

# Welcome to New Product Management

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**Mini 4 / Spring 2024**

**THE INTELLIGENT FUTURE**

**Carnegie Mellon University**  
Tepper School of Business



# TODAY'S TOPICS



- What is (New) Product Management?
- Why should you (or shouldn't you) take this course?
- What we will and will not cover.
- Meet your teaching team & Course logistics

# A TALE OF TWO COMPANIES



- Both had products for home security
- Both founded by MBA or Business Master's students/graduates, perhaps like yourself
- Caveat:
  - If you have inside information, hold your comments until others have a chance to analyze the potential of the start-ups.

# SIMPLISAFE



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# BEON



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# WHICH ONE HAS THE GREATEST POTENTIAL?



## SimpliSafe

(\$250-\$450)



Product + Product Features: Wireless security system with optional monthly monitoring service (\$15/mo., no contract) calls the police if necessary.

Technology: Redesigned off-the-shelf hardware, easy to install, using page network (later cellular), modern high-tech design, modular.

Early funding: raised funding from family, friends, and angel investors

## BeOn

(\$199)

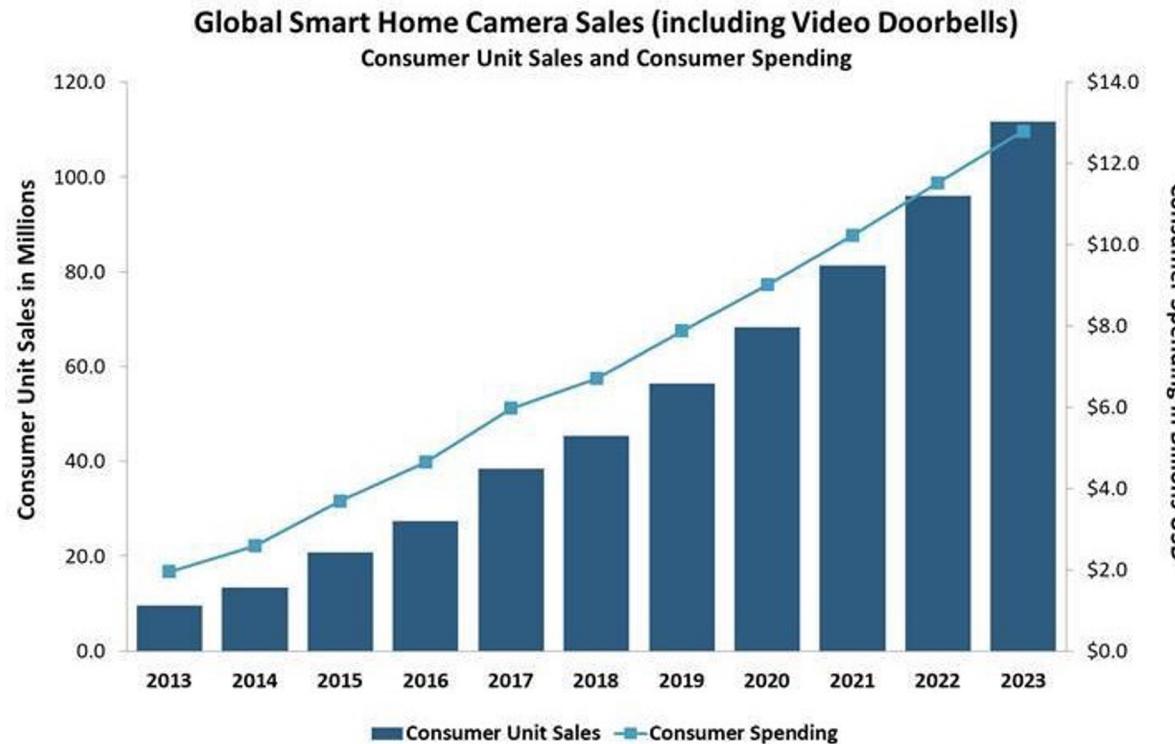


Product + Product Features:: Intelligent light bulb that responds to the ring of the doorbell. User can control remotely from a mobile phone.

