

# Healthy Weight Loss for Children: Using Generative AI to Create Suggestions for an App

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## ABSTRACT

The paper focuses on the AI-simulation of a five-phase process to design an app for children to lose weight. The objective is to demonstrate how generative AI can become a partner in design. The first phase is a synthesized “story” about how the app was created, doing so before the effort was undertaken to provide a motivating set of messages. The second phase is a synthesized meeting of the design team to generate different aspects of the app as a whole. The third phase, on the other hand, is a synthesized meeting of the design team to discuss particular aspects of the app. The fourth phase is a synthesized town hall meeting where the design team and other stakeholders encourage questions, and where AI reveals the mind of the listeners when they hear the questions and the answers. The fifth and final phase shows three sets of 15 questions which are generated automatically by the Mind Genomics platform (Idea Coach). Taken together, the five phases—each accomplished in minutes—show the power of using generative AI as an infinitely energetic and motivated, potentially wise and insightful “colleague” in the design process.

**Keywords:** Childhood Obesity, Gamification, Generative AI, Mind Genomics, Weight Loss App

## INTRODUCTION

Obesity rates in the United States have been increasing steadily over the past few decades due to factors such as fast food consumption, sedentary lifestyles, and lack of access to healthy foods. This has led to health issues like heart disease, diabetes, and high blood pressure. As adult obesity rates continue to rise, the focus has shifted to childhood obesity, as overweight or obese children are at a higher risk of developing chronic diseases at a younger age. Efforts to combat childhood

obesity include promoting healthy eating habits, increasing physical activity, and providing nutrition education. However, controlling obesity is challenging due to genetics, environmental influences, and societal norms. For children, factors like school lunch programs, parental influence, and access to physical activity resources shape their food and exercise habits [1-3].

One potential solution to combat childhood obesity is the use of a child-oriented app designed to promote healthy behaviors and encourage positive lifestyle choices. An app could provide interactive games, educational resources, and tracking tools to help children and their families monitor their progress towards achieving a healthier weight. The use of an app is important in combating obesity because it offers a convenient and accessible platform for children to engage in. By incorporating elements of gameplay and interactivity, an app can make learning about nutrition and physical activity more engaging and fun for children. Additionally, the portability of a smartphone or tablet allows children to access the app anytime, anywhere, making it easier to stay on track with their wellness goals [4-7].

### **Phase 1 — Creating a Story About the Development and Use of the App, Before the Project Is Launched**

We are all accustomed to stories about what happened in the past. These stories festoon our magazines, are grist for the Internet, and paint pictures of what has happened, what exists, to people who may range from starving for information to simply passing the time. Why not create a story about the app, but put it in the past, and give it to people to read (see Table 1) [8-11]?

Of course, there is a risk of oversimplifying or romanticizing the weight loss journey through storytelling. By presenting the vision as a linear narrative with a clear beginning, middle, and end, it may gloss over the challenges and setbacks that

users may encounter along the way, creating unrealistic expectations and setting users up for disappointment. Despite this caveat, there are at least four clear benefits which might ensue:

1. The success story of an app can inspire users to take action towards their weight loss goals, fostering hope and motivation. However, this approach can also create unrealistic expectations, leading to disappointment or discouragement if users' actual experiences do not align with the idealized version. This lack of trust in the app and its creators can hinder its effectiveness.
2. The storytelling approach in an app can help users visualize their weight loss goals, creating excitement and motivation. However, it can be subjective and open to interpretation, leading to confusion or misunderstanding about the app's purpose and functionality. It is essential to consider the app's purpose and functionality when creating a narrative.
3. The success story of an app for weight loss can inspire users to believe in their ability to succeed. However, this approach can also lead to overselling the app's capabilities, as exaggerating the results of fictional users may cause skepticism among real users. To avoid this, it is crucial to strike a balance between inspiration and honesty in the storytelling approach, ensuring that users feel motivated without being misled about the app's true potential.
4. Framing the vision of the app as a success story can create a powerful emotional connection with users, making the app more relatable and engaging. By framing the story in a familiar and accessible format, users can connect with the app's mission and purpose on a personal level, fostering a sense of community and belonging among users.

**Table 1.** The "story" of the project as simulated by generative AI, using ChatGPT 3.5 in the Mind Genomics platform, BimiLeap.com.

#### **PHASE I — THE "STORY" OF THE PROJECT AS SIMULATED BY GENERATIVE AI**

**We are interested in creating an app for healthy weight loss for children. It is now 2026. We were able to develop the app in 2024, based upon work that we did to understand the behavior of children regarding eating, food, gamification, and so forth.**

**I understand that you are writing an article for a popular magazine that will reach millions of people, many of**

**whom are interested in how we developed this app, what we thought about what we did.**

**Please write a seven-paragraph composition on exactly what we did, at a technical level and at a gamification level to make this app. What did the children feel about the app? How did they use it? What appealed to them? What worked? What failed? What suggestions did the children make? What suggestion did the parents make? What suggestion did nutritionists make?**

**How was the app distributed? What kind of complaints did you receive? What compliments did you get? What was the tonality of the complaints?**

**If you could get into the mind of the people who helped design the app, what were they thinking when they talked to you? If you could get into the mind of the people who used the app, what were they experiencing? What did they say?**

**Give us quotes to show what people were thinking and saying. Go deep into the mind as only you can. Make the writing all active case, not passive. Make the writing show their thinking. Make the writing very detailed, because this will be a historical document.**

In 2024, our team embarked on the challenging task of creating a cutting-edge app aimed at promoting healthy weight loss for children. Through extensive research and analysis, we gained a deep understanding of the behavior of children when it comes to eating habits, motivation, and engagement. By combining this knowledge with the latest technological advancements, we were able to develop an app that not only educated children about the importance of healthy eating but also made the journey towards weight loss fun and interactive.

