME	40 LACS PA

FITNESS

NOT ACTIVE ACTIVE EXTREMELY ACTIVE

TECH SAVVY

BEGINNER MODERATE ADVANCED

FITNESS EXPERIENCE

BEGINNER MODERATE ADVANCED

BIO

Sanchit follows an extremely disciplined schedule with the right balance between his work and personal life. He is health conscious and starts his day very early with a fixed routine for his meals. When at work, he tracks his steps on his fitness watch.

Sanchit's evening schedule is blocked with a strict fitness regime or four years now. He started his training at a local gym, and their in-house gym instructor helped him learn technique, form and routines. He emphasizes on spending Sunday mornings in outdoor activities with his family.

GOALS AND NEEDS:

1. A digital fitness application that offers a wide range of workout options to break the monotony of his routine
2. Be up to date of the new trends in the fitness sector
3. A family-friendly fitness application that enables shared workout schedules, family challenges, and progress tracking

PAIN-POINTS AND FRUSTRATIONS:

1. Challenge of balancing the pressure from his work life with his fitness goals.
2. Balancing social life with other aspects of life - family, work, self care. It is challenging to allocate time and energy to each aspect, but he aims to prioritize and manage his commitments effectively
3. At times, Sanchit's repetitive exercises and routines lead to boredom and decreased motivation, affecting his overall enjoyment of his fitness journey

Categories, Offerings, Features, and Positioning

Categories: Offerings, features and positioning

In recent years, the fitness industry has experienced increasing disruption from digital opportunities and innovative technologies aimed at addressing complex issues and meeting diverse user needs. We conducted a competitive analysis of 30 fit-tech brands, including Nike+ Training Club, Cure.fit, and Samsung Health, as well as several digital apps in health-tracking and educational learning domains. Through this analysis, we gained a comprehensive understanding of the current landscape, identifying key features, UX/UI trends, and unique aspects among the major fitness and health applications. Our research allowed us to categorize the fitness app market, gather insights, assess offerings, determine unique selling points (USPs), and identify different positions within the industry.

3.1

Relatedness and Community driven fitness

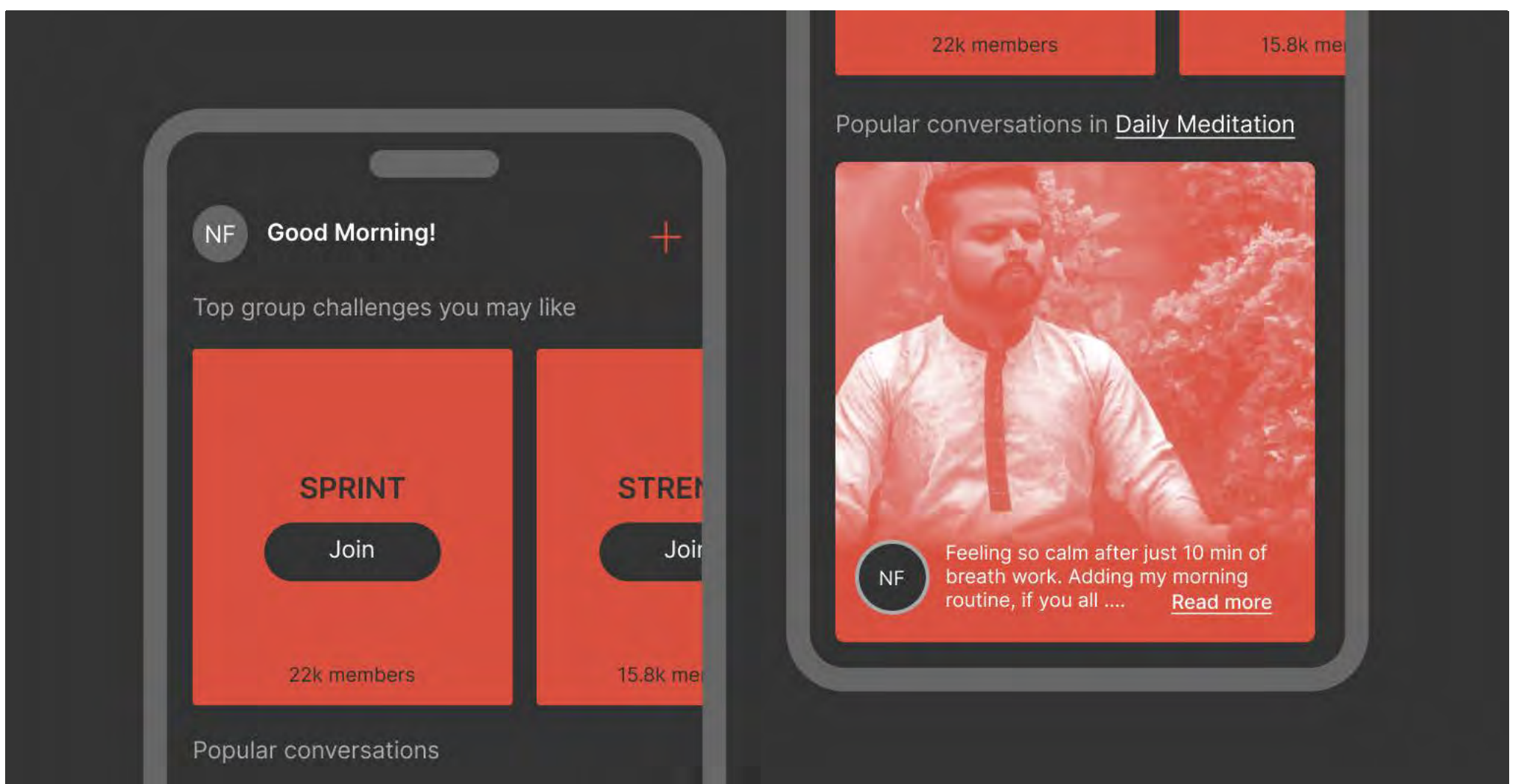
Fitness apps are focusing more on community-driven fitness, featuring social components like feeds, adding and sharing with friends, group training sessions, and topic-specific forums as drivers to keep people committed, engaged, and motivated, which have proven successful in helping people stay on track with their fitness goals.

One key driver of this trend is the recognition that people are more likely to stay motivated and engaged when they feel connected to others who share similar interests and goals. By offering features such as topic-specific forums and the ability to share workouts and progress with friends, fitness apps and other digital platforms are able to create a sense of community and support that is proving vital to help people stay motivated and engaged.

For example, the Fitbit app's dedicated "Community" section features over 40 topic-specific groups, ranging across varied fitness subjects. Through these, members can grow and discover like-minded

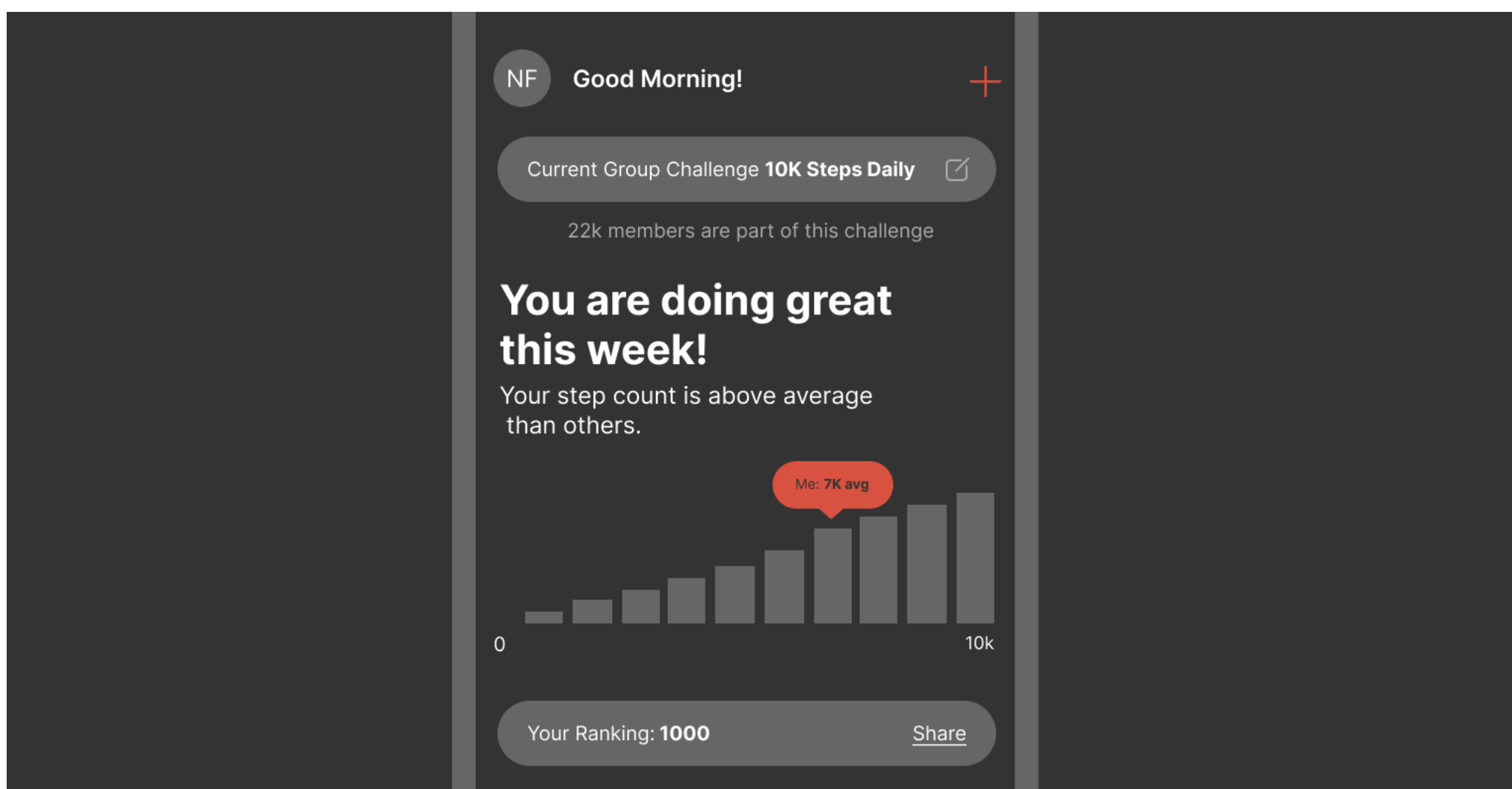
people and share interests, inspiration, updates, goals, and progress relevant to the group. Other apps like Aaptiv even let users rate and review a workout programme, adding a layer of social credibility and feedback while also building a sense of community.

A significant number of these apps also feature exercise challenges, tapping into the psychology of healthy competition and gamification. Samsung Health’s “Together” feature allows users to create and join themed global challenges and participate in different workout contests with members from all over the world. Users can compare their stats with their friends and other Samsung Health users. They can even filter by age, giving them greater control over how they measure their success and ensuring that the fitness data they consume is relevant.

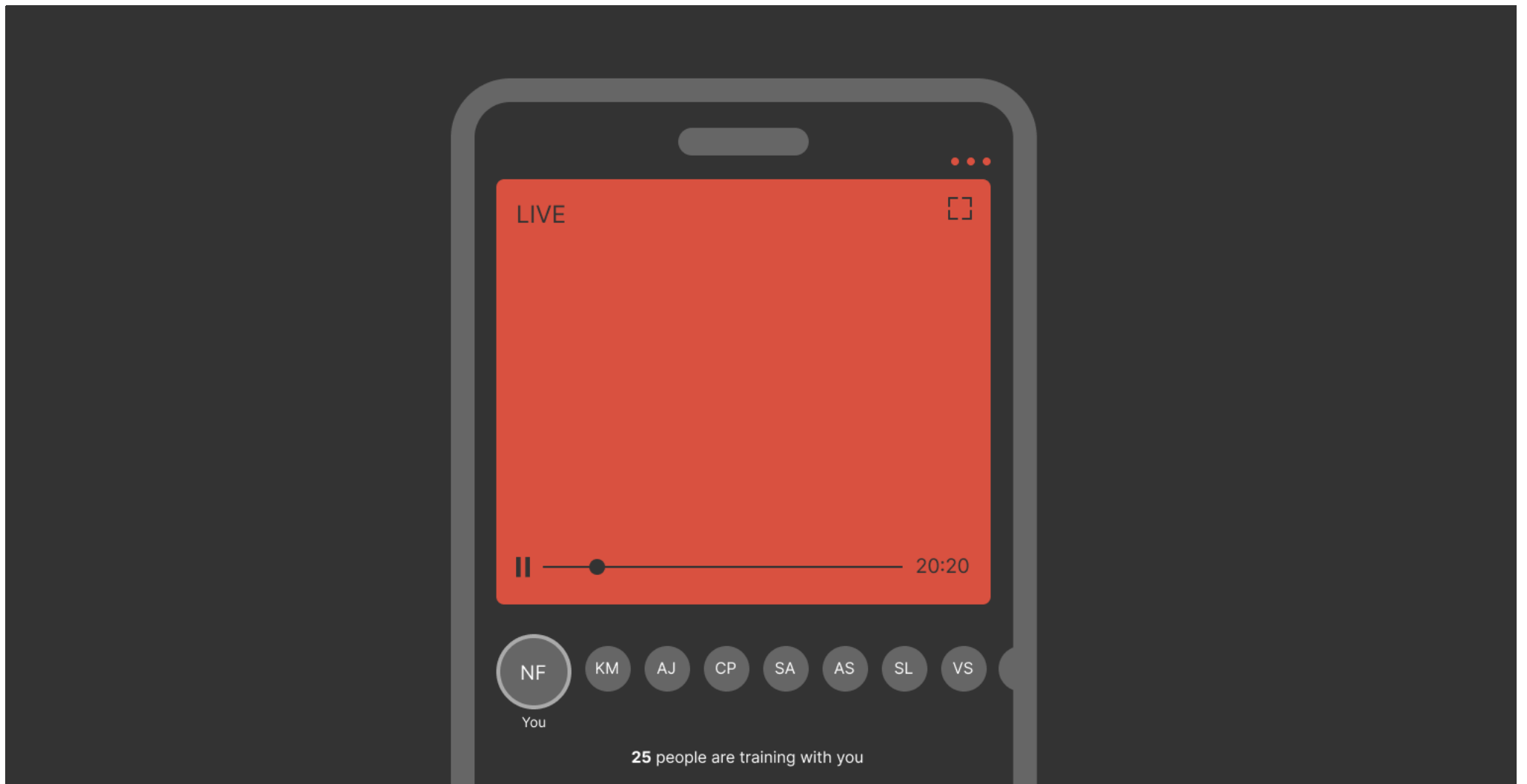


Fitbit app’s dedicated “Community” section, featuring over 40 topic-specific groups, ranging across varied fitness subjects, provides a platform for members to connect, interact, support and encourage each other.