Technology: AI replays lighting while you are away. 5 hour power-outage backup, listens for doorbell and alarms, instant-on during emergency, connect to home security. Eco-friendly lighting.

Early funding: raised \$100K on Kickstarter, \$2.9M in 1<sup>st</sup> round funds

# WHAT'S HAPPENING TODAY? RE-SEGMENTED MARKET HAS MANY NEW ENTRANTS



# How COULD SIMPLISAFE SUSTAIN GROWTH?



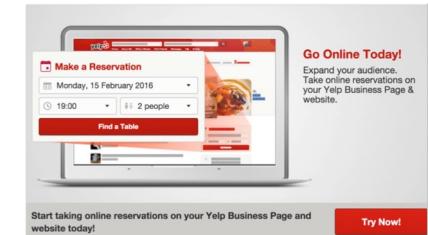
- Should we improve existing product features?  
New product features?
- Should we focus on growing in existing markets or new markets?
- Product-Channel Fit: Are there certain acquisition channels that we focus on?
- Product Strategic Tradeoffs: Focus on acquisition? Retention? Monetization?



# WHAT IS PRODUCT MANAGEMENT?

## ■ What are some responsibilities of a PM?

- Example: Eliciting and Aggregating Customer Feedback
- Voice of the Customer (VOC)
- Customer Needs Downselection and Prioritization
- Market Segmentation on Customer Needs
- Competitor Research and Product Positioning
- Customer Journey and User Story definition
- Feature prioritization and Product Roadmapping
- Hypothesis and Metric Definition
- Product Instrumentation and Tracking
- A/B/n Testing and Advanced A/B Testing
- Pricing and Product Feature Bundling
- Go-to-Market Planning
- Feature Backlog management / grooming

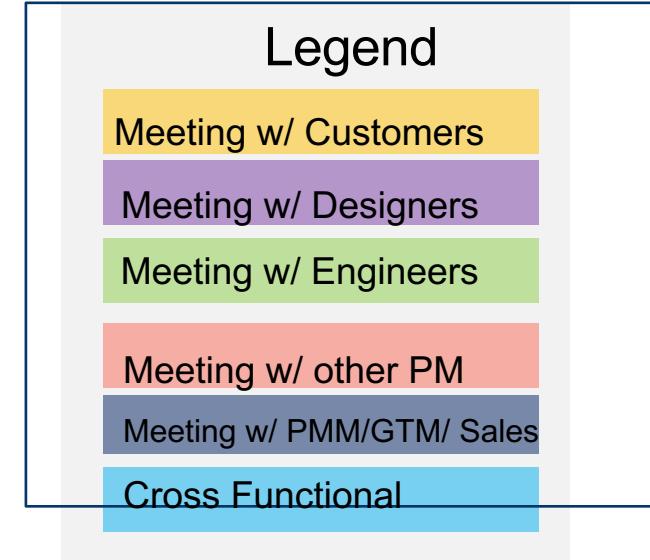


Problem: Ask 5 PMs what they do, and you might get 5 different answers

# EXAMPLE PM WORK WEEK: STARTUP COMPANY (SERIES C/D)



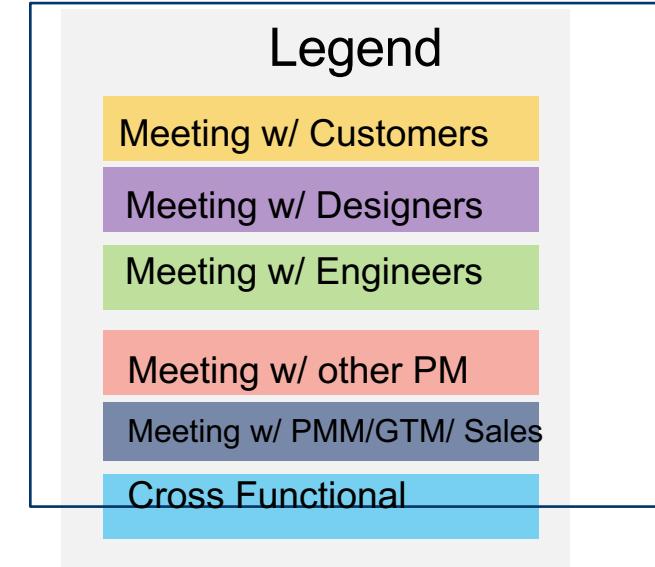
- Large “scope” of responsibilities
- This PM focuses on “growth”
  - e.g., acquisition, retention, referral



# EXAMPLE PM WORK WEEK – MID-CAP TECH FIRM



- Smaller product “scope” than startup, but still significantly more scope than a PM at Meta, Amazon, Google, etc.
- Many different stakeholders
- This PM’s responsibilities differ weekly.
- “Customer discovery” focus this week.