One key technical aspect of the app was its personalized tracking system. By allowing children to input their daily meals and activities, the app was able to provide real-time feedback and suggestions tailored to each user's specific needs. This personalized approach not only kept children engaged but also motivated them to make healthier choices. Additionally, the app utilized gamification elements such as rewards, challenges, and leaderboards to make the weight loss journey exciting and competitive for children.

"We wanted to create an app that not only educates children about healthy eating but also empowers them to make positive changes in their lives," said our lead developer. "By incorporating gamification elements, we were able to make the journey towards weight loss fun and engaging for children, ultimately increasing the likelihood of long-term success."

The reactions to the app were overwhelmingly positive, with the nutritional world praising its innovative approach to promoting healthy eating habits among children. Medical professionals hailed the app as a valuable tool for combating childhood obesity, while parents and schools welcomed its educational and motivational aspects. The commercial world saw the app as a potential game-changer in the market of children's health and wellness apps, with many predicting a surge in its popularity.

"Developers looking to create similar apps should focus on the user experience and engagement," suggested a prominent nutritionist. "By making the app interactive, personalized, and rewarding, children are more likely to stay motivated and committed to their weight loss goals."

As the news media caught wind of the app's success, stories of children achieving their weight loss goals and leading healthier lives started to spread. The app quickly gained traction in the diet food world, with many companies partnering with us to promote their own healthy food options within the app. Overall, the app's impact on the health and wellness industry was profound, sparking a new wave of innovation in the development of apps for children's health.

**Phase 2 — Planning Session with the Design Team Asking Questions**

AI-based design sessions can foster a collaborative environment by generating questions and answers from diverse perspectives, potentially uncovering new ideas and solutions. By delving into the minds of each design team member and presenting their thoughts through quotes, AI can create a more inclusive and valuable environment for all input [12-14].

The AI-generated questions in the design process stimulate creativity and encourage innovative thinking, allowing the team to explore different perspectives and challenge assumptions. This method streamlines sessions, ensuring that a diverse range of viewpoints are represented without bias or

influence, ultimately leading to a more comprehensive design concept.

Automating the design process to generate a large number of unique question-answer sets could significantly improve the design session experience. This repository of input could enhance efficiency, productivity, and insight, facilitating brainstorming, problem-solving, and decision-making throughout the design process.

The adoption of AI-generated questions in product design could significantly improve marketing, innovation, and insight-driven development. This approach would enhance design sessions, fostering a more inclusive and dynamic environment, resulting in innovative products and services, driven by fresh ideas and strategic decision-making.

**Table 2.** Questions discussed by the design team, and answered by up to five different team members.

<b>PHASE 2 — PLANNING DISCUSSION ABOUT THE PROJECT WITH THE DESIGN TEAM ASKING QUESTIONS</b>
<p><b>We are interested in creating an app for healthy weight loss for children. It is now 2026. We were able to develop the app in 2024, based upon work that we did to understand the behavior of children regarding eating, food, gamification, and so forth.</b></p>
<p><b>I understand you had sessions devoted to having members of the design team discuss topics.</b></p>
<p><b>There was a question raised about designing the app.</b></p>
<p><b>1. What is the question asked? Preface by QUESTION ASKED:</b></p>
<p><b>2. Who in the team asked the question? Preface by ASKER:</b></p>
<p><b>3. Why was the question asked? You may use up to three sentences to provide an answer, with quotes to denote what the asker was thinking. Preface by WHY QUESTION ASKED:</b></p>
<p><b>4. What was the first answer from the design group and what is the reason for this answer? You may use up to four sentences including quotes. You must tell us who the answer is from, and the reason for the answer. Preface by ANSWER1</b></p>
<p><b>5. What was the second answer from the design group and what is the reason for this answer? You may use up to four sentences including quotes. You must tell us who the answer is from, and the reason for the answer. Preface by ANSWER2</b></p>
<p><b>6. What was the third answer from the design group and what is the reason for this answer? You may use up to four sentences including quotes. You must tell us who the answer is from, and the reason for the answer. Preface by ANSWER3</b></p>
<p><b>7. What was the fourth answer from the design group and what is the reason for this answer? You may use up to four sentences including quotes. You must tell us who the answer is from, and the reason for the answer. Preface by ANSWER4</b></p>

**8. What was the fifth answer from the design group and what is the reason for this answer? You may use up to four sentences including quotes. You must tell us who the answer is from, and the reason for the answer. Preface by ANSWER5**

**9. Make sure the language is all in the active voice, not the passive voice. Give a sense of “being there” at the meeting and wanting to jump in and participate. Give a sense of the excitement of creating something really important.**

**QUESTION 1: “How can we make the app engaging and motivating for children to use regularly?”**

**1. ASKER:** Emily, the lead designer on the project.

**2. WHY ASKED:** Emily wanted to ensure that the app would keep children interested and excited about their weight loss journey. She believed that the app’s engagement level would be crucial to its success.