Virtual group sessions gained momentum during the pandemic. Cure.fit, which was already working towards introducing online group classes on their app, fast-tracked the rollout of this feature due to the lockdown and shifted its focus entirely to live in-app workouts. Mindfulness app Headspace has also introduced a feature allowing users from all over the world to anonymously join and meditate together in the hope of building a stronger sense of community. Headspace noted an uptick in the usage of its live meditation feature even after lockdown restrictions were lifted, indicating that despite anonymity and no tangible interaction between users, people valued the shared social experience of meditating together. In 2021, Apple launched a new social feature in its Fitness+ app that lets up to 32 users exercise or meditate with each other.



Samsung Health's "Together" feature, allows users to create and join themed global challenges with members from all over the world. Users can even filter leaderboard by those their age allowing greater control over their measures for success and motivation.

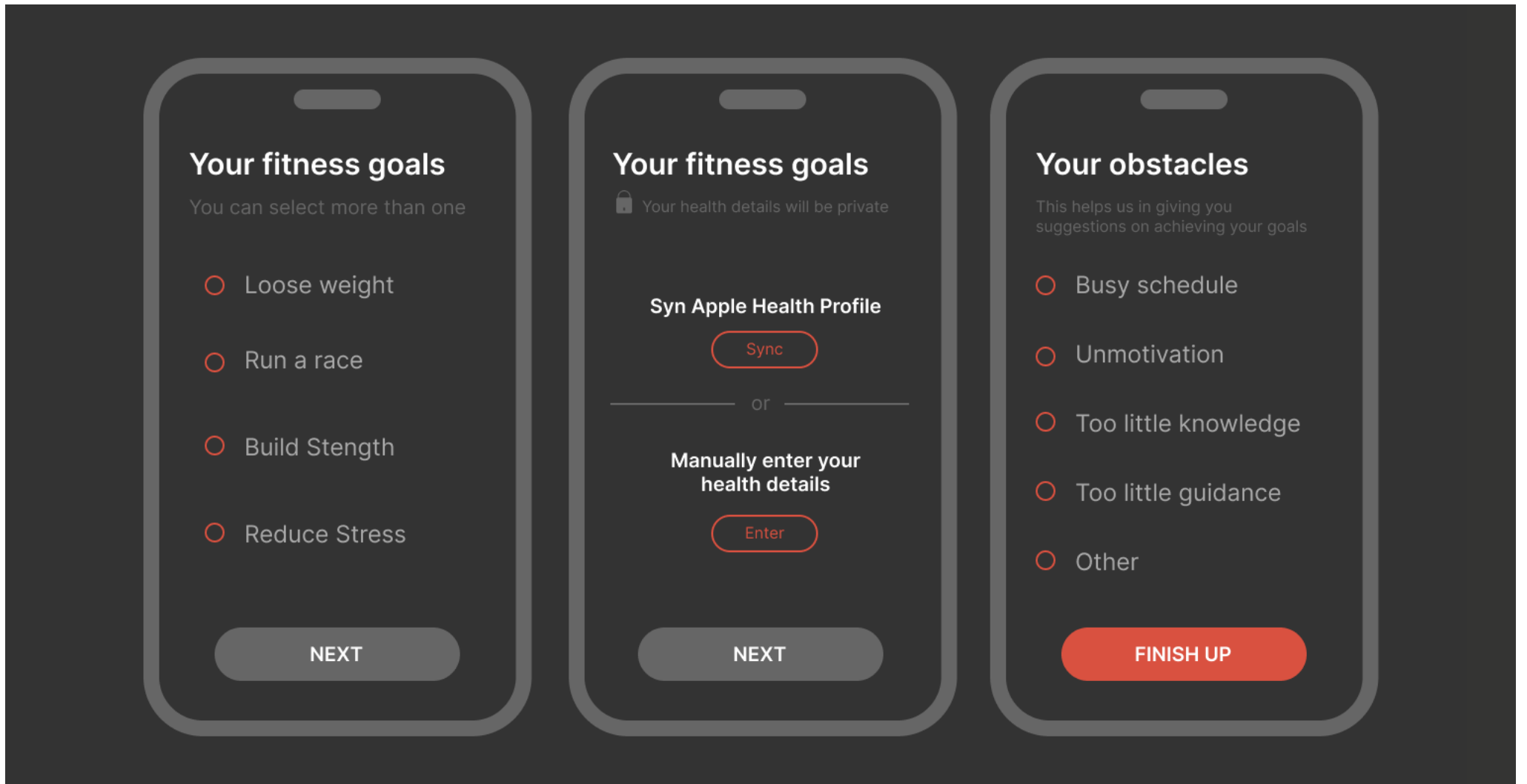


Mindfulness app Headspace recently introduced group mindfulness sessions where users from all over the world can anonymously join in and meditate together

3.2

Hyper personalisation

Hyper-personalization in fitness apps is a trend that leverages AI, machine learning, and data analytics to customize the fitness experience for individual users. Through onboarding surveys, fitness apps gather information on user preferences and goals, enabling them to deliver relevant content and plans. Some apps even integrate with inbuilt health-tracking tools, allowing for further personalization. Aaptiv, for instance, employs an AI assistant called Aaptiv Coach to provide tailored plans and suggestions. This AI assistant takes into account user input, engagement data, diet, fitness levels, habits, and external device data to continuously learn and offer personalized recommendations. The app's flexible guidance empowers users to adjust and update their plans on the go, ensuring a unique and personalized experience.



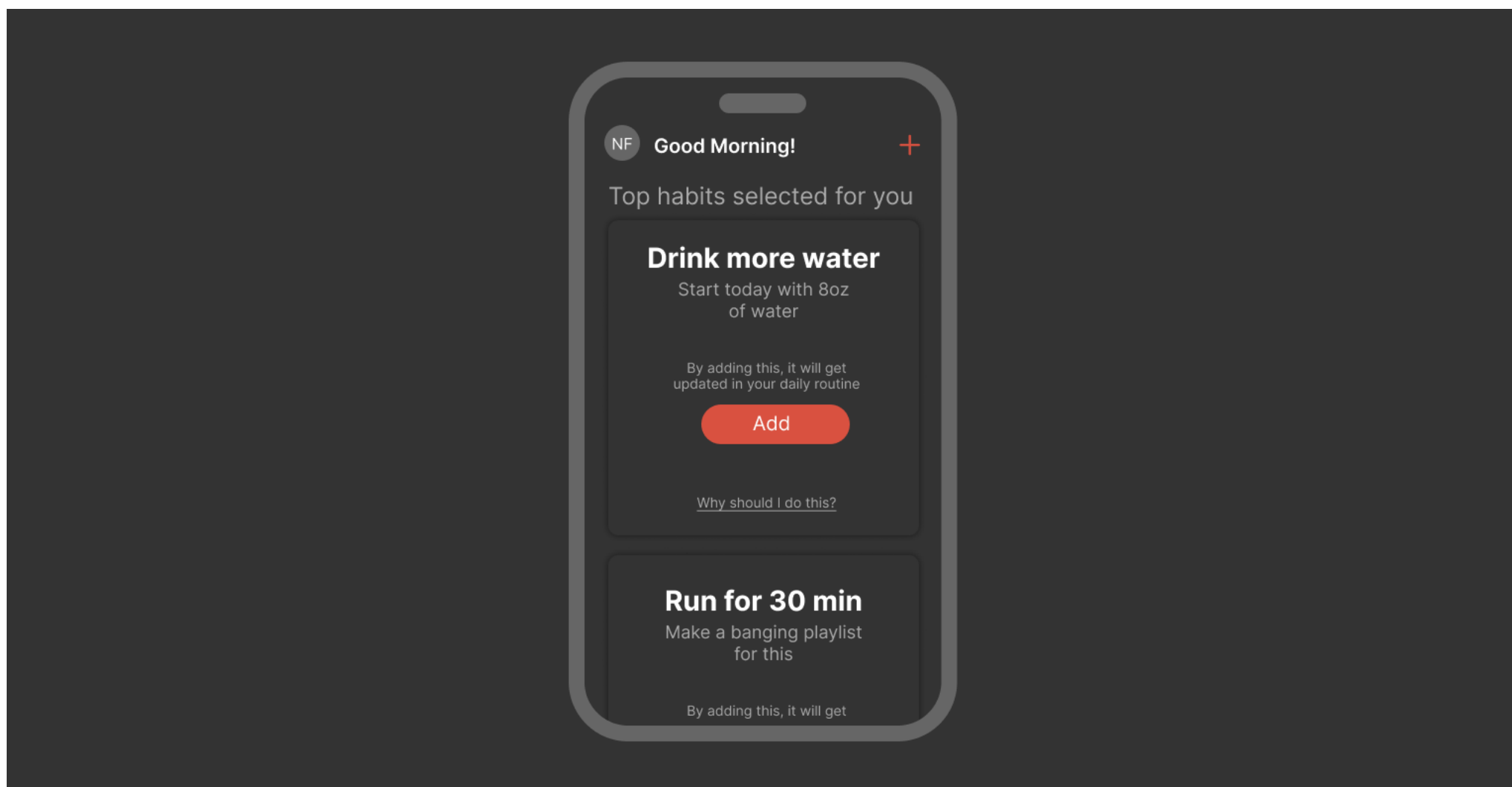
Most fitness apps also take users through a comprehensive onboarding experience with the option to sync data to smartphones and wearable devices to offer greater personalisation and relevant content

Fitbod takes a similar approach by utilizing machine learning to create workout routines tailored to individual preferences. The app adapts its recommendations based on users' past workouts, achievements, and preferences, allowing them to fine-tune their goals, equipment, available space, and time. This adaptive approach ensures that each workout plan is unique to the user and can be modified as needed.

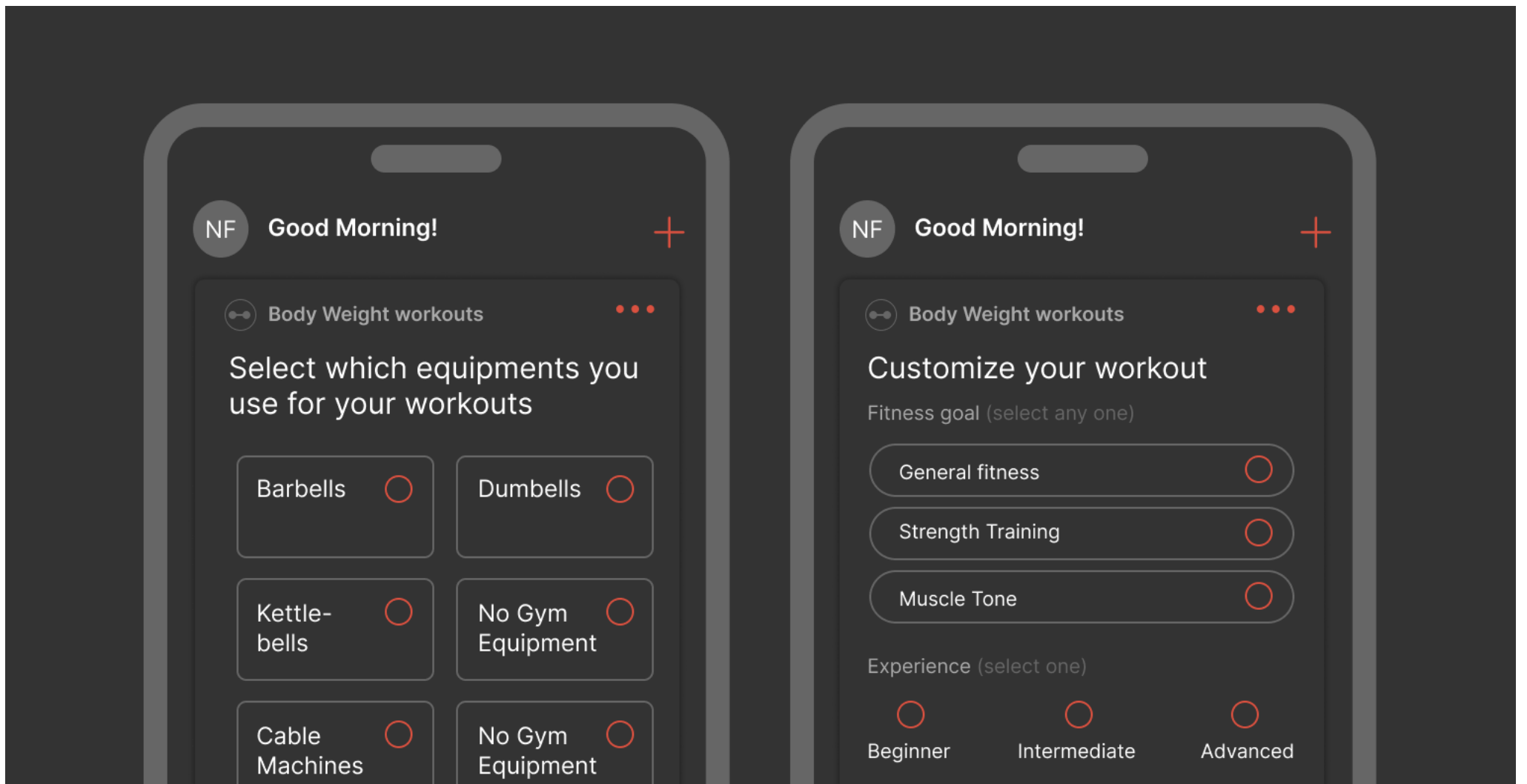
Nutrition tracking applications, such as MyFitnessPal and HealthifyMe, utilize AI-powered algorithms to deliver personalized insights and recommendations to their users. By harnessing the power of data analytics, these apps provide comprehensive nutritional information, track calorie intake, and offer customized meal plans. They consider individual factors like user goals, dietary preferences, and health conditions to deliver highly relevant and tailored content. Through their extensive food databases and advanced machine learning algorithms,