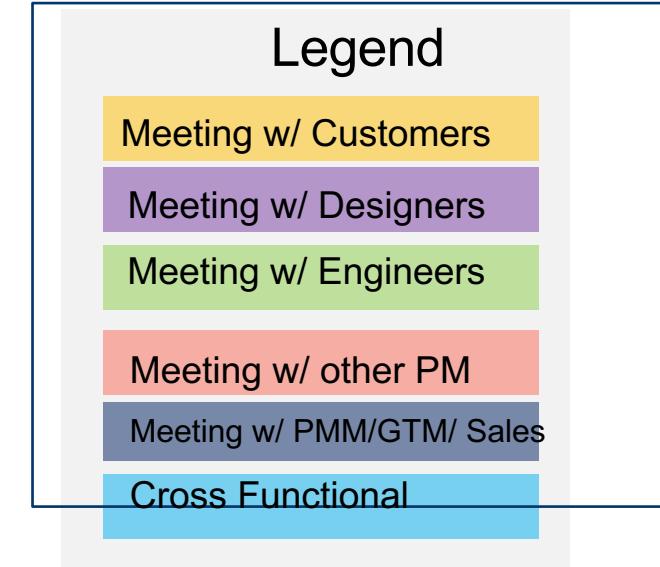


# EXAMPLE PM WORK WEEK – FAANG (IS IT “MANGA” NOW?)

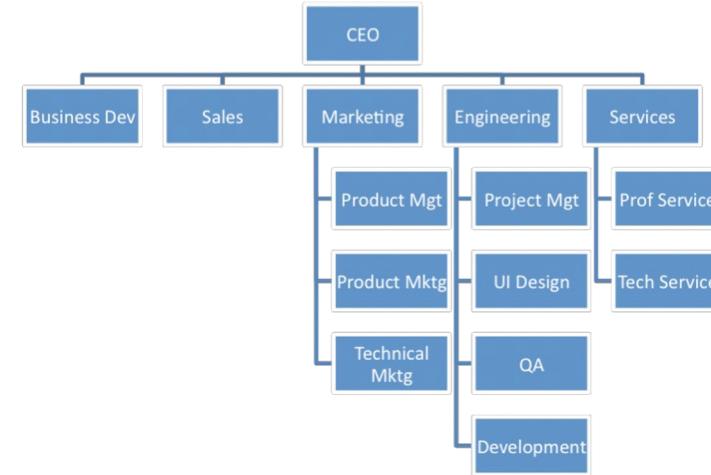
(Facebook, Apple, Amazon, Netflix, Google)



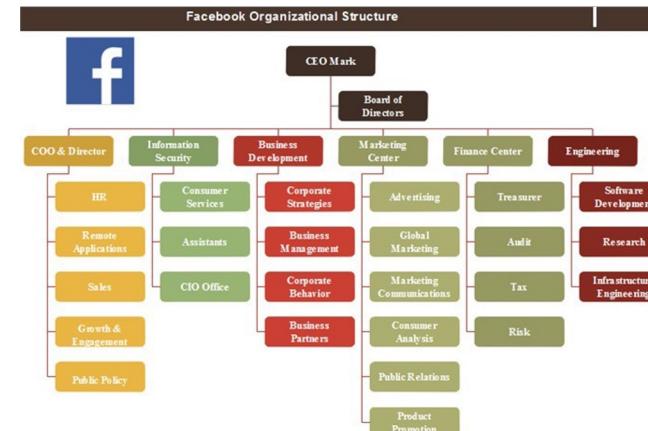
- Much smaller product “scope”
  - Less the “CEO of product”
- Many more meetings with other PMs than other two examples.
  - More time making the case for prioritizing “your feature” vs “theirs”



# TAKEAWAY: PRODUCT MANAGER ROLE DEPENDS ON MANY FACTORS



Does firm have separate product org?