**3. ANSWER1:** “We could incorporate fun challenges and rewards, like virtual stickers or badges, to motivate the kids to reach their goals.” - Sarah, UI/UX designer. Sarah suggested this answer because she recognized the importance of incorporating gamification elements into the app to keep children engaged.

**4. ANSWER2:** “What if we create a virtual avatar for each child that they can customize and dress up as they progress in their weight loss journey?” - Josh, app developer. Josh proposed this idea to make the app more personalized and interactive, which he believed would increase user engagement.

**5. ANSWER3:** “Maybe we could include mini-games within the app that are related to healthy eating habits and exercise, so children can learn while having fun.” - Maya, nutritionist. Maya suggested this answer as she thought it would be a great way to educate children about health and wellness in an engaging way.

**6. ANSWER4:** “What if we add a social aspect to the app, where kids can connect with each other, share their progress, and cheer each other on?” - Alex, marketing specialist. Alex proposed this idea to create a sense of community and support among users, which he believed would increase motivation and engagement.

**QUESTION 2: “How can we ensure that the app promotes healthy eating habits without being restrictive or overwhelming for children?”**

**1. ASKER:** Ben, the project manager.

**2. WHY ASKED:** Ben wanted to make sure that the app would encourage healthy behaviors in a positive and sustainable way. He believed that striking the right balance between guidance and freedom was key to the app’s effectiveness.

**3. ANSWER1:** “We could provide simple and nutritious recipe ideas that are easy for children to make, along with tips on portion control and balanced meals.” - Lily, dietitian. Lily suggested this answer to empower children to make healthier food choices without feeling deprived or confused.

**4. ANSWER2:** “What if we incorporate a meal planning feature that allows children and their families to create healthy and balanced meal plans together?” - Mike, software engineer. Mike proposed this idea to promote family involvement in the child’s weight loss journey, making the app’s recommendations more sustainable and practical.

**5. ANSWER3:** “Maybe we could include interactive meal tracking tools that make it easy for children to log their food intake and stay mindful of their eating habits.” -Sofia, behavioral psychologist. Sofia suggested this answer as she believed that self-monitoring and awareness were crucial for promoting positive eating behaviors in children.

**6. ANSWER4:** “What if we include educational content on nutrition and the benefits of different food groups, presented

in a fun and engaging way?" - Jake, content creator. Jake proposed this idea to provide children with the knowledge and understanding they need to make informed decisions about their diet, without feeling overwhelmed by strict rules.

7. **ANSWER5:** "What if we partner with local restaurants and grocery stores to offer discounts or special promotions on healthy food options for app users?" - Rachel, business development. Rachel suggested this answer to make healthy eating more accessible and affordable for families, incentivizing the use of the app and reinforcing positive behaviors.

**QUESTION 3: How can we ensure that the app is engaging enough to keep children interested in using it for their weight loss journey?**

1. **ASKER:** Sarah, the lead designer
2. **WHY ASKED:** Sarah wanted to make sure that the app would be appealing enough to children so they would continue using it regularly. She was thinking, "We need to find ways to make the app fun and interactive to keep the kids motivated."
3. **ANSWER1:** The first answer came from Mark, the app developer, who suggested incorporating mini-games and challenges into the app to make it more engaging. He said, "Adding elements of gamification will make the app more enjoyable for kids and encourage them to stay on track with their weight loss goals."
4. **ANSWER2:** The second answer came from Emily, the nutritionist on the team, who recommended including a feature that allows children to track their daily food intake and receive personalized tips and recommendations based on their dietary habits. She explained, "By providing personalized feedback, we can help children make healthier choices and stay motivated."
1. **ANSWER3:** The third answer came from Alex, the child psychologist, who proposed integrating positive reinforcement mechanisms, such as virtual rewards and badges, into the app to incentivize healthy behaviors. He mentioned, "Rewarding children for their progress can reinforce positive habits and encourage long-term adherence to the program."
2. **ANSWER4:** The fourth answer came from Lisa, the user experience designer, who suggested conducting focus groups with children to gather feedback on the app's features and usability. She said, "Involving kids in the design process will help us better understand their preferences and ensure that the app meets their needs and expectations."
3. **ANSWER5:** The fifth answer came from Ryan, the marketing strategist, who advised creating a social sharing feature that allows children to connect with peers and share their achievements and progress. He mentioned, "Incorporating a social element can provide support and accountability, fostering a sense of community among users."

**QUESTION 4: How can we ensure the app is user-friendly for children?**

1. **ASKER:** Sarah, the lead UX designer
2. **WHY ASKED:** Sarah asked this question to ensure that the app's interface and navigation would be engaging and easy to use for children. She wanted to make sure the app would be intuitive and fun for kids to interact with.
3. **ANSWER1:** "We could use bright colors and fun animations to make the app visually appealing to children." - from Sofia, the graphic designer. The reason for this answer is to make the app visually stimulating and attractive to the

target audience.

4. **ANSWER2:** "We should incorporate simple language and instructions that children can easily understand." - from Alex, the content strategist. The reason for this answer is to ensure that children can navigate the app independently and follow along with the content.
5. **ANSWER3:** "We could include interactive games and rewards to make the app more engaging and motivate kids to continue using it." - from Mark, the gamification expert. The reason for this answer is to make the app more interactive and provide incentives for children to stay engaged.
6. **ANSWER4:** "We should conduct user testing with children to gather feedback on the app's usability and make any necessary improvements." - from Emily, the user research specialist. The reason for this answer is to get direct input from the target audience and iterate on the app design based on their feedback.
7. **ANSWER5:** "We could also create tutorials or walkthroughs to help children learn how to use the app effectively." - from Jake, the instructional designer. The reason for this answer is to provide additional support and guidance for children who may be new to using the app.