these apps empower users to make informed choices towards achieving their desired health outcomes.

While hyper-personalization offers exciting possibilities, it is essential to address the ethical implications and privacy concerns associated with data collection and analysis. The extensive use of personal data and algorithmic decision-making raises questions about privacy, surveillance, and potential risks. It is crucial for fitness apps to prioritize user privacy, personal autonomy, and transparency. Developing robust policies and regulations that protect user data and inform users about how their data is used and stored is imperative as these technologies become more prevalent. By considering the ethical implications, fitness apps can ensure that hyper-personalization is implemented responsibly and with respect for user rights.



AI-powered fitness app, Aaptiv Coach helps advise members on achieving and maintaining holistic health goals. The flexible nature of guidance allows users to easily tweak and update their plans as they advance through their fitness journey.



Fitbod uses Machine Learning (AI) and customisation to offer hyper-personalised fitness routines.

3.3 Immersive experiences

Technologies like augmented reality/ virtual reality (AR/VR), 3D scanning, and motion tracking are transforming the future of workouts by delivering immersive experiences that make exercising online more engaging and effective. AR overlays the real world with virtual elements to generate live information or create an immersive experience. In VR applications, users become entirely immersed in the virtual world. To increase engagement, digital sports solutions for home often employ AR, VR, or even mixed reality (MR) technologies, which have previously found little use in private households outside of the gaming domain (Ruth et al. 2022).

Immersive approaches to digital fitness can even help simulate the experience of working with an actual trainer by providing real-time data to correct form and measure recovery, the quality of workouts, and so on. Gymaholic, for example, leverages innovative features, including 3D animation and a customisable avatar that users can view and rotate at different angles, to accurately gauge movement and proper form. Users

can even use AR to place the avatar in the physical space to visually understand how to perform a specific activity, what muscles the exercise targets, and how to correct posture and technique.

Interactive UI interventions can also make working out digitally more immersive and entertaining by adding rewarding elements to reach fitness goals. Cult.fit introduced a virtual energy meter within their in-app live workout classes to replicate the enthusiasm people feel when working out together in a physical class. The feature requires camera permissions to capture movements and assigns each online participant with an energy score based on their range of motion and intensity. The energy score assigns users a rank at the end of the class, which they can share on social media and use to challenge friends.



Gymaholic's customisable avatar can be viewed and rotated at different angles to help users accurately gauge proper form and movement.

Another major component of fitness is the importance of muscle recovery; immersive UI, like on the Fitbod app, can help users better visualise recovery recommendations. Fitbod provides a composite heat map visualising how a set of exercises has collectively impacted the muscular system, allowing users to efficiently track the recovery of their muscle groups. After completing a full workout, Fitbod's analytics and machine-learning capabilities help determine progress and smart recovery times to intensify or relax its recommended routines for future workouts. Additionally, Fitbod also focuses on correcting form and technique by offering detailed breakdowns of movement along with visual aids like videos.

3.4

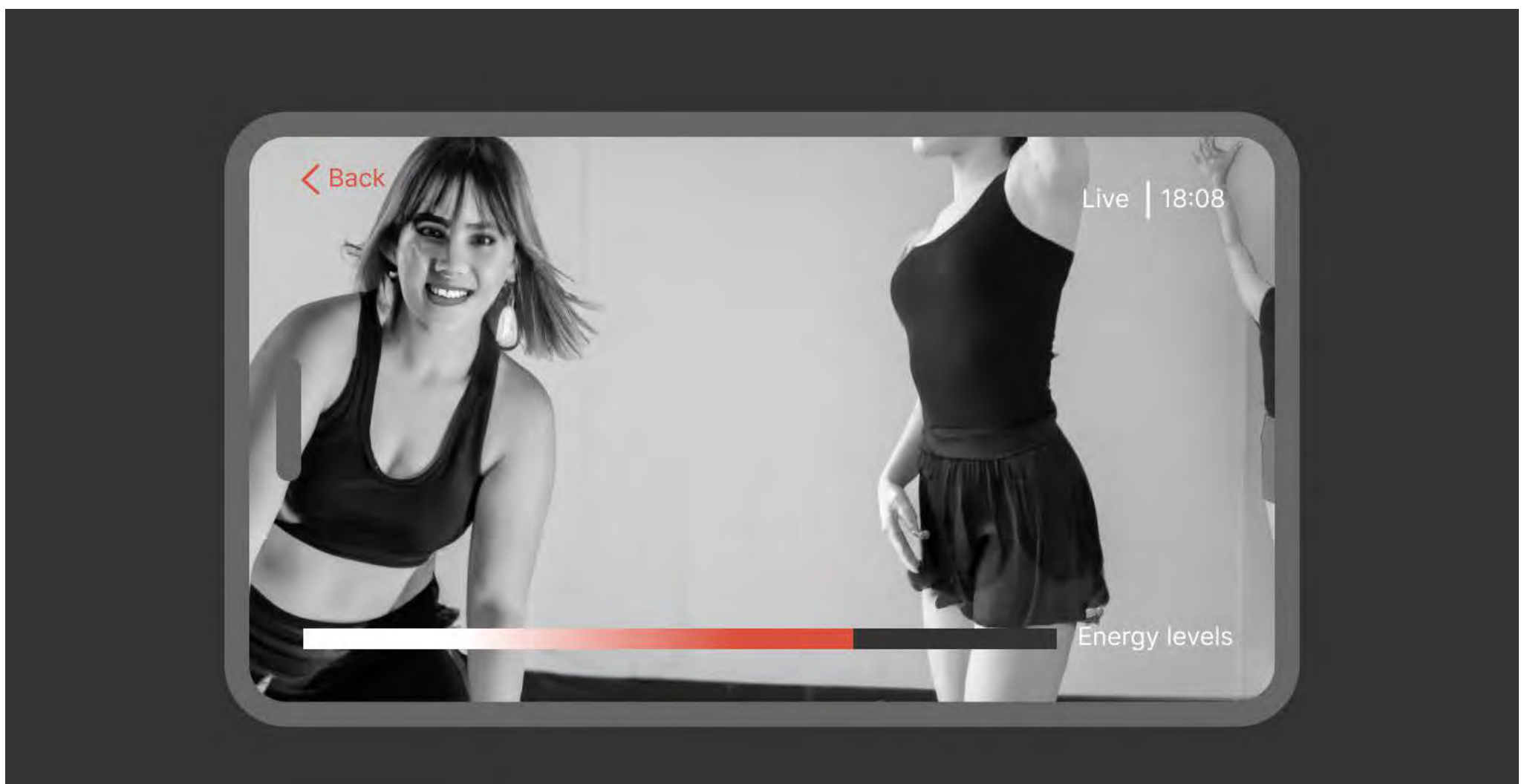
Motivation and Gamification

Consumer behaviour is influenced by feedback and rewards, which can lead to improvements in physical activity levels (Sullivan and Lachman 2017). Positively framed messages are more effective on user perception compared to negatively framed ones.³³ External factors, such as technological devices and their features, are likely to influence consumers and their attitudes. Ryan and Deci (2000) define motivation as an impulse or sensation to “be moved to do something”; motivation can be intrinsic or extrinsic, with intrinsic motivation, determined by internal rewards, considered the most important and pervasive.³⁴ Mobile fitness applications that show a summary of daily activity act as an external factor that provide quantitative data as a reward to the user.

Gamified features provide feedback and rewards that can lead to an increase in intrinsic motivation as users feel a sense of accomplishment and satisfaction from achieving their physical activity goals. Furthermore, a positive framing of messages within these apps and devices can also contribute to a more constructive attitude towards physical activity, leading

to further improvements in overall physical activity levels. Extrinsic motivation can also play a role in the effectiveness of these devices. External prods and pressures, such as reminders and notifications, can also contribute to an individual's motivation to engage in physical activity. Overall, consumer behaviour in relation to physical activity is highly influenced by feedback and rewards, both intrinsic and extrinsic, provided through technological devices. Gamification as a motivational tool, from e-learning to loyalty programmes, has become a significant part of digital experiences.

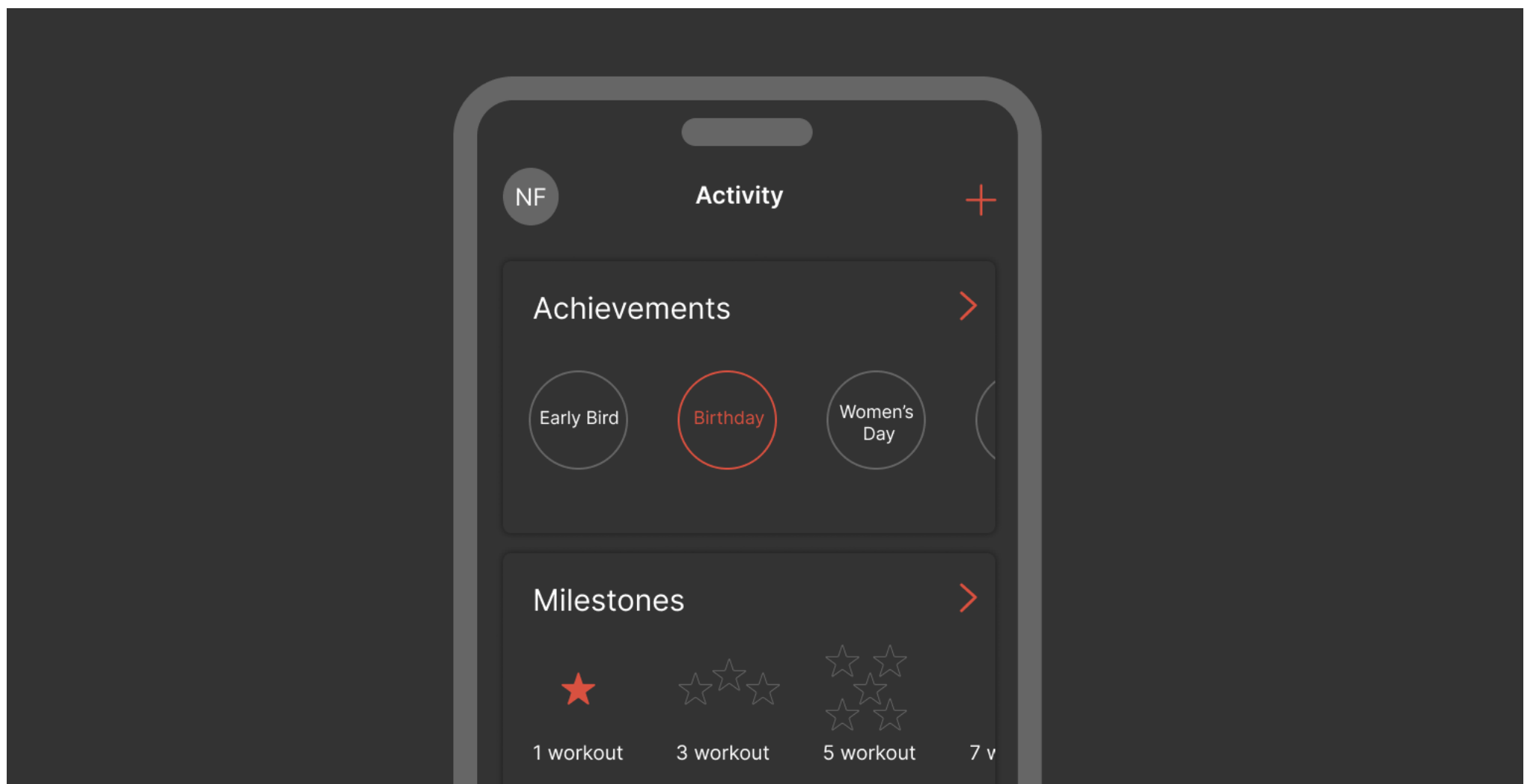
Fitness apps like Aaptiv, Fitbit, and Nike+ Training Club award members with gamified badges to motivate them and help them track progress through milestones, streaks, competing in athlete challenges, and other specific activities. In addition to in-app training activities, Aaptiv also awards users for supplementary activities like sleep and socialising, taking a holistic approach towards encouraging a healthy lifestyle. Alternatively, some apps incorporate a simple points-based rewards