Facebook



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# THIS COURSE IS TARGETED AT STUDENTS LOOKING TO “BREAK IN” AS A PM

- Stage of Product Career (typically) “Owns” what?

| PM, Associate PM (APM)    | Product Feature             |
|---------------------------|-----------------------------|
| PM Lead, Group Lead       | Product / Product Component |
| Product Leader / Director | Product Line / Product      |

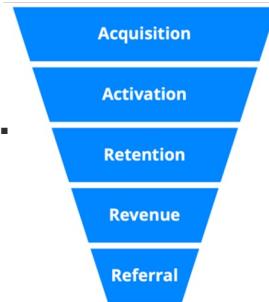


- This class is targeted at the first level – New PMs / Interns
  - Those who are trying to break into PM or have basic PM knowledge and want to formalize it.
- Next class: What a PM does and factors affecting PM roles
  - Please read “Pre-Readings”: R1 (see on Canvas / Syllabus)

# WHAT YOU WILL LEARN IN THIS COURSE



- Topics focus on technology-driven products. Methods include both quantitative and qualitative
- Merge product fundamentals from academia and best practices from industry.
  - 50+ years of academic formalization from physical products – Voice of the Customer, advanced A/B testing; with best practices from digital products – feature prioritization, growth models, etc.
  - We will include “common mistakes and pitfalls” for your future careers.
- While we'll use some PM frameworks, our goal is to see commonalities across frameworks.
  - Commonalities across PM jargon: “Customer Need”, “User Problem”, “Benefit”, “Job to be Done”, etc.
  - Commonalities across product metric frameworks: AARRR funnel or AARR framework?
  - Commonalities across feature prioritization frameworks
- This course's goal is to teach you to be the voice of the customer, prioritize needs and translate to product features, and work with stakeholders to launch features while tracking their success.



# FAQ: WHAT IF I DO NOT HAVE A TECHNICAL BACKGROUND? WHAT IF I AM NOT “TECHNICAL ENOUGH” FOR A PM ROLE?

- Good news! Only about 30% of product managers have coding expertise
  - [Source: Product School, Survey dataset from PMs in 263 cities in 85 countries]
- And...your potential future employers do not prioritize technical background
  - [Source: Survey by Lenny Rachitsky, Survey dataset from PMs across 600 companies (primarily U.S. based)]

|                                 |            |            |
|---------------------------------|------------|------------|
| Adobe                           | Expedia    | Okta       |
| Airbnb                          | Flipkart   | Oracle     |
| Amazon                          | Facebook   | PayPal     |
| Apple                           | Freshworks | Pinterest  |
| Asana                           | Google     | Quora      |
| Atlassian                       | HubSpot    | Reddit     |
| Booking.com                     | IBM        | Robinhood  |
| Box                             | Intercom   | Salesforce |
| Capital One                     | Intuit     | ServiceNow |
| Cisco                           | LinkedIn   | Shopify    |
| Coinbase                        | Lyft       | Spotify    |
| Dropbox                         | Microsoft  | Square     |
| Georgia Institute of Technology | Netfli     | Stripe     |
| Tepper School of Business       |            |            |



# PRODUCT FEATURE DEVELOPMENT PROCESS IN THIS CLASS



- Pre-Launch of Product Feature
  - Customer Needs Identification
  - Customer Needs Downselection to Primary Needs
  - Measuring “Importance” of Primary Needs (Conjoint analysis)
  - Needs prioritization and segmentation
  - Competitive analysis, total addressable market (TAM) estimation, opportunity sizing, and Targeting
- POST-Launch of Product Feature
  - Product Metric Tracking
  - Hypotheses Definition and Experiment Setup
  - A/B Testing
  - Go-to-Market (GTM) Rollout