**QUESTION 5: How can we ensure that the app appeals to children of all ages?**

1. **ASKER:** Sarah from the design team.
2. **WHY ASKED:** Sarah was concerned about making sure the app was engaging for a wide range of children, as she believed that age-appropriate content was key to success.
3. **ANSWER1:** "We could incorporate different levels of difficulty in the games and challenges to cater to different age groups," suggested Mark, emphasizing the need for variety to keep all children engaged.
4. **ANSWER2:** "We should consider incorporating popular animated characters or superheroes that appeal to children of all ages," proposed Emily, highlighting the importance of familiarity in making the app relatable.
5. **ANSWER3:** "Maybe we can include interactive features like quizzes or polls to make the app more interactive and appealing to a broader audience," recommended Jake, focusing on creating a dynamic user experience.
6. **ANSWER4:** "It might be helpful to conduct user testing with children of different ages to gather feedback on what they find most engaging," recommended Mia, emphasizing the importance of direct input from the target audience.

**QUESTION 6: How can we effectively incentivize children to make healthy food choices through the app?**

1. **ASKER:** Mark from the design team.
2. **WHY ASKED:** Mark wanted to explore ways to motivate children to choose healthier options, as he believed that positive reinforcement was crucial for long-term behavior change.
3. **ANSWER1:** "We could introduce a virtual rewards system where children earn points for making healthy choices and can redeem them for personalized rewards within the app," suggested Sarah, emphasizing the power of gamification in driving behavior.
4. **ANSWER2:** "Perhaps we could incorporate challenges and competitions where children can compete with their friends or classmates to encourage healthy competition and camaraderie," proposed Emily, focusing on social dynamics to drive engagement.

5. **ANSWER3:** “What if we included educational content on nutrition and health in a fun and interactive format to empower children with knowledge and motivation to make better choices?” recommended Jake, highlighting the importance of education in driving behavior change.
6. **ANSWER4:** “It might be beneficial to partner with schools or community organizations to create real-world incentives for healthy eating, such as discounts at local healthy food establishments or exclusive events for app users,” suggested Mia, emphasizing the importance of external motivation sources.

**QUESTION 7: How can we ensure that the app is accessible to children from diverse socioeconomic backgrounds?**

1. **ASKER:** Emily from the design team.
2. **WHY ASKED:** Emily was concerned about inclusivity and wanted to make sure that the app was accessible to children regardless of their economic circumstances, as she believed that health should not be a privilege.
3. **ANSWER1:** “We could offer the app for free and explore partnerships with organizations or sponsors to cover the costs and provide subsidies for families in need,” suggested Mark, emphasizing the importance of affordability in reaching a wider audience.
4. **ANSWER2:** “Maybe we can design the app to require minimal data usage and device specifications so that it can run smoothly on older or less advanced devices commonly found in lower-income households,” proposed Sarah, focusing on technical accessibility.
5. **ANSWER3:** “What if we included a feature where users can earn points or rewards for completing health-related tasks that can be redeemed for real-world healthy food vouchers or discounts?” recommended Jake, emphasizing the potential for tangible benefits to incentivize usage.
6. **ANSWER4:** “It might be beneficial to collaborate with community centers or schools to promote the app and offer workshops or support for families who may face barriers to accessing healthy options,” suggested Mia, highlighting the importance of community partnerships in promoting equity.

**Phase 3 — Specific Capabilities on Which the Designers Focused**

A technical session during the design process of a weight loss app is essential for several reasons. First, it allows the team to explore the feasibility of features and functionalities, ensuring the final product meets user demands and is technically viable. Second, it allows the team to brainstorm technical solutions to potential challenges, saving time and resources. Discussing technical considerations at this stage helps the team align on a shared vision for the app and make informed decisions about which features to prioritize based on feasibility. This ensures the final product is cohesive and well-integrated, rather than a disjointed collection of features. Additionally, a technical session can help identify opportunities for innovation and

differentiation within the market by leveraging unique technical capabilities or cutting-edge technologies [15-17].

The best time for a technical session in a weight loss app design is when planning is relatively settled but still open to iteration. The initial stages involve defining user needs, conducting research, and brainstorming potential solutions. The team should hold the session at this stage to ensure their proposed solutions align with the app’s objectives and user needs. This allows for more flexibility in incorporating technical considerations into the design, rather than trying to retrofit them later. A balance between settled planning and flexibility is crucial to maximize the value of a technical session during the weight loss app design process.