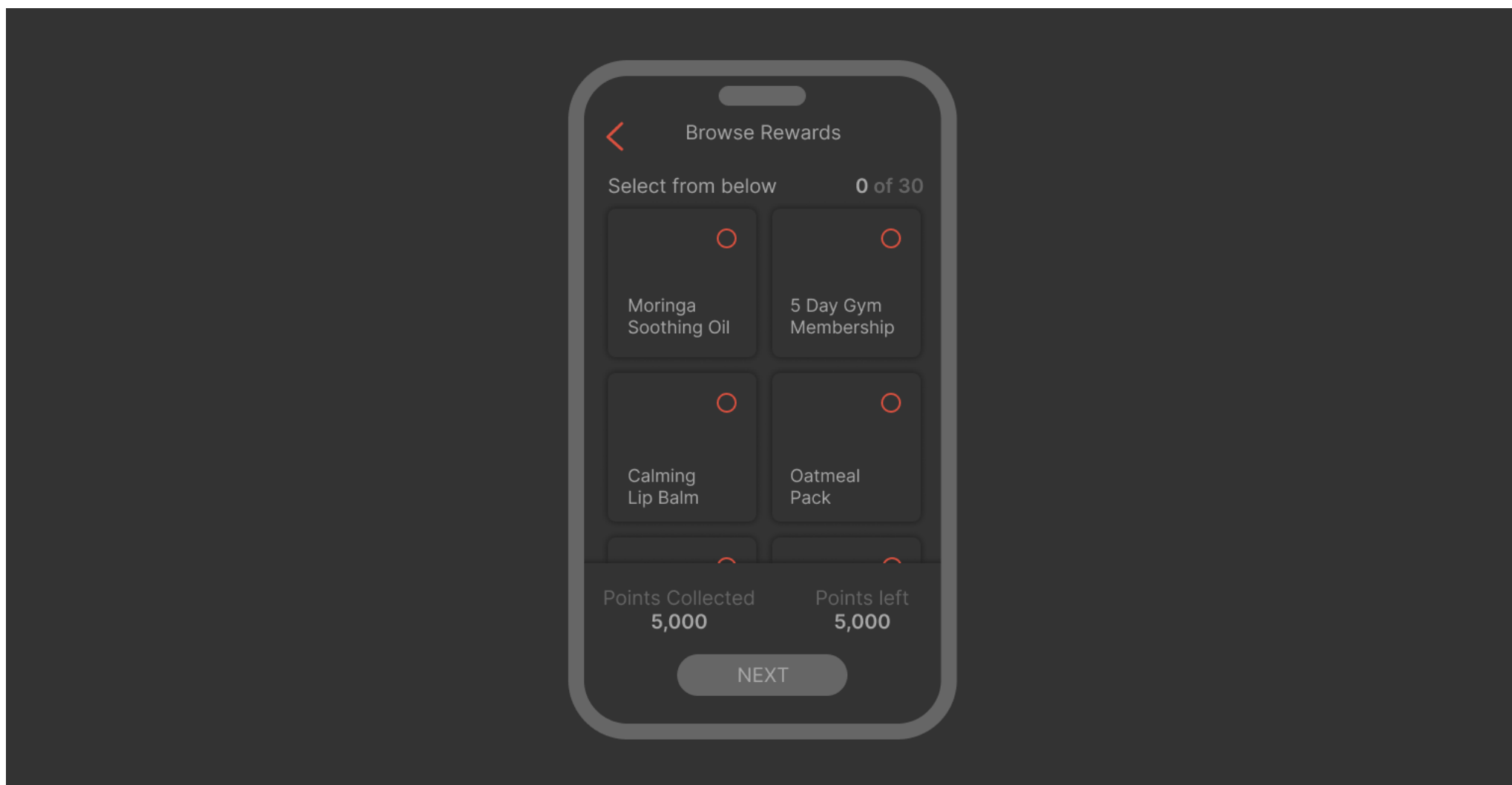
Cult.fit introduced a virtual energy-meter on their in-app live workout sessions to ensure that users can still experience the enthusiasm and motivation of being in an actual class with other members.

system: Google Fit awards heart points based on the intensity of a workout (a high-intensity workout will increase the heart rate, which will earn the user more points); the WellnessWins section of the Weight Watcher's WW App awards users "Wins" for building healthy habits like tracking food, activity, and weight, which can then be traded for real rewards like products and experiences.

On the other hand, Fitbod focuses on the satisfaction of accomplishing the exercise. By giving users clear weight and repetition goals for each activity, Fitbod harnesses the psychology of "rewards of the self," showcasing personal bests as Fitbod Achievements. Users can earn strength-training achievements as they reach exercise goals and share their workout achievements and session summaries with friends and family.



Fitness apps leverage gamification through badges and points based-rewards to motivate users and help them track progress.



The WW App earns users “Wins” for healthy habits that can be traded in for real rewards like products and experiences, all for free.

3.5

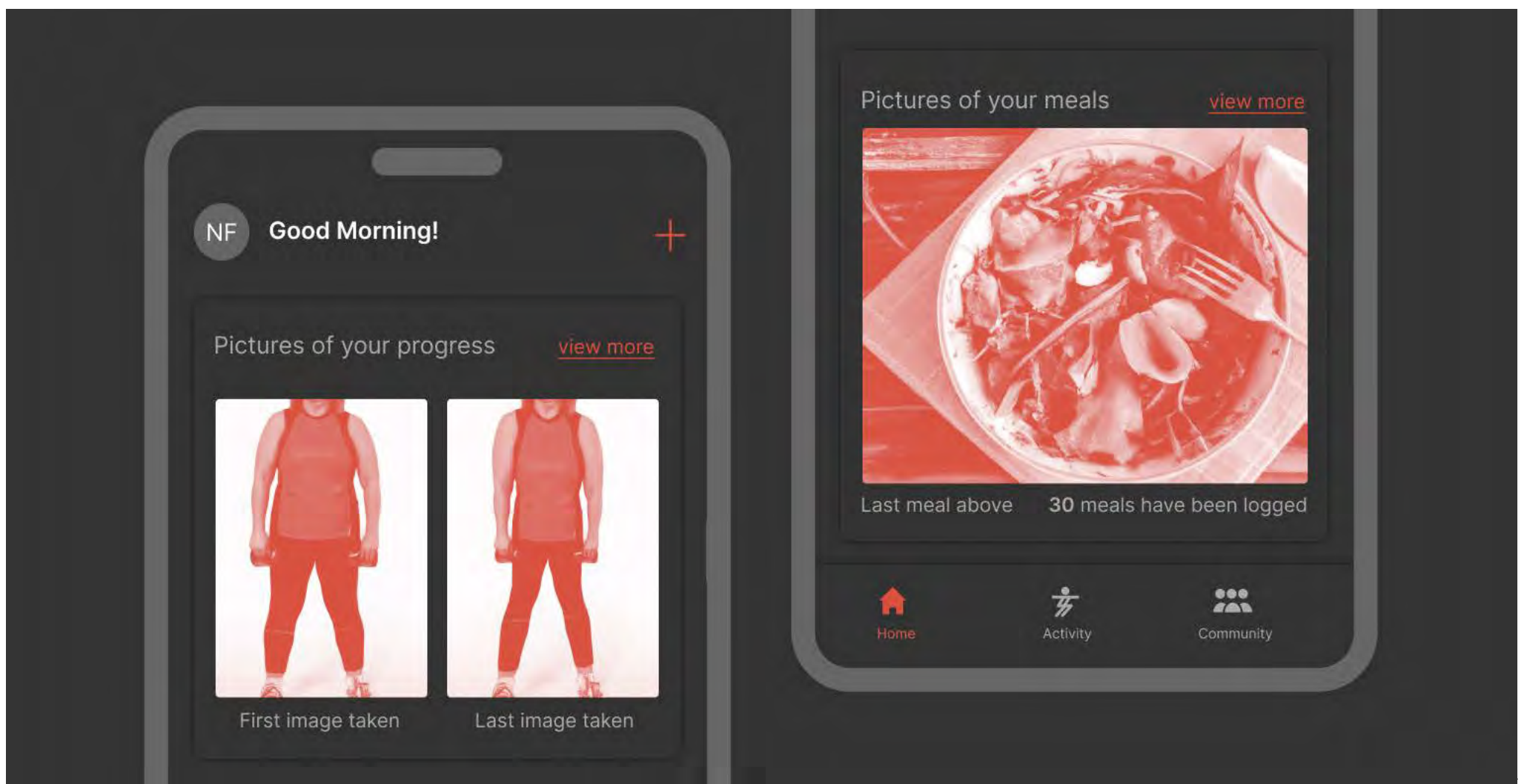
Progress and Tracking

Digital fitness and fit-tech solutions have the potential to improve wellness by providing easy tracking and reminders to follow through on goals. Research on exercise motivation and adherence has shown that the ability to easily track and visualise progress can play a significant role in maintaining engagement and promoting self-awareness and accountability. Lifesum and Adidas Training, for example, allow users to monitor their progress through logs, entries, and milestones. Adidas Training allows users to document their transformation by taking pictures of themselves at specific intervals (visible only to them) as they advance through workout sessions. These photos, paired with relevant progress statistics and recommendations, are a form of results-based motivation.

Digital solutions can also offer detailed reports and analytics in the form of intuitive dashboards, biometric charts, and graphs to allow users to feel more in control of their progress. Fitbod provides subscribers with comprehensive weekly reports

highlighting a variety of exercise-related stats, streaks, and achievements to keep them motivated and aware of their training progress.

The Samsung Health app offers users the ability to personalise the way in which their progress and analytics are organised and consumed. The app’s customisable dashboard allows users to monitor a large range of health data and lets them track their heart rate, sleep cycle, calorie consumption, water intake, caffeine, blood glucose, menstrual cycle, and more. Each parameter is organised into cards or “widgets” that users can rearrange and hide, as per their preference, making the experience of tracking their health more intuitive and relevant to their fitness priorities. Complementarity is another crucial feature of fitness-tracking apps like Fitbod and Google Fit, which allow users to sync health data from their smartphones and wearable devices.



The Adidas Training app’s photo-logs, paired with relevant progress statistics, aims to encourage users through results-based motivation.

Marketing & Influence

Celebrity endorsements have also always been a key aspect of Indian marketing. This can be further evidenced by the fact that close to 50% of endorsements in India feature celebrities as compared to around 20% in the U.S. Celebrity endorsed content and apps can also increase audience-reach and motivation through recognition and relatability. It can even help establish a clear brand image associated with the ideals of a specific celebrity, influencer or professional athlete.