# WHAT YOU WILL NOT LEARN IN THIS COURSE



- Entrepreneurship – Tepper has several fantastic courses dedicated to that.
- Other Product-Adjacent Roles: Designers, UI/UX, Engineering, Go-to-Market, etc.
  - We will not, for example, create wireframes or use no-code app development tools
  - We will however cover enough to work with other stakeholders (e.g., getting “technical enough.”)
- Agile/SCRUM and other *project* management methods (in software engineering)
- Org behavior and “soft skills” like getting product roadmap “buy in”
- Branding, promotional messages, etc. We’re focused on “listening” to the market.
  - We will cover basic “acquisition” topics used by Product Marketing Managers (PMM)
- PM Interviewing Skills
  - Resources: “Exponent” provides PM interviewing questions and related

# COURSE SCHEDULE (SECTION A)



|        | Monday   | Wednesday   |
|--------|--|---|
| Week 1 | Course Intro   | Product Manager's role, Factors impacting the PM role |
| Week 2 | Guest lecture: PM's role                             | Customer Needs: Qualitative                           |
| Week 3 | Customer Needs:<br>Quantitative<br>Conjoint analysis | Product Features                                      |
| Week 4 | A/B testing 1  | A/B testing 2   |
| Week 5 | A/B testing 3<br>Guest lecture: A/B testing<br>Q&A   | Product Growth strategies                             |
| Week 6 | Guest lecture: New Product Development               | Team Presentation 1                                   |
| Week 7 | Team presentation 2<br>Course wrap-up                |   |

# COURSE SCHEDULE (SECTION E)



|         | Part A  | Part B  |
|---------|---|---|
| Class 1 | Course Intro                                      | Product Manager's role, Factors impacting the PM role |
| Class 2 | Guest lecture: PM's role                          | Customer Needs: Qualitative                           |
| Class 3 | Customer Needs: Quantitative<br>Conjoint analysis | Product Features                                      |
| Class 4 | A/B testing 1                                     | A/B testing 2   |
| Class 5 | A/B testing 3<br>Guest lecture: A/B testing Q&A   | Product Growth strategies                             |
| Class 6 | Guest lecture: New Product Development            | Team Presentation                                     |

# Not new products, but new product *features* could be the solution!



Ca

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<https://www.youtube.com/watch?v=RADEfBJmtk4>

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# Not new products, but new product *features* could be the solution!



- Let's step back from the influencer/social media marketing campaigns..
- Who *were* and *are* their customers?
- What did Stanley change in their drinkware? From the PM's view, what do you think was the process?
- What product features would *you have changed, and why?*
- Is A/B testing needed before market rollouts? If so, what's the process?

# MEET YOUR TEACHING TEAM



## Instructor: Minkyung Kim

- Marketing faculty
- Yale PhD
- Teaching “Product Management” related courses for MBA, MSPM, UG
- Research: Incentive designs, Online review platform, Workforce management
- Contact: [minkyungkim@cmu.edu](mailto:minkyungkim@cmu.edu)
- Office hours: By appointment on zoom



## TAs:

Rohan Kacheria ([rkacheri@andrew.cmu.edu](mailto:rkacheri@andrew.cmu.edu))

Atharva Kulkarni ([askulka2@andrew.cmu.edu](mailto:askulka2@andrew.cmu.edu))

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# MINKYUNG'S PAST PM PROJECT



- Review solicitation at an e-commerce platform
  - Decisions: whether to send out a solicitation, how to curate messages
  - Advantages vs. Disadvantages of sending out a solicitation
  - Depends on “who are current buyers/reviewers”
  - How to test? A/B testing

amazon

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Your opinion matters!

Seller Aozita requests you to share your experience for your recent order with other Amazon shoppers. Please take a moment to review your recent Amazon purchase.

24 oz Cocktail Shaker Bartender Set by Aozita, Stainless Steel Martini Shaker, Mixing Spoon, Muddler, Measuring Jigger, Liquor Pourers with Dust Caps

Rate this item

★★★★★



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Rate your experience with seller Aozita

★★★★★

# ASSIGNMENTS AND GRADING



- Class participation: 14%
- 4 Case Assignments: 36% (you can drop one)
  - Uber
  - Headspