Using MetaGPT for Product Innovation - Product Innovation Task Brief Template

Level 4 Project 23/24
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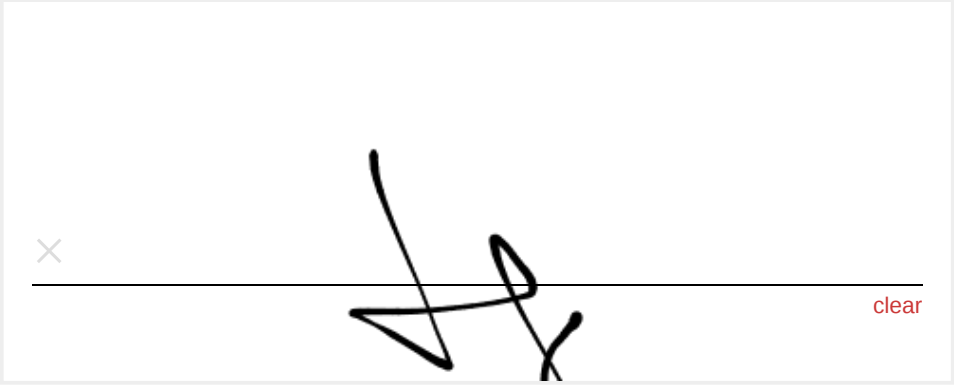
The aim of this experiment is to investigate how well the GPT-4 LLM supported by a meta-framework performs at product innovation and evaluation. We cannot evaluate the quality of the ideas generated and the evaluations performed without a baseline for comparison. This is why we have asked you, as an expert in your field, to fill in this brief template; choosing a topic and context in which you would like to seen innovation ideas. We will then provide the resulting brief to an AI-based system and design students, and ask you to evaluate the resulting ideas.

When you press next page, you will be presented with an example of a completed brief. Press next page again and you will be presented with the first section of the brief template for you to fill in. There are three sections of the brief in total, with a mixture of optional and non-optional questions. All the non-optional questions must be answered for the brief to be used, and we highly encourage you to answer the optional questions.

There is not time limit on the completion of the brief. You can go back and review the example or change your answers at any point. If you have any questions or require any additional information, please direct an email to *2469113f@student.gla.ac.uk*. Please remember that it is the system, not your choice of topic or expertise, that is being tested. While completion of the entire brief is required for it to be used, you are welcome to withdraw from the experiment at any time.

Do you agree to taking part in this experiment? If so please sign below:



Example Brief

Company Background

Company Name: Scarpa

Company Profile: Scarpa, an esteemed Italian company founded in 1938, specializes in high-quality outdoor footwear. Initially focused on handcrafted shoes, it has expanded into mountaineering, skiing, rock climbing, and hiking footwear. Known for blending innovation, quality, and performance, Scarpa caters to both professional athletes and outdoor enthusiasts. The brand is globally recognized for its craftsmanship and advanced footwear technology, maintaining a strong position in the technical outdoor footwear market.

Company Mission: Scarpa's mission centres on inspiring a connection with nature through innovative and quality footwear. Emphasizing Italian craftsmanship and technological advancement, Scarpa aims to enhance outdoor performance, comfort, and safety, encouraging exploration and enjoyment of the natural world.

Current Product Range: Scarpa's product range includes mountaineering boots, ski boots, rock climbing shoes, and hiking footwear. Tailored
for various expertise levels and terrains, their products range from lightweight approach shoes to advanced boots for extreme conditions.

Product Details

Original Product(s)/Category of Products: Climbing shoes

Target Audiences: Outdoor boulderers who live in cold weather climates and want to be able to climb in challenging conditions

Suggested Features: The idea should combat struggles that come with climbing in the cold, such as numb limbs or loss of comfort due to shoe rigidity.

Requirements: The shoe must not lose any technicality compared to the market leaders

Constraints

Budget: £300000 research and development budget

Timeframe: 3 years for first prototype

Technical and Legal Constraints: The product must be in agreement with respective safety laws and guidelines

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Company Background

. Company Name (The name of the company the idea is being generated for. It is fine for the company to be fictional or unpopular, but if the company is known to GPT-4 its background knowledge will influence it's responses):

Edubot

. Company Profile (A brief description of the company. This could include its history, values, market position, primary products or services, and target customer base):

Edubot develops educational robots for students between the age of 6 to master level.

. Company Mission (The company's mission or vision statement) [Optional]:

The mission of the company is to support teachers and lecturer in developing key STEM skills, including programming, via hands-on activities outside the computer (e.g. using robots)

. Current Product Range (The existing products or services offered by the company) [Optional]:

They mostly sell third party robots and develop educational activities and support on top of them.

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Product Details

. Original Product(s)/Category of Products (Product or category of products to be improved. This could be a specific type of product, a category of products, or a broader scope you wish to explore):

With the recent AI development, they receive a lot of demand for AI educational robots but there is not many on the market that fit the needs and constraints of their typical clients (schools, universities). Most robots are too expensive or the capacity of the robot are too limited for AI education. They see an opportunity to develop their own robot given their insight into their clients need.

. Target Audience (The intended users or consumers of the product. This could include demographic information, user preferences, and any relevant behavioural insights) [Optional]:

They want to develop one platform that could appeal to both schools and universities. For schools the need is more around a AI and Machine Learning activities that are ready to use, short, and do not require any coding. For Universities, the goal is to develop a platform that lecturers can quickly link to a coding environment and develop their own activities. For both clients, the most important constraint is price. The robot must not have a selling price above £50.

. Suggested Features (Any suggested features or direction you want to give the innovation. requirements that the product must have. This could include size, functionality, materials, sustainability considerations, etc) [Optional]

To be engaging the robots must to be able to move itself or part of its body. To be useful for AI, there must be a variety of sensors with at least one camera for computer vision application which are the most attractive to teachers. To be programmable and fun to use, there must be a wireless link possible with a computer, this can be wifi or Bleutooth for example. It would be great if the robot could be customised in some way by the students, either its shape, or as simple as adding a name or colouring it.

. Requirements (Any essential requirements that the product must have. This could include size, functionality, materials, sustainability considerations, etc) [Optional]

Retail price below £50, this usually means that total material cost must be below £15. Robots to be usable for AI demos. We expect students and staffs to have access to their smartphones and computers, or have some made available to them.

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Constraints

. Budget (Specify the budget for designing the product. This could include any limitations on development costs, production costs, or other financial constraints):

We have £50k for this development. As the robot is made to be cheap, we also expect development cost to be low. Our team knows how to design electronics board and has access to a makerspace equipped with 3D printers, lasercuters, etc

. Timeframe (Provided a timeframe in which the product should be able to be fully developed and ready for market):

6months to develop the idea into a functional prototype testable with some schools. Ready for market within 2 years after some iteration with teachers, lecturers and students.

. Technical and Legal Constraints (Any technical limitations, legal considerations, or industry regulations that must be adhered to in the design of the product) [Optional]:

Shipping lithium batteries is not easy but possible in small batches without too much issues, to be considered. Younger kids are not the most delicate manipulators so the robot must be a bit robust to that.

Location Data

Location: (55.8393, -4.2892)

Source: GeoIP Estimation