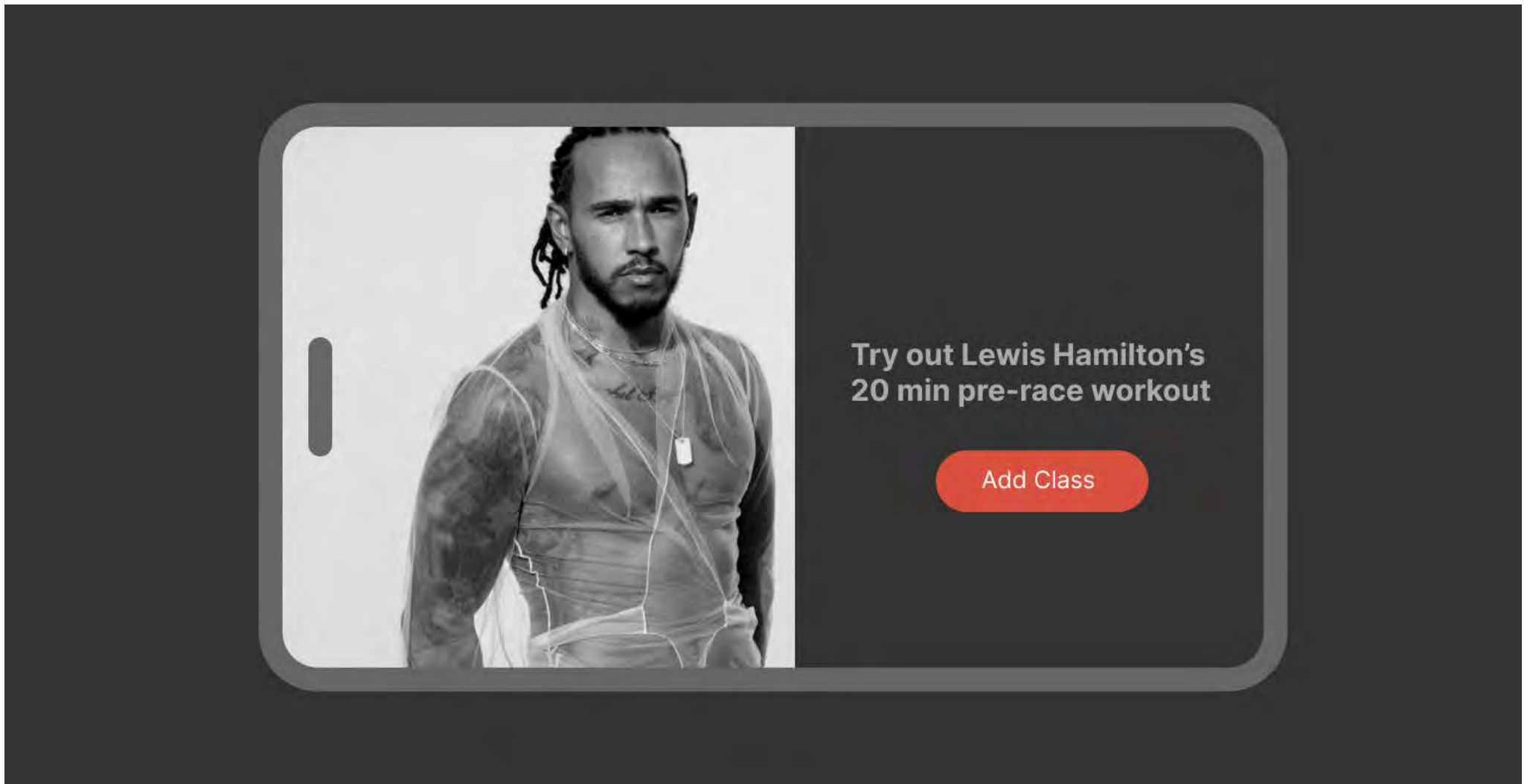
Partnership marketing can add value to fitness services by providing unique opportunities for establishing more robust app ecosystems (holistic health solutions), acquiring a larger user base, and earning more revenue (through ancillary entry points, companion apps, celebrity/athlete endorsements, etc). For example, the OTT service Disney+Hotstar partnered with Cult.fit, Sarva, and Brilliant Wellness to expand their offerings towards holistic health and wellness content. Disney+Hotstar did this in response to the slow adoption of their premium subscription service due to the absence of the Indian Premier League and other live sports during the pandemic (Live sports are Disney+Hotstar's biggest customer acquisition and revenue vehicle).

On the other hand, Cult.fit growth and business head Naresh Krishnaswamy said the company saw a three-fold increase in the amount of time its users spent on its online fitness vertical, Cult.live. Piggybacking on the increase in demand for remote health and fitness content during the pandemic not only allowed companies to position themselves as viable options for at-home fitness training but also increased digital touch points and audience reach.

Ancillary apps and IoT integrations also help in improving the overall fitness experience for users. Popular diet and food tracker Lifesum extended its offerings to support Google Assistant integration, given that a lot of households now rely on voice assistants for their daily tasks. By leveraging voice technology and virtual assistance, Lifesum is able to make logging details quicker, easier, and more accessible.

Content endorsed by celebrities can also increase audience reach and motivation through recognition and relatability. In India, 50% of endorsements feature celebrities compared to 20% in the U.S. Brands like Nike have successfully leveraged a global network of brand ambassadors for its Nike+ Training Club app, which features athlete workouts and holistic health and

motivation tips from personalities like Cristiano Ronaldo and Serena Williams, positioning the brand and its app as leaders in training and fitness content.



Brands like Nike and Cult.fit leverage celebrity endorsed content and marketing

3.7

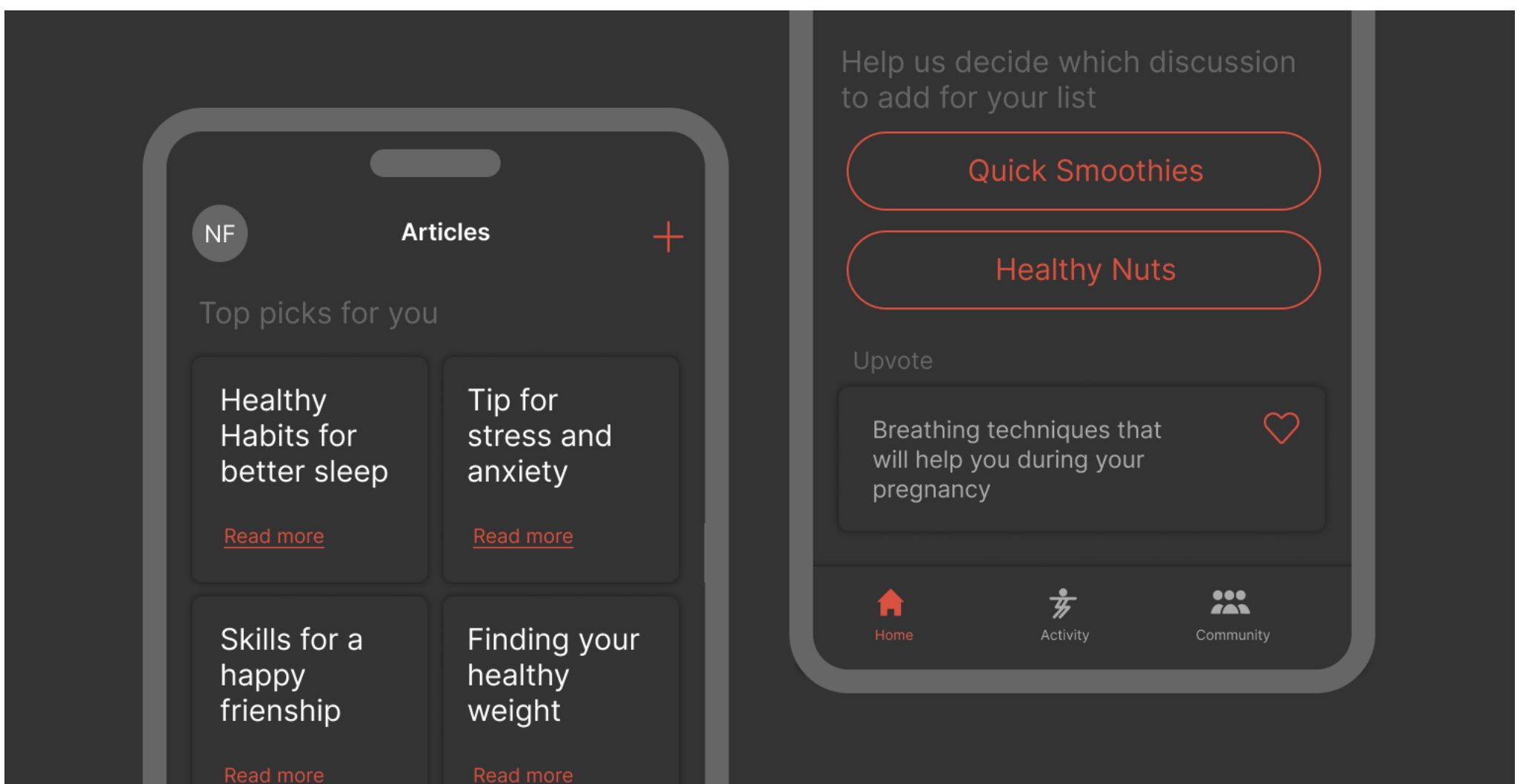
Digital Content Hubs and Streaming assisted-workouts (Video + Voice)

Fit-tech and health-tracking apps can act as one-stop shops for fitness-related activities and media by offering robust content hubs and feeds featuring unique articles, resources, and other related content. A repository of rich and diverse content not only improves customer engagement but can also help establish brands as thought leaders and industry experts.

The Nike+ Training and Run Club apps both feature a feed of professional athlete-endorsed media that explores holistic fitness through content from industry experts on topics related to sports, workout regimens, Nike product experiences, and health and nutrition tips. Through this, Nike is able to drive its customer engagement and brand retention and provide users with a more robust guide to fitness. Similarly, women's health, fitness, and menstrual tracking app Flo features a rich multimedia content library of menstrual, sexual, and wellness articles, videos, courses, podcasts,

questionnaires, and discussion boards. The app also uses machine learning to push the most relevant and personalised resources through its feed based on user logs. Flo also conducts regular user surveys on app content and uses the insights gained to fine-tune its offerings. A board of 80+ medical experts co-create and review content on the app, making it a credible resource and go-to solution for wellness and reproductive health.

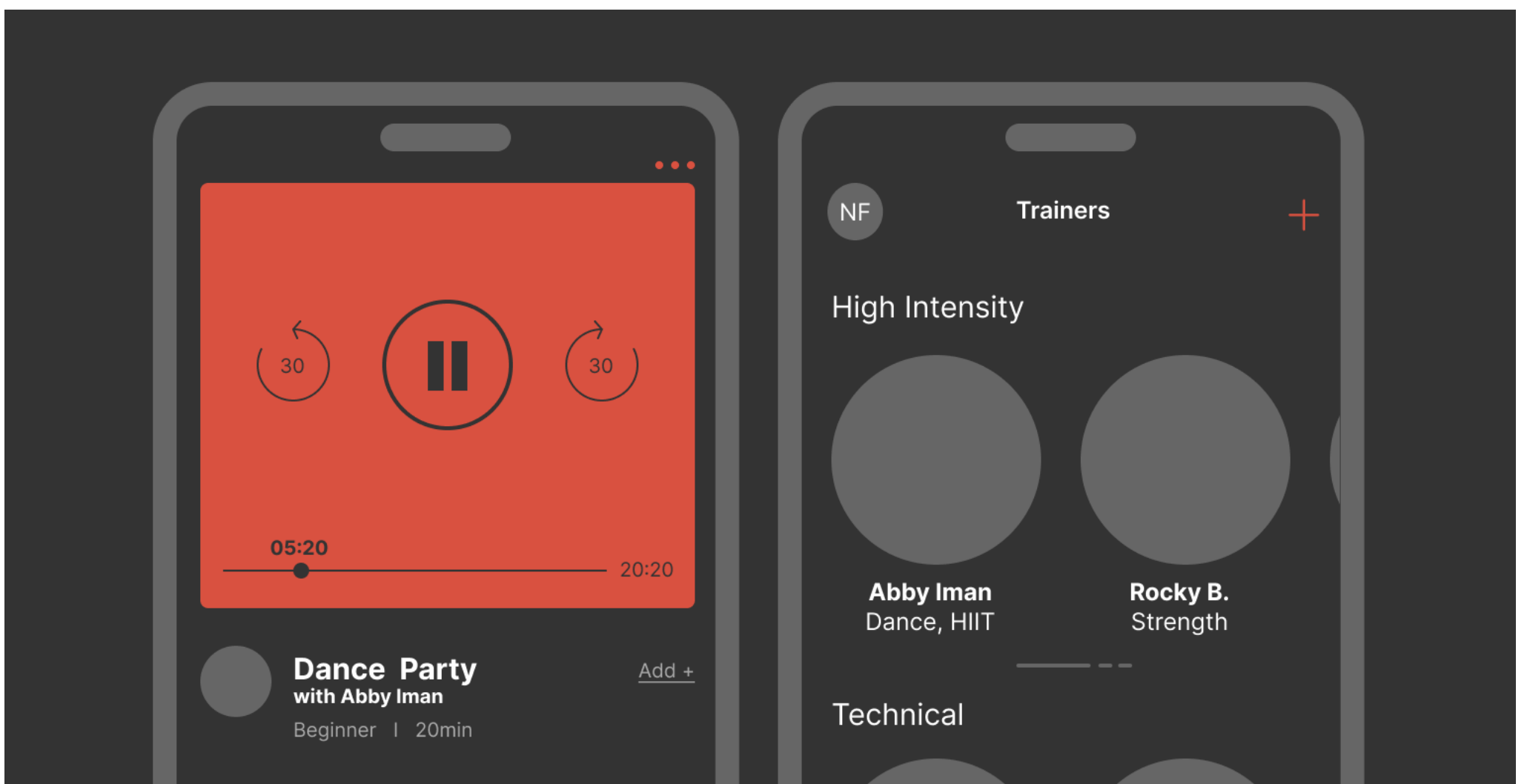
Voice training offers new avenues for fitness, including voice-assisted runs, HIIT workouts, cardio, and more. Aaptiv is one of the few fitness apps that focuses solely on audio-based training, allowing for more free and fluid movement while training. For users who require additional help and visual cues, the app includes visual guides for hundreds of movements across more than 400 workouts offered in the app, with the aim that users will eventually transition to audio-based cues only. Apps also leverage voice to build a tone for their brands. Aaptiv offers access to audio



Based on a user’s symptoms and logs, Flo uses AI to push the most relevant and personalised resources from its rich library of multimedia content, co-created and reviewed by medical experts

recordings of thousands of guided workout classes led by certified professional trainers. The tone of voice, coupled with inbuilt upbeat soundtracks and cues on maintaining proper form, tips, and encouragement in between intervals, set the mood for a workout. Nike+ Training’s standard fitness content also includes voiceovers that give tips and advice on correcting form mid-movement and inform users of rest intervals and upcoming exercises. The tone is more neutral, informative, and matter-of-fact.