**Table 3.** List of specific capabilities of the app provided by AI.**PHASE 3 — THE SPECIFIC CAPABILITIES ON WHICH THE DESIGNERS FOCUSED**

1. **Health Monitoring:** The app allows users to input and track their health data, such as daily activity levels, heart rate, sleep patterns, and diet. Users receive personalized recommendations for improving their health based on this data.
2. **Nutrition Tracking:** Users can log their meals and track their caloric intake, macronutrient distribution, and hydration levels. The app provides nutritional information for common foods and suggests healthier alternatives.
3. **Goal Setting:** Users can set specific fitness and wellness goals, such as weight loss, muscle gain, or improved flexibility. The app helps users create actionable plans to reach these goals and celebrates milestones along the way.
4. **Personalized Workouts:** The app generates customized workout plans based on the user's fitness goals, current fitness level, and equipment available to them. Users can track their progress and adjust their workouts accordingly.
5. **Virtual Coaching:** Users have the option to receive personalized coaching from certified fitness professionals through the app. Coaches can provide guidance, feedback, and support to help users achieve their goals more effectively.
6. **Community Support:** The app connects users with a supportive community of like-minded individuals who can offer encouragement, share tips, and participate in challenges together. This feature promotes accountability and motivation.
7. **Data Analysis:** The app utilizes advanced algorithms to analyze user data and provide insights into trends, correlations, and potential areas for improvement. Users can access detailed reports and visualizations to better understand their health and fitness journey.

**Phase 4 — The Town Hall Meeting**

A town hall meeting, sponsored by a local medical association, professional dietitians, nutrition counselors, and health food stores, will be held to present a new app to the public. The experts will discuss the app's features, benefits, and how it can help individuals improve their health through diet and nutrition. They will also discuss the importance of proper nutrition and how the app can help make healthier choices. The audience will have the opportunity to ask questions about the app's functionality and integration into daily life. The panel of experts will provide detailed answers, addressing

any concerns or confusion.

A town hall meeting, simulated by experts in nutrition and health, can provide a valuable opportunity for the public to learn about a new app designed to improve their health. This open communication can lead to new insights into nutrition and healthy eating which can help attendees make better choices about diet and nutrition. Experts' answers can help the audience consider how the app can benefit their health journey, how to integrate it into their daily routine, and how it empowers individuals to take control of their health through proper nutrition and healthy eating habits [18-19].

**Table 4.** Simulation of the town hall meeting.**PHASE 4 — TOWN HALL MEETING WITH PARENTS AND OTHERS IN THE COMMUNITY INTERESTED IN THE TOPIC OF THE APP AND HOW IT HELPS CHILDREN TO LOSE WEIGHT**

We successfully launched an app to help children lose weight. The company sponsoring the development and marketing the product had a town hall meeting in 2026, inviting parents, children, and anyone of the people in the community. The format was for a question to be asked by someone in the audience. Then the answer would be given by one of the people invited to sit at the dais. These were knowledgeable people. Finally, there were various people in the audience, of different mind-sets. Through our “magic system” we could get into their minds, and read their thoughts about the answer.

1. What is the question asked? Preface by QUESTION ASKED:
2. Who in the audience asked the question? Preface by ASKER:
3. Why was the question asked? You may use up to three sentences to provide an answer, with quotes to denote what the asker was thinking. Preface by WHY QUESTION ASKED:
4. Who answered the question from the dais. What was the person’s professional qualifications. Preface by WHO ANSWERED:
5. What was the answer that was given? Preface by TEXT OF ANSWER:
6. What was the professional thinking when answering the question? Preface was PRIVATE THOUGHT OF ANSWERER REGARDING WHAT WAS ANSWERED:
7. What was the first thought about the answer from the audience, based upon their MIND-SET. Tell us who the person is, the mind-set of the person, and up to four sentences to tell us exactly what the first person with the mind-set was thinking about the answer, and why the person thought that way. Preface by AUDIENCE MEMBER1:
8. What was the second thought about the answer from the audience, based upon their MIND-SET. Tell us who the person is, the mind-set of the person, and up to four sentences to tell us exactly what the first person with the mind-set was thinking about the answer, and why the person thought that way. Preface by AUDIENCE MEMBER2:
9. What was the third thought about the answer from the audience, based upon their MIND-SET. Tell us who the person is, the mind-set of the person, and up to four sentences to tell us exactly what the first person with the mind-set was thinking about the answer, and why the person thought that way. Preface by AUDIENCE MEMBER3:
10. What was the fourth thought about the answer from the audience, based upon their MIND-SET. Tell us who the person is, the mind-set of the person, and up to four sentences to tell us exactly what the first person with the mind-set was thinking about the answer, and why the person thought that way. Preface by AUDIENCE MEMBER4:

**QUESTION 1: “How effective is the app in helping children lose weight?”**

1. **ASKER:** A concerned parent in the audience.
2. **WHY QUESTION ASKED:** The parent was worried about the long-term health implications of childhood obesity and wanted reassurance about the app’s effectiveness. Their thoughts: “I need to make sure this app is actually going to help my child.”
3. **WHO ANSWERED:** A pediatrician specializing in childhood obesity.
4. **TEXT OF ANSWER:** “The app integrates evidence-based strategies for weight loss in children and has shown promising results in clinical trials.”
5. **PRIVATE THOUGHT OF ANSWERER REGARDING WHAT WAS ANSWERED:** The pediatrician thought, “I hope my professional expertise will reassure the audience about the app’s effectiveness.”
6. **AUDIENCE MEMBER1:** A skeptical parent with a conservative mind-set. Their thoughts: “I’ve heard about these types of apps before, but they often don’t work as promised. I’m not sure if I can trust the information being presented.”
7. **AUDIENCE MEMBER2:** A tech-savvy teenager with a progressive mind-set. Their thoughts: “This app sounds interesting, I wonder if it uses cutting-edge technology to engage kids in healthy habits. I’d like to learn more about how it works.”
8. **AUDIENCE MEMBER3:** A nutritionist with a holistic mind-set. Their thoughts: “I wonder if the app takes into account the importance of balanced nutrition and physical activity for overall health. I hope the answer focuses on the bigger picture of childhood wellness.”
9. **AUDIENCE MEMBER4:** A busy working parent with a practical mind-set. Their thoughts: “I need this app to be easy to use and fit into our family’s daily routine. If it’s too complicated, it won’t be sustainable for us.”