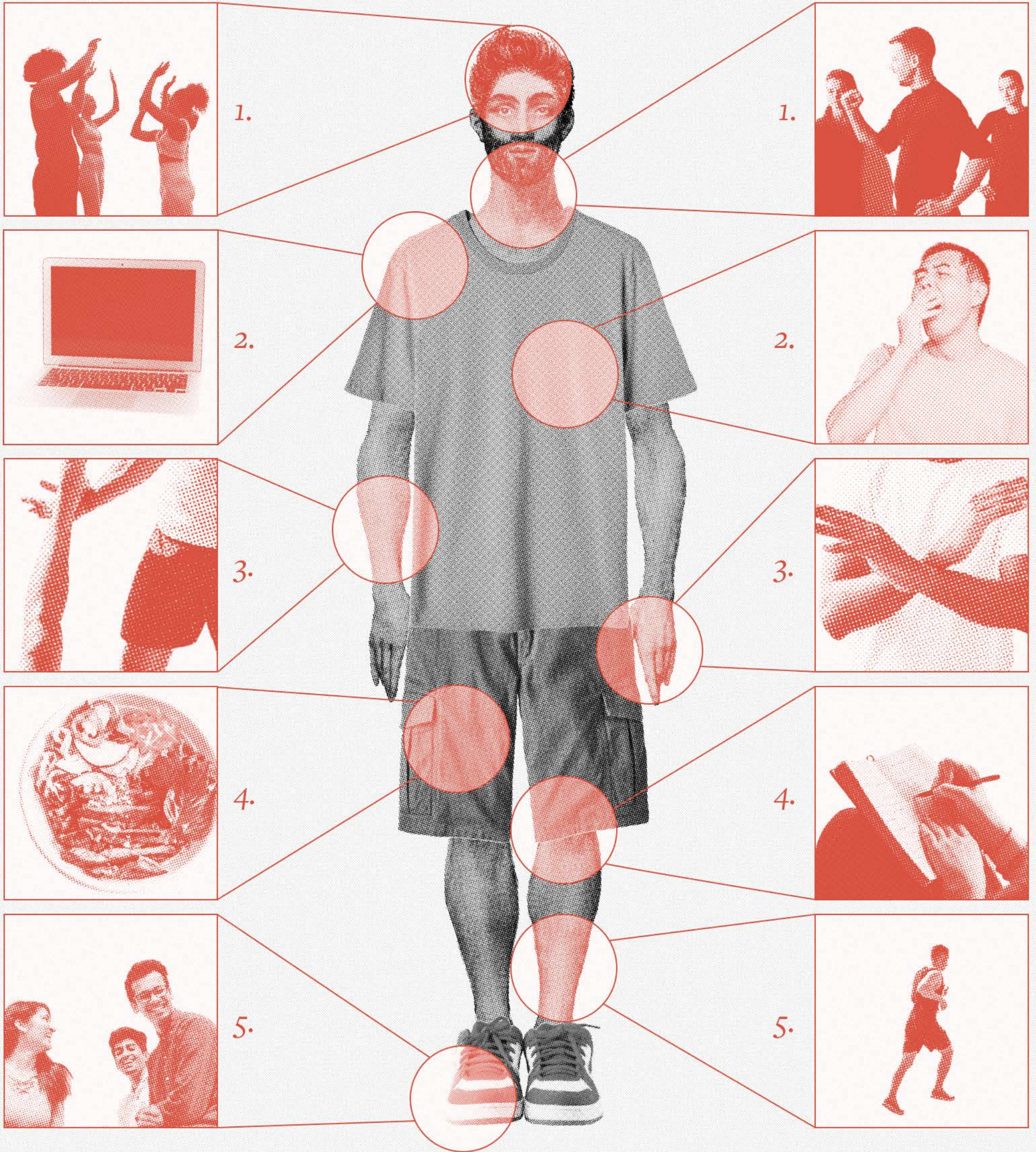
Headspace offers wellness and mindfulness through audio-guided meditation, using a single, distinct voice that spans across their meditation sessions and video/audio marketing collateral (they recently added a female voice to create a more inclusive environment). The calm and consistent tonality makes users feel a sense of trust and comfort, establishing the app as a safe space. Even in their new workout mode Move, the same calming and instructive tonality is carried forward, even though the instructors change ●



Aaptiv is one of the few fitness apps that focuses solely on audio based training allowing for more free and fluid movement, especially for cardio-based workouts

GOALS AND NEEDS

PAIN-POINTS AND FRUSTRATIONS



NAME	DHRUV
GENDER	MALE
AGE	29
OCCUPATION	SALES EXEC
LOCATION	MUMBAI, INDIA
STATUS	UNMARRIED
HOUSEHOLD INCOME	21 LACS PA



BIO Dhruv is a social and outgoing person who enjoys spending time with others. Dhruv lives with roommates who share his passion for sports – they all play cricket together with other friends a few times a month. He works in sales at an MNC, which requires him to interact with people or in a team-based environment where collaboration is key. Dhruv expressed interest in working out with friends or in a group – he values the social aspect of fitness and finds motivation in the support and encouragement he receives from others.

GOALS AND NEEDS:

1. Connect with like-minded individuals and build a community of fitness enthusiasts
2. Participate in virtual and in-person events and challenges
3. Receive personalized feedback and guidance to achieve fitness goals
4. Stay consistent with fitness routine and maintain a healthy lifestyle
5. Have fun and enjoy the social aspect of fitness

PAIN-POINTS AND FRUSTRATIONS:

1. Difficulty finding a community of like-minded fitness enthusiasts
2. Lack of motivation and accountability to maintain a consistent fitness routine
3. Limited access to events and challenges that align with fitness goals
4. Limited personalized feedback and guidance to achieve fitness goals
5. Feeling isolated and disconnected while pursuing fitness goals.

GOALS AND NEEDS

PAIN-POINTS AND FRUSTRATIONS



- × Progressive ×
- × Skeptical ×
- × Tech Savy ×

NAME	RAMI
GENDER	FEMALE
AGE	31
OCCUPATION	UI/UX DESIGNER
LOCATION	BANGALORE
STATUS	UNMARRIED
HOUSEHOLD INCOME	15 LACS PA



BIO Rami is a UI/UX designer who works from home as a freelancer. He spends most of his day sitting in front of his computer, which has led to a sedentary lifestyle. However, he understands the importance of staying active and wants to align his fitness routine with his values and beliefs. Rami is wary of using social network features on fitness apps due to concerns about his data privacy.

GOALS AND NEEDS:

1. To find a fitness app that can track their fitness progress while protecting their privacy
2. To receive personalized guidance and support from trainers and wellness practitioners
3. To have an app that takes a holistic approach to fitness and wellness, providing guidance on nutrition, sleep, and stress management

PAIN-POINTS AND FRUSTRATIONS:

1. Discomfort with the idea of sharing their personal data with others
2. Skepticism of the quantification of well-being and reluctance to use an app that solely focuses on tracking metrics like steps taken or calories burned
3. Frustration with the lack of affordable avenues to receive personalized training and support from trainers and wellness practitioners
4. Preference for working with a real person for personalized guidance and support

Conclusion



Conclusion

Fueled by advances in high-tech equipment, integrations, and virtual and augmented reality, the at-home workout experience became more similar to big gyms than ever before, as consumers wanted products to suit their lifestyles — and a wide variety of them. As a result, a more diverse and higher-quality set of home equipment and other tools emerged in markets around the globe.

The fitness industry is shifting from surviving the COVID-19 crisis to looking for ways to thrive in the next normal, building consumer relationships that last and grow. Providers of solutions and services for fitness practices both inside and outside the home will need to reassess their value propositions, articulate their roles in consumers' fitness routines, and commit to an approach that will win over the right consumers for them. Digital-enabled solutions have evolved from low-cost alternatives and add-ons to stand-alone offerings that are a regular part of consumers' lives, offering them convenience and personalization. Moving forward, providers of solutions and services for fitness practices both inside and outside the home will need to reassess their value propositions, articulate their roles in consumers' fitness routines, and commit to an approach that will win over the right consumers for them. Specifically, providers of on-site fitness solutions should consider a more hybrid approach that keeps consumers figuratively and digitally connected; makers of in-home tools and equipment should lean into the normalisation of hybrid fitness, and all digital solutions on the product to service continuum should prioritise the data security of users while maximising personalization and connectivity.



In recent times, personal quantification, or self-tracking of behavioural outputs such as physical activity, sleep, and food intake, has become increasingly prevalent. The rise in popularity of wearable devices, fitness apps, and other self-measurement systems has made it easier for individuals to monitor and track their behaviours. Despite the claimed benefits of personal quantification, such as improved health and wellbeing, increased productivity, and a better understanding of one's own behaviour, there has been limited research on the potential negative effects of self-tracking on consumers. This highlights the need for a more nuanced approach to understanding the impacts of personal quantification on individuals. To achieve a more holistic understanding of personal quantification, design practitioners must move beyond merely quantitative data and consider the subjective experiences of individuals who engage in self-tracking. Anthropological and sociological inquiries can be especially useful in providing a more nuanced understanding of the social and cultural contexts in which self-tracking occurs, as well as the subjective experiences of those who engage in it.

As noted in previous sections, many studies suggest that personal quantification may result in feelings of anxiety, self-criticism, and obsession with metrics and goals. The constant monitoring of one's behaviour may also create a sense of pressure to constantly improve, leading to burnout and disengagement with the activity. Therefore, it is essential to investigate the potential drawbacks of personal quantification technologies and develop design strategies to mitigate negative impacts. These strategies may include designing more user-centred tracking systems, developing tools to help individuals contextualise and interpret their data, and providing resources for individuals to manage their self-tracking behaviours in a healthy and sustainable way.

Recommendations

Offer a combination of in-person and digital services

Fitness technology companies can adapt by offering a combination of in-person and digital services, allowing customers to choose the option that works best for them. As people start to return to more normal routines, they may be looking for options that allow them to enjoy the social aspect of in-person fitness classes while still having the convenience and flexibility of digital options. Fitness technology companies can adapt by offering hybrid in-person/digital options, such as live streaming classes or offering on-demand content that can be accessed after the live class has finished. To thrive in the next normal, fitness providers will need to focus on building long-term relationships with consumers and offering value that goes beyond just physical workouts. This may include offering personalised nutrition plans, mental health support, and other wellness resources. On-site fitness solutions should consider offering a hybrid approach that combines in-person workouts with virtual options. For example, a gym could offer live streaming of fitness classes or virtual personal training sessions, allowing consumers to continue their fitness journey even if they are unable to visit the gym in person. For digital fitness providers that offer at-home workouts and equipment, this trend towards a hybrid approach can be an opportunity to reach a wider audience. By offering a range of workouts that can be done at home or in the gym, these providers can appeal to a diverse group of consumers. They can also offer personalised workout plans and tracking tools to help users stay motivated and track their progress. For digital fitness providers that offer virtual fitness classes or personal training, this shift towards a mix of local gym and at-home solutions can be a chance to expand their reach and offer more convenient options for users. By offering virtual classes or training sessions that can be accessed from any location, these providers can make it easier for users to fit workouts into their busy schedules.

Emphasise the convenience and flexibility of digital fitness

Even after the pandemic ends, many people may continue to appreciate the convenience and flexibility of digital fitness options. Fitness technology companies can emphasize these benefits to attract and retain customers while they continue to innovate and offer new features. Fitness technology is constantly evolving, and companies that are able to stay ahead of the curve by offering new and innovative features are more likely to succeed in a post-COVID world.



Focus on mental health, stress management and community

Digital fitness providers can broaden their offerings beyond physical fitness by incorporating meditation and mindfulness sessions into their content, and developing specific programs dedicated to stress management. Through virtual support groups focused on holistic wellness, apps can engage users and foster a sense of community and peer-to-peer connection.

Establish a positive design process

Positive design is a new theoretical perspective based on positive psychology. Positive Design focuses on designing artefacts, environments, and services that promote flourishing by fostering virtue, pleasure, and meaning. Fitness apps can establish a positive design process by prioritizing user-centered design, fostering positive emotions, facilitating meaningful goal setting, providing feedback and encouragement, promoting social support and community, enabling personalization and customization, and emphasizing the journey and process of fitness engagement. By incorporating these principles of positive design, fitness apps can create meaningful and engaging experiences that enhance users' psychological well-being, evoke positive emotions, and support their overall flourishing in their pursuits.

Privacy, data transparency and data portability

Fitness apps can prioritize data privacy and data mobility by implementing transparent privacy policies, secure data storage and encryption, user consent and control, anonymization and aggregation of data, data portability, regular audits and compliance with privacy regulations, and user education and awareness. These measures ensure that users are informed about data practices, their personal information is protected, and they have control over their data. By prioritizing data privacy, fitness apps can establish trust, respect user privacy rights, and address concerns associated with personal data usage.

The seven key qualities of a design-worthy dilemma

Main Themes	No.	Key qualities of a design-worthy dilemma
Relevance	1	Be a key challenge in positive design
	2	Applies to the majority of potential users
	3	Has direct impact on the subjective well-being of potential users
Inspiration	4	Can play a unique role in producing a design concept
	5	Contains surprising and unexpected elements
Meaningful	6	Few users strongly object to this conflict
Formulation	7	Be abstract and imaginative, but can also point to specific design insights

Reinforce the role of ‘expert knowledge’ in addition to that of networks of peers and self-experimentation, to responsibly democratise fitness

Fitness apps can responsibly democratize fitness by combining expert knowledge with peer networks and self-experimentation. They can empower users through reliable information, access to qualified professionals, evidence-based recommendations, educational resources, and a supportive community. Strategies include curated content, collaborations and directly access to healthcare professionals and specialists, science-based suggestions, educational materials, community engagement, data-driven insights, and partnerships with reputable health and sport organizations. By combining user-driven experiences with expert knowledge, fitness apps promote informed decision-making and enhance the effectiveness and credibility of fitness experiences for a wider audience.

Encourage users to be more intentional in their decisions to review any quantitative feedback

Fitness apps can encourage users to be intentional in reviewing quantitative feedback by allowing them to control the visibility and accessibility of their data. Providing contextual information helps users understand performance fluctuations, and goal-oriented feedback emphasizes progress towards meaningful milestones. Customizable data alerts enable users to manage the impact of fluctuations on their well-being. Educational resources teach users how to interpret data effectively and promote the idea that fluctuations are part of the learning process. Self-reflection features encourage users to consider qualitative aspects of their fitness journey, considering not only quantitative data but also qualitative aspects such as how they feel, their enjoyment of the activities, and their overall well-being. By implementing these strategies, fitness apps can help users develop a healthier relationship with their performance data and make more informed decisions.



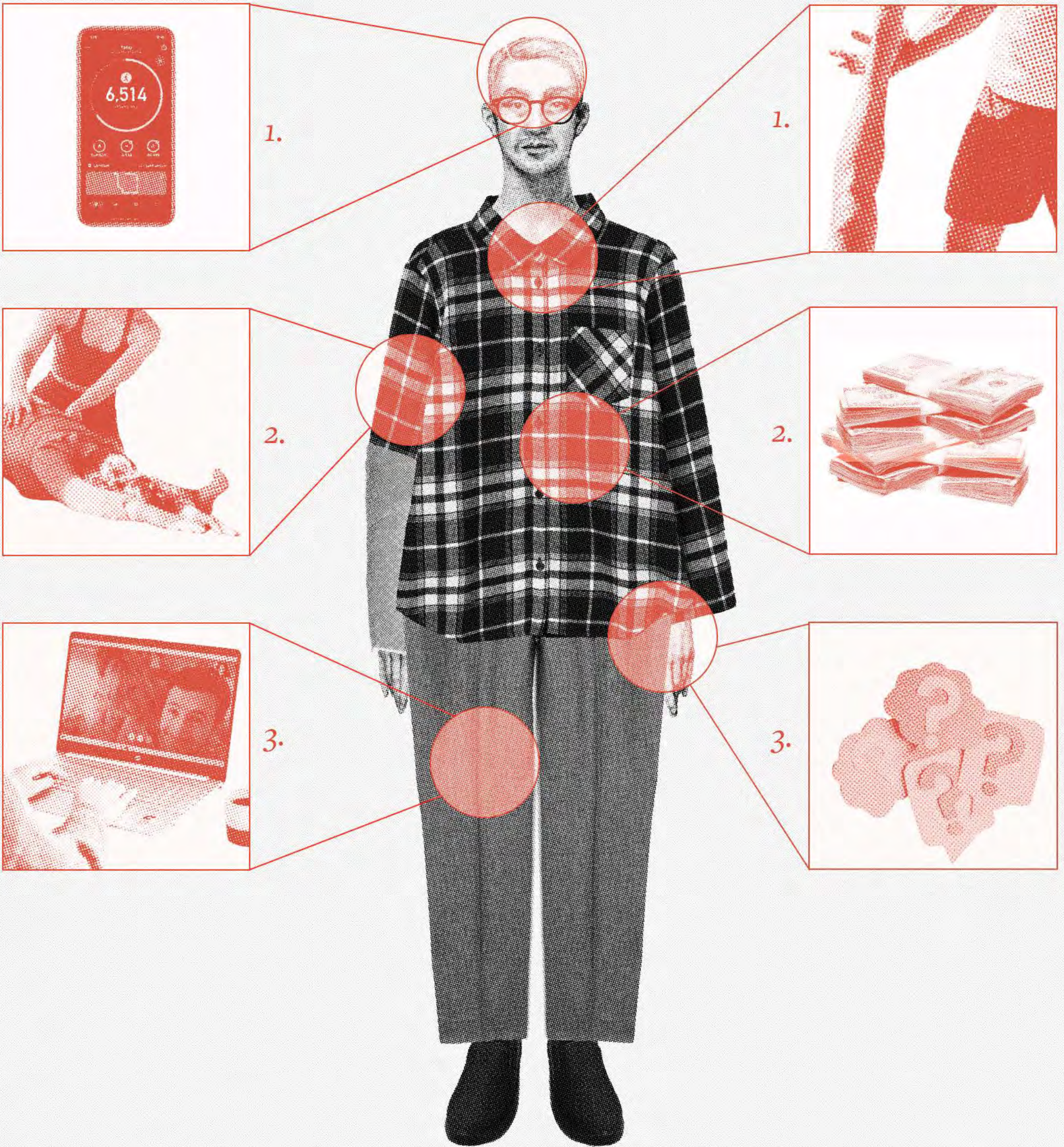
Center fitness by giving users more agency

Personal agency is a big factor to consider while making design changes to the interface and experience. To center user agency, fitness apps can involve users in the design process, seek their feedback, and allow customization of the experience. Educating users about technology limitations and data accuracy empowers them to interpret information effectively. Reducing data overload by enabling customized reminders and notifications prevents overwhelm. Offering tailored tracking options lets users choose what to track, avoiding undue pressure. By implementing these strategies, fitness apps empower users to make informed decisions aligned with their preferences and values, promoting a more personalized and user-centered approach to health and well-being ●



GOALS AND NEEDS

PAIN-POINTS AND FRUSTRATIONS



Methodical × Driven × Positive ×

NAME	RAJAN KURUP
GENDER	MALE
AGE	72
OCCUPATION	RETIRED
LOCATION	CHENNAI, INDIA
STATUS	MARRIED
HOUSEHOLD INCOME	9 LACS PA

FITNESS

NOT ACTIVE ACTIVE EXTREMELY ACTIVE


TECH SAVVY

BEGINNER MODERATE ADVANCED


FITNESS EXPERIENCE

BEGINNER MODERATE ADVANCED


BIO

Rajan Kurup is a 72-year-old retired government employee who lives with his wife. His only son lives in the US. Rajan suffered from a slip-disk a few years ago, that temporarily affected his strength and mobility. As a result, he is now looking for a fitness app that can provide him with safe and effective exercises that are approved by a trained physiotherapist. He is also looking for support from trained physiotherapists who can personalize his fitness routine to focus on his injury. Rajan is open to scheduling in-person sessions, as well as having access to high-quality online content that includes videos and detailed instructions.

GOALS AND NEEDS:

1. Find a fitness app that offers exercises approved by trained physiotherapists.
2. Have support and guidance from trained physiotherapists to ensure the exercises are suitable and performed correctly.
3. Combine in-person sessions with online content that includes videos and detailed instructions.

PAIN-POINTS AND FRUSTRATIONS:

1. Limited mobility and strength due to a previous slip-disk injury
1. Limited resources to afford specialized therapists or services that are not covered by health insurance. The cost of personalized guidance and support from trained physiotherapists may be a significant barrier for him
2. Limited tech savviness or familiarity with using digital applications. The complexity of certain apps or features may pose a challenge for him.

GOALS AND NEEDS

PAIN-POINTS AND FRUSTRATIONS



× Intellectual × Balanced × Determined ×

NAME	RADHIKA
GENDER	FEMALE
AGE	29
OCCUPATION	PHD STUDENT
LOCATION	CHEMBUR, MUMBAI
STATUS	UNMARRIED; LIVES WITH A FEMALE FLATMATE
HOUSEHOLD INCOME	12 LPA



BIO Radhika is a 29-year-old PhD student in Sociology. Despite the demands of her academic workload, she makes time for her wellness routine and is looking for a fitness app that can help her achieve her goals. Radhika's interest in sociology also reflects her curiosity about human behavior and society. Radhika is particularly interested in workouts that focus on mindfulness, meditation, and yoga. She believes that by practicing these exercises, she can reduce stress and improve her cognitive acuity and overall mental health.

GOALS AND NEEDS:

1. Find a fitness app that focuses on mindfulness, meditation, and yoga
2. Reduce stress and improve mental health through exercise and mindfulness practices
3. Track progress and see improvement in mental health over time

PAIN-POINTS AND FRUSTRATIONS:

1. Difficulty finding an app that specifically targets mindfulness, meditation, and yoga
2. Lack of access to professional guidance on how to incorporate mindfulness practices into exercise routine
3. Difficulty tracking progress and seeing improvement in mental health through exercise alone
4. Potential frustration or lack of motivation if progress is not visible or measurable

Benchmarking

This benchmarking exercise was conducted in July - August 2020, providing a snapshot of the state of health and fitness apps at the time. It is important to note that the data may have evolved since then, reflecting the dynamic nature of the market.

	App	Overall Brand Descriptor	Monthly App Download (sensortower.com)		
			iOS	Android	Total
1	FitBit	Community/Tracking	700,000	700,000	1,400,000
2	Samsung Health	Social	100,000	2,000,000	2,100,000
3	Nike Training	Working out + Community	600,000	400,000	1,000,000
4	Headspace	Holistic health	500,000	400,000	900,000
5	Lifesum	Tracking/Log/Nutrition	400,000	300,000	700,000
6	Adidas Training	Working out	200,000	500	200,500
7	Healthifyme	Customisation	50,000	400,000	450,000
8	Cure.fit	Social/Holistic health	30,000	400	30,400
9	Asana Rebel	Holistic Health/Community	100,000	100,000	200,000
10	Fitbod	Customisation/Working out/ Recovery	100,000	9,000	109,000
11	Aaptiv (Audio fitness) + Aaptiv Coach	Customisation/ Holistic health	20,000	5,000	25,000
12	Gymaholic (iOS)	Form/Recovery/Analytics	5,000	5,000	10,000

		Social			
	App	Holistic Health	Group Sessions/ Challenges	Social Feeds	Social Sharing/ Add Friends
1	FitBit	✓	✓	✓	✓
2	Samsung Health	✓	✓		✓
3	Nike Training	✓	Leaderboards, stats with friends	Like/comment endorsed content feed + podcasts	✓
4	Headspace	✓	✓	Outside app	✓
5	Lifesum				Adding friends, temporarily removed
6	Adidas Training	Includes nutrition	✓		✓
7	Healthifyme	✓	✓	✓	Leaderboard + basic profile
8	Cure.fit	✓	✓		
9	Asana Rebel	✓			
10	Fitbod				
11	Aaptiv (Audio fitness) + Aaptiv Coach	✓	✓	✓	
12	Gymaholic (iOS)				
		8	7	4	7
	Drives Adoption	High	Medium	High	High
	MVP	Next gen	Next gen	Nice to have	Must have

		Hyper Personalization		
	App	Custom Plans	Custom Analytics	Onboarding/ Goal Setting
1	FitBit	Premium	✓	✓
2	Samsung Health	✓	✓	✓
3	Nike Training	✓		✓
4	Headspace	Open structure		✓
5	Lifesum	Preset plans, nutrition settings		✓
6	Adidas Training	✓		✓
7	Healthifyme	✓		✓
8	Cure.fit			Offline
9	Asana Rebel	✓	✓	✓
10	Fitbod	✓	✓	✓
11	Aaptiv (Audio fitness) + Aaptiv Coach	✓	✓	✓
12	Gymaholic (iOS)			One-step sync to phone health app
		9	5	10
Drives Adoption		Medium	Low	High
MVP		Nice to have	Next gen	Must have

		Common Feature Buckets		
	App	Content Hub	Educational	Celebrity/Professional Athlete Endorsements
1	FitBit		Research	
2	Samsung Health	✓		
3	Nike Training	Endorsed content feed + podcasts		✓
4	Headspace	Outside app	✓	
5	Lifesum	✓		
6	Adidas Training	✓	✓	
7	Healthifyme	✓	✓	✓
8	Cure.fit			✓
9	Asana Rebel	✓	✓	
10	Fitbod		✓	✓
11	Aaptiv (Audio fitness) + Aaptiv Coach	✓		
12	Gymaholic (iOS)			
		7	6	4
	Drives Adoption	Low	Medium	High
	MVP	Nice to have	Nice to have	Nice to have

		Progress Tracking		
	App	Gamification (Badges, etc)	Analytics	Logs
1	FitBit	✓	✓	
2	Samsung Health	✓	✓	
3	Nike Training	✓		
4	Headspace		Basic history/ Journey	
5	Lifesum		✓	✓
6	Adidas Training		✓	✓
7	Healthifyme	✓	✓	✓
8	Cure.fit	✓		
9	Asana Rebel		Basic Stats	
10	Fitbod	Personal bests, not gamified	✓	
11	Aaptiv (Audio fitness) + Aaptiv Coach	✓	✓	✓
12	Gymaholic (iOS)		✓	✓
		6	9	5
	Drives Adoption	Medium	Medium	Low
	MVP	Nice to have	Nice to have	Next gen