**QUESTION 2: “How can this app effectively motivate children to exercise and make healthier choices?”**

1. **ASKER:** Parent of a child struggling with weight loss.
2. **WHY QUESTION ASKED:** The parent was concerned about their child’s lack of motivation and wanted to know how the app could address that. “I just want to see my child succeed and be healthy.”
3. **WHO ANSWERED:** Dr. Sarah Rodriguez, a pediatrician specializing in childhood obesity.
4. **TEXT OF ANSWER:** “The app utilizes gamification and rewards to make exercise and healthy eating fun for children.”
5. **PRIVATE THOUGHT OF ANSWERER REGARDING WHAT WAS ANSWERED:** Dr. Rodriguez was confident in her answer, knowing that the app had been tested and proven successful in motivating children.
6. **AUDIENCE MEMBER1:** Concerned Parent - “That sounds like a great idea, I hope it really helps my child stay on track with their weight loss goals.”
7. **AUDIENCE MEMBER2:** Skeptical Parent - “I’m not sure if a simple app can really make a difference in my child’s habits. It seems too good to be true.”
8. **AUDIENCE MEMBER3:** Supportive Parent - “I’ve seen the positive impact of technology on my child’s behavior before, so I think this app could be a game-changer for families.”

9. **AUDIENCE MEMBER4:** Health Professional - "As a nutritionist, I believe that incorporating technology into weight loss programs can be effective in creating lasting behavior change in children."

**QUESTION 3: How can the app ensure children are losing weight in a healthy and sustainable way?**

1. **ASKER:** Parent of a child struggling with weight loss
2. **WHY QUESTION ASKED:** "I just want to make sure this app is actually promoting healthy habits for my child's weight loss journey."
3. **WHO ANSWERED:** Nutritionist with a PhD in child obesity studies
4. **TEXT OF ANSWER:** "The app was developed in partnership with leading nutritionists to ensure that it promotes balanced meals, regular exercise, and positive body image."
5. **PRIVATE THOUGHT OF ANSWERER REGARDING WHAT WAS ANSWERED:** The nutritionist thinks, "I'm confident in the research and planning that went into creating this app. It's important for parents to trust the process and support their children on their journey to better health."
6. **AUDIENCE MEMBER1:** Parent with a skeptical mind-set. "I'm not sure if I trust the claims being made about this app. I'll have to do more research on my own before allowing my child to use it."
7. **AUDIENCE MEMBER2:** Health and fitness enthusiast. "This app sounds like a great tool for helping children make healthier choices. I can't wait to try it out with my own family and see the results for myself"
8. **AUDIENCE MEMBER3:** Concerned community member. "I hope this app addresses the emotional and mental aspects of weight loss in children, not just the physical. It's important for kids to develop a positive relationship with food and exercise."
9. **AUDIENCE MEMBER4:** Technology skeptic. "I'm not convinced that an app can really make a difference in a child's weight loss journey. There's no substitute for personalized guidance from a real-life health professional."

**QUESTION 4: How does this app specifically help children lose weight?**

1. **ASKER:** A concerned parent in the audience
2. **WHY QUESTION ASKED:** The parent was thinking, "I want to make sure this app is truly effective and safe for my child."
3. **WHO ANSWERED:** A nutritionist with a background in childhood obesity prevention
4. **TEXT OF ANSWER:** The app provides personalized meal plans, exercise routines, and tracking tools to help children develop healthy habits.
5. **PRIVATE THOUGHT OF ANSWERER REGARDING WHAT WAS ANSWERED:** The nutritionist was thinking, "I hope this parent understands the importance of consistency and support in their child's weight loss journey."
6. **AUDIENCE MEMBER1:** A skeptic who believes traditional methods are more effective
7. **AUDIENCE MEMBER2:** An enthusiastic supporter who sees the potential in using technology to improve children's health

8. **AUDIENCE MEMBER3:** A parent who is interested in trying out the app for their own child
9. **AUDIENCE MEMBER4:** A health professional skeptical about the app's effectiveness without further evidence

**QUESTION 5: "How does the app ensure that children are making healthy and sustainable choices to lose weight?"**

1. **ASKER:** A concerned parent in the audience.
2. **WHY QUESTION ASKED:** The parent was worried about the potential negative impact of rapid weight loss on a child's health and wanted reassurance. "I hope they have researched this thoroughly."
3. **WHO ANSWERED:** Dr. Sarah Johnson, a pediatric nutritionist with over 10 years of experience.
4. **TEXT OF ANSWER:** "The app focuses on promoting balanced nutrition and regular physical activity, rather than extreme measures like crash dieting."
5. **PRIVATE THOUGHT OF ANSWERER REGARDING WHAT WAS ANSWERED:** Dr. Johnson felt confident in her response, knowing that the app's program was designed with input from experts in the field.
6. **AUDIENCE MEMBER1:** A skeptical parent with a traditional mind-set. "I'm not sure if an app can really replace proper guidance from a healthcare professional. This seems too good to be true."
7. **AUDIENCE MEMBER2:** An enthusiastic teenager eager to lose weight. "That sounds really cool! I can't wait to try it out and see if it helps me reach my goals."
8. **AUDIENCE MEMBER3:** A fitness enthusiast with a skeptical mind-set. "I wonder how personalized the app's recommendations are. It's important for it to take into account each child's individual needs and preferences."
9. **AUDIENCE MEMBER4:** A technology-savvy parent with a practical mind-set. "I'm curious about the user interface and how easy it is for kids to navigate. If it's too complicated, they might not stick with it."

**QUESTION 6: How does the app track a child's progress and provide personalized feedback?**

1. **ASKER:** A concerned parent in the audience
2. **WHY QUESTION ASKED:** The parent was curious about the app's functionality and wanted to ensure it would be effective for their child's weight loss journey. "I hope this app isn't just a generic tracking tool - I want something that can actually help my child reach their goals."
3. **WHO ANSWERED:** Dr. Sarah Johnson, a pediatric nutritionist with years of experience working with children on weight management
4. **TEXT OF ANSWER:** Dr. Johnson explained that the app uses a combination of input from the child, data tracking, and machine learning algorithms to provide tailored recommendations and guidance.
5. **PRIVATE THOUGHT OF ANSWERER REGARDING WHAT WAS ANSWERED:** Dr. Johnson was confident in her response, knowing that the app's personalized approach was backed by scientific research and evidence-based strategies.
6. **AUDIENCE MEMBER1:** A tech-savvy teenager with a positive mind-set. "Wow, that sounds really cool! I never thought an app could help with weight loss in such a personalized way. I might even try it myself."
7. **AUDIENCE MEMBER2:** A skeptical grandparent with a traditional mind-set. "I still think good old-fashioned diet and

exercise are the best ways to lose weight. I'm not sure about relying on an app for something so important."

8. **AUDIENCE MEMBER3:** A busy working parent with a practical mind-set. "As long as it's easy to use and doesn't require too much time or effort, I'm willing to give it a try. Anything to help my child stay healthy."
9. **AUDIENCE MEMBER4:** A health-conscious fitness instructor with a holistic mind-set. "I like the idea of incorporating technology into health and wellness, but I wonder if the app takes into account the emotional aspects of weight loss as well. It's not just about numbers on a screen."

**QUESTION 7: "How does the app determine the appropriate weight loss goals for children?"**

1. **ASKER:** A concerned parent in the audience.
2. **WHY QUESTION ASKED:** The parent was worried about setting realistic and safe weight loss goals for their child. They were thinking, "I want to make sure my child is not pushing themselves too hard or setting unrealistic expectations."
3. **WHO ANSWERED:** Dr. Sarah Johnson, a pediatric nutritionist with 10 years of experience.
4. **TEXT OF ANSWER:** "The app uses a combination of factors such as age, height, weight, and activity level to set customized weight loss goals for each child."
5. **PRIVATE THOUGHT OF ANSWERER REGARDING WHAT WAS ANSWERED:** Dr. Johnson thought, "It's important to emphasize the individualized approach to weight loss for children to ensure their safety and success."
6. **AUDIENCE MEMBER1:** A skeptical parent with a cautious mind-set thought, "I hope the app takes into account my child's overall health and doesn't just focus on weight loss. I want to make sure they are promoting a healthy lifestyle, not just a number on the scale."
7. **AUDIENCE MEMBER2:** A fitness enthusiast with a competitive mind-set thought, "I wonder if the app can set challenging goals for kids who are already active. It would be great to see them push themselves to new levels of fitness."
8. **AUDIENCE MEMBER3:** A nutritionist with a holistic mind-set thought, "I hope the app encourages healthy habits like balanced meals and regular exercise, rather than just focusing on weight loss. It's important to prioritize overall well-being."
9. **AUDIENCE MEMBER4:** A technology-savvy parent with a practical mind-set thought, "I wonder how user-friendly the app is for children and parents. It needs to be easy to navigate and understand for it to be effective in helping kids lose weight."

**QUESTION 8: "How effective is the app in helping children lose weight?"**

1. **ASKER:** Sarah, a concerned parent in the audience
2. **WHY QUESTION ASKED:** Sarah was thinking, "I want to make sure this app is actually going to help my child get healthier and not just a gimmick."
3. **WHO ANSWERED:** Dr. Melissa Johnson, a pediatrician specializing in childhood obesity
4. **TEXT OF ANSWER:** Dr. Johnson explained, "Our app utilizes evidence-based strategies to promote healthy eating and physical activity in a fun and engaging way for children."

5. **PRIVATE THOUGHT OF ANSWERER REGARDING WHAT WAS ANSWERED:** Dr. Johnson thought, "I hope my explanation reassures parents of the efficacy of our app."
6. **AUDIENCE MEMBER1:** Emily, a skeptic in the audience, thought, "I'm not convinced. They're just trying to sell us something without real results."
7. **AUDIENCE MEMBER2:** Mark, an optimistic parent, thought, "This sounds promising. My child could really benefit from using this app."
8. **AUDIENCE MEMBER3:** Lisa, a nutritionist in the audience, thought, "I appreciate the focus on evidence-based strategies. It's important for interventions in childhood obesity to be backed by research."
9. **AUDIENCE MEMBER4:** John, a technology enthusiast in the audience, thought, "I'm curious to see how the app incorporates gamification to motivate children to make healthier choices."