		Differentiating Bucket			
	App	Machine Learning	Form/ Technique	Avatars	Chatbot/ AI Assitant
1	FitBit	✓	N/A		
2	Samsung Health				
3	Nike Training		✓		
4	Headspace		✓	Pre-set avatars	
5	Lifesum		N/A		
6	Adidas Training				
7	Healthifyme	RIA	✓		✓
8	Cure.fit				Help chat window
9	Asana Rebel				
10	Fitbod	✓	✓		
11	Aaptiv (Audio fitness) + Aaptiv Coach	✓			✓
12	Gymaholic (iOS)	✓	✓	Pre-set avatars, somewhat customisable (height, gender, etc)	
		5	5	2	3
	Drives Adoption	High	Medium	Low	Low
	MVP	Nice to have	Nice to have	Next gen	Nice to have

		Differentiating Bucket			
	App	Inclusive/ Accesible	High Quality Content	Casting / Smart TV App	Voice
1	FitBit		N/A		Alexa integration
2	Samsung Health		✓	✓	✓
3	Nike Training	✓	✓	✓	✓
4	Headspace	✓	✓		✓
5	Lifesum		N/A	N/A	Google assitant integration
6	Adidas Training		✓	✓	✓
7	Healthifyme				Voice assistant RIA
8	Cure.fit			✓	
9	Asana Rebel		✓	✓	✓
10	Fitbod				
11	Aaptiv (Audio fitness) + Aaptiv Coach	✓	✓		✓
12	Gymaholic (iOS)		✓		
		2	7	5	9
	Drives Adoption	Low	High	Low	Medium
	MVP	Next gen	Must have	Nice to have	Must have

		Differentiating Bucket			
	App	AR/VR	Scanning/ Motion Tracking	B2B	Partnerships
1	FitBit				✓
2	Samsung Health		Detects activity through watch		✓
3	Nike Training				✓
4	Headspace		N/A	✓	✓
5	Lifesum	N/A	N/A		
6	Adidas Training				
7	Healthifyme			✓	✓
8	Cure.fit		Energy meter		✓
9	Asana Rebel				
10	Fitbod				
11	Aaptiv (Audio fitness) + Aaptiv Coach			✓	✓
12	Gymaholic (iOS)	✓			
		1	2	2	6
	Drives Adoption	Low	Low	Low	High
	MVP	Next gen	Next gen		

		Differentiating Bucket			
	App	Wearables	Warm Up/ Recovery	Brand Legacy	Multi-Language Support
1	FitBit	✓		✓	✓
2	Samsung Health	✓		✓	Devices default language
3	Nike Training	✓	✓	✓	Setting exists but only english
4	Headspace	Minimal features			✓
5	Lifesum	✓	N/A		✓
6	Adidas Training	✓	✓	✓	Devices default language
7	Healthifyme	Also has its own fitness band, RIST			Ria supports up to 10 languages
8	Cure.fit	✓			
9	Asana Rebel	✓			✓
10	Fitbod	✓	✓		
11	Aaptiv (Audio fitness) + Aaptiv Coach	✓	✓		
12	Gymaholic (iOS)	✓	✓		
		12	5	4	6
	Drives Adoption	Low	Low	High	High
	MVP	Next gen	Nice to have	Not valid	Nice to have

	App	Score	User Friendly (1-5)
1	FitBit	13.5	
2	Samsung Health	14.5	3
3	Nike Training	13	5
4	Headspace	13	5
5	Lifesum	6.5	3
6	Adidas Training	13	4
7	Healthifyme	16.5	2
8	Cure.fit	8	2
9	Asana Rebel	11.5	5
10	Fitbod	10	4
11	Aaptiv (Audio fitness) + Aaptiv Coach	17	4
12	Gymaholic (iOS)	6.5	3

Bibliography

- 1** App Annie (2022): The State of Mobile 2022, data.ai
- 2** Barkley, Jacob, Andrew Lepp, Antonio Santo, Ellen Glickman, and Bryan Dowdell (2020): "The Relationship Between Fitness App Use and Physical Activity Behavior is Mediated by Exercise Identity," *Computers in Human Behavior*, 108.
- 3** Bauman, Zygmunt (1998) *Globalization: The Human Consequences*. Cambridge: Polity.
- 4** Bauman, Zygmunt (2000) *Liquid Modernity*. Cambridge: Polity.
- 5** Boiché, J. C. S., Sarrazin, P. G., Grouzet, F. M. E., Pelletier, L. G., & Chanal, J. P. (2008). Students' motivational profiles and achievement outcomes in physical education: A self-determination perspective. *Journal of Educational Psychology*, 100(3), 688–701.
- 6** Crawford, K., Lingel, J., and Karppi, T. (2015): "Our Metrics, Ourselves: A Hundred Years of Self-tracking From the Weight Scale to the Wrist Wearable Device," *European Journal of Cultural Studies*, 18(4–5): 479–496.
- 7** Chatterjee, Ayan, Andreas Prinz, Martin Gerdes, and Santiago Martinez (2021): "Digital Interventions on Healthy Lifestyle Management: Systematic Review," *Journal of Medical Internet Research*, 23(11): 26931.
- 8** Compernelle, Sophie, Ann DeSmet, Louise Poppe, Geert Crombez, Ilse De Bourdeaudhuij, Greet Cardon, Hidde P van der Ploeg, and Delfien Van Dyck (2019): "Effectiveness Of Interventions Using Self-Monitoring To Reduce Sedentary Behavior In Adults: A Systematic Review And Meta-Analysis," *International Journal of Behavioral Nutrition and Physical Activity*, 16(1): 63.
- 9** Dormeh, Luke (2014): *The Formula: How Algorithms Solve All Our Problems ... and Create More*.
- 10** Etkin, Jordan (2016): "The Hidden Cost of Personal Quantification," *Journal of Consumer Research*, 42(6): 967-984.
- 11** Freund, P. and Martin, G. (2004) 'Walking and motoring: Fitness and the Social Organisation of movement', *Sociology of Health and Illness*, 26(3), pp. 273–286. doi:10.1111/j.1467-9566.2004.00390.x.

- 12** Grinberg, Yuliya (2018): “Sensored: The Quantified Self, Self-Tracking, and the Limits of Digital Transparency,” *Columbia University Libraries*.
- 13** Han, Myeunghee, and Eunjoo Lee (2018): “Effectiveness of Mobile Health Application Use to Improve Health Behavior Changes: A Systematic Review of Randomized Controlled Trials,” *Healthc Inform Res.*, 24(3): 207-226.
- 14** Huang, Guanxiong , Mengru Sun, Li, and Crystal Jiang (2022): “Core Social network Size is Associated with Physical Activity Participation for Fitness App Users: The Role of Social Comparison and Social Support,” *Computers in Human Behavior*, 129.
- 15** Lupton, Deborah (2013a): “The Digitally Engaged Patient: Self-Monitoring and Self-Care in the Digital Health Era,” *Social Theory and Health*, 11(3): 256–270.
- (2013b): “Understanding the Human Machine,” *IEEE Technology and Society Magazine*, 32: 25–30
- 16** Maguire, J.S. (2008) *Fit for consumption: Sociology and the business of Fitness*. London: Routledge.
- 17** McKay, Fiona H, Sarah Slykerman, and Matthew Dunn (2019a): “The App Behavior Change Scale: Creation of a Scale to Assess the Potential of Apps to Promote Behavior Change,” *JMIR Mhealth Uhealth*, 7(1).
- McKay, Fiona H, Annemarie Wright,, Jane Shill, Hugh Stephens, and Mary Uccellini (2019b): “Using Health and Well-Being Apps for Behavior Change: A Systematic Search and Rating of Apps,” *JMIR Mhealth Uhealth*, 7(7).
- 18** Milne-Ives, Madison, Ching Lam, Caroline De Cock, Michelle Helena Van Velthoven, and Edward Meinert (2020): “Mobile Apps for Health Behavior Change in Physical Activity, Diet, Drug and Alcohol Use, and Mental Health: Systematic Review,” *JMIR Mhealth Uhealth*, 18;8(3).
- 19** Neville, Ross, D. (2012): “Considering a Complementary Model of Health and Fitness,” *Sociology of Health & Illness*, 35(3): 479-492.
- 20** Peters, D., Calvo, R. A., Ryan, R. M. (2018) : Designing for motivation, engagement and wellbeing in digital experience. *Front Psychol* 9: 797
- 21** Ruth, Jacqueline, Steffen Willwacher, and Oliver Korn (2022): “Acceptance of Digital Sports: A Study Showing the Rising Acceptance of Digital Health Activities Due to the SARS-CoV-19 Pandemic,” *International Journal of Environmental Health and Public Reseach*, 19(1): 596.
- 22** Ryan, R. M. et Deci, E. L. (2017). *Self-determination theory. Basic psychological needs in motivation, development and wellness*. New York, NY : Guilford Press

- 23** Schüll, Natasha D. (2016): “Data for Life: Wearable Technology and the Design of Self-care, *BioSocieties*, 11(3), 317–333.
- 24** Schüll, Natasha D. (2019): “The Data-Based Self: Self-Quantification and the Data-Driven (Good) Life,” *Social Research: An International Quarterly*, 86(4): 909-930)
- 25** Sharon, Tamar and Dorien Zandbergen (2016): “From Data Fetishism to Quantifying Selves: Self-Tracking Practices and the Other Values of Data,” *New Media & Society*, 19(11).
- 26** Stoyanov, Stoyan R, Leanne Hides, David J Kavanagh, Oksana Zelenko, Dian Tjondronegoro, and Madhavan Mani (2015): “Mobile App Rating Scale: A New Tool for Assessing the Quality of Health Mobile Apps,” *JMIR Mhealth Uhealth*, 3(1).
- 27** Sullivan, Alycia N and Maargie E Lachman (2017): “Behavior Change with Fitness Technology in Sedentary Adults: A Review of the Evidence for Increasing Physical Activity,” *Front Public Health*, 4: 289.
- 28** Teng, Xianzhong. and Zheshi Bao (2022), “Factors Affecting Users’ Stickiness of Fitness Apps: an Empirical Study Based on the S-O-R Perspective,” *International Journal of Sports Marketing and Sponsorship*, 23(4): 823-840.
- 29** Texeira, Pedro, Eliana Carraça, David Markland, and Marlene Nunes Silva (2012): “Exercise, Physical Activity, and Self-determination Theory: A Systematic Review,” *International Journal of Behavioral Nutrition and Physical Activity*, 9(1): 78.
- 30** Thompson Walter, R. (2022): “Worldwide Survey of Fitness Trends for 2022,” *ACSM’s Health & Fitness Journal*, 26(1): 11-20.
- 31** Valcarce-Torrente, Manel, Vicente Javaloyes, Leonor Gallardo, Jerónimo García-Fernández, and Antoni Planas-Anzano (2021): “Influence of Fitness Apps on Sports Habits, Satisfaction, and Intentions to Stay in Fitness Center Users: An Experimental Study,” *International Journal of Environmental Health and Public Research*, 18(19): 10393.
- 32** Zhao, Jing, Becky Freeman, and Mu Li (2016): “Can Mobile Phone Apps Influence People’s Health Behavior Change? An Evidence Review,” *J Med Internet Res.*,” 18(11): 287.

Our Team

Charu Pragya

Head of Research

Charu Pragya is the Head of Research at Now Form. She is deeply committed to economic justice and worker wellbeing, and prioritizes social design and design methodologies as effective tools to address complex human issues. In the past, Charu Pragya has worked extensively in tech policy and media, providing consultation services on projects by the GiZ, ILO, and the World Bank. She also served as the founding editor of Akademi Mag, a critical design publication that focused on the intersection of design, culture, and politics. She has spoken at various design conferences such as Typographics 2021 and TypeWknd 2021. She holds a Bachelors degree in Philosophy from Delhi University and a Masters degree in Philosophy from Columbia University.

Shonali Ahooja

Partner

Shonali is a design strategist and Partner at Now Form with a strong background in understanding trends and creating thought leadership and digital roadmaps for clients like Boston Consulting Group, Marriott International, Dentsu, Oberoi, Siemens, Border&Fall, Good Business Lab and Terrain.art, South Asia's first NFT marketplace. As a design researcher, she's led numerous workshops, including an HCD framework for researching low to moderately anemic women workers at India's largest apparel manufacturer and exporter. She co-created three interventions that led to the successful implementation of an RCT testing framework within six weeks. Shonali graduated from the Maryland Institute College of Art and began her career in New York, creating infographic data visualisations and reports for global brands like Target, Visa, Johnson & Johnson, Capital Group and Reebok.

Vikramaditya Sharma

Founder

Vikramaditya Sharma is the founder of Now Form. Over the years, he has led strategic design interventions across a variety of industries, for clients, including Marriott International, Boston Consulting Group, Reliance Retail, and Brown University. Vikramaditya is also a part of Harvard University's Master in Design Engineering 2024 cohort, a dual program between the School of Engineering and the Graduate School of Design. At Harvard, he is focused on developing technological innovations in art & culture and healthcare. Additionally, he is passionate about building interventions for marginalized populations.

Credits

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We would like to acknowledge that the photographic images used in this report were generated using **DALL-E 2**, an AI model developed by OpenAI. As an experiment, we wanted to explore the capabilities of AI in creating visual content based on textual descriptions. The purpose of including these images was to examine the potential of AI, but it is crucial to approach such technology with a critical lens and consider the broader implications and concerns associated with AI in the domains of visual arts and research.