*Please note that the above questions are hypothetical and created for the purpose of this exercise.*

### Using Generative AI to Create Banks of Questions

Artificial intelligence (AI) has revolutionized problem-solving and learning by understanding complex topics and generating insightful questions. This is particularly useful in developing educational tools, such as weight loss apps for children. Generative AI can identify gaps in knowledge and provide insights into areas needing further clarification or reinforcement. AI can prompt critical thinking about behaviors and choices, leading to a deeper understanding of the importance of maintaining a healthy lifestyle. Its ability to automatically generate questions streamlines the design and

development processes [20-22].

Table 5 presents three sets of 15 questions, developed by the Idea Coach process in BimiLeap.com, the Mind Genomics platform. The Idea Coach program is linked to ChatGPT 3.5 so that no matter what it does, the Idea Coach returns with 15 questions for each iteration. The Idea Coach program is not set to remember each iteration; thus, some questions may recur. However, the iteration time is about 15 seconds, making it possible to generate 15 questions every half minute. Although there may be repeats, the sheer volume of questions provides an education about the process in and of itself [23-25].

**Table 5.** Three question sets generated by generative AI, the questions emerging after each iteration is completed.

#### QUESTION SET #1

1. How can generative AI be used to optimize the design and development of products for specific target audiences?
2. In what ways can AI simulation enhance collaboration and creativity among designers in creating new products?
3. What ethical considerations should be taken into account when using AI in product development?
4. How can AI simulation help in accelerating the prototyping and testing phase of product development?
5. What are the potential benefits of using AI simulation in introducing successful products to the market?
6. Can AI simulation generate better ideas than human designers alone?
7. What impact will AI simulation have on the future of product development and innovation?
8. How can AI simulation revolutionize the way businesses operate and compete in the market?
9. What advancements in AI technology are expected to occur in the next three years?

10. In what ways can AI simulation be used to predict market trends and optimize supply chains?
11. How can AI simulation be utilized to personalize customer experiences and improve customer satisfaction?
12. What potential challenges may arise from the widespread adoption of AI simulation in product development?
13. How can businesses ensure that AI simulation is being used ethically and transparently in creating new products?
14. What role do human designers play in collaboration with AI simulation in product development?
15. How can businesses leverage AI simulation to stay ahead of the competition and drive innovation in their industries?

#### **QUESTION SET #2**

1. What advancements are expected in AI simulation technology in the next three years?
2. How can AI help in faster prototyping and testing of new products?
3. What are the challenges in finding the right balance between AI assistance and human creativity?
4. How can AI simulation be used to predict user preferences and trends in product development?
5. What are the key benefits of combining AI simulation with human ingenuity in design and innovation?
6. How can generative AI enhance the design and development process for creating products?
7. What are the ethical implications of relying on AI for generating ideas in product development?
8. How can we balance the use of AI simulation with human creativity in the design process?
9. What potential risks are associated with using AI to create new products?
10. In what ways can AI simulation revolutionize the future of product development?
11. How can AI help in creating more personalized and user-friendly products?
12. What role does human judgment play in the AI-driven design process?
13. How can AI automation save time and resources in product development?
14. What are the key considerations when integrating AI into the creative process?
15. How can AI simulation lead to more innovative and impactful solutions in product design?

#### **QUESTION SET #3**

1. What role can AI simulation play in revolutionizing the way products are conceptualized and designed?
2. How does the integration of AI simulation represent a paradigm shift in creativity and problem-solving?
3. What potential benefits does AI simulation offer in terms of experimentation and innovation?
4. In what ways can AI simulation foster continuous learning, adaptation, and evolution in product development?
5. What possibilities does the convergence of human creativity and AI hold for future product development?



6. How can embracing AI simulation revolutionize the way products are brought to market and impact the future of innovation?
7. What are the advantages of using generative AI in developing a weight loss app for overweight children?
8. How can AI simulations enhance decision-making and problem-solving in product development?
9. What ethical considerations should be taken into account when using AI in project development?
10. In what ways can AI complement human creativity and innovation in product development?
11. What breakthroughs can we anticipate in AI simulation technology in the next three years?
12. How can AI simulations empower designers and developers to push the boundaries of creativity?
13. What impact can AI simulations have on the speed and quality of product development?
14. What opportunities does AI simulation present for creators to explore complex scenarios and predict outcomes?
15. How can AI simulations lead to the discovery of novel solutions and optimized processes?

## DISCUSSION AND CONCLUSION

Generative AI is being used to create a weight loss app for overweight children, resulting in a comprehensive and effective product. By simulating the project's historical progression, designers can learn from past mistakes and successes, leading to a refined and innovative final output. Collaboration with designers allows for a diverse range of ideas to be incorporated into the app, addressing various needs and preferences of the target audience. AI simulation enables rapid prototyping and testing, resulting in a more user-friendly and engaging app. The successful product is introduced after several meetings, ensuring thorough evaluation and optimization. The use of AI in creating weight loss apps does not pose a moral problem as long as it is used ethically and transparently. If better ideas are generated through AI simulation, the end result could be of higher quality and could be more innovative than if human designers were left to their devices. The future of AI simulation in creating new products is promising, with advancements in AI technology expected to lead to even more innovative and effective products.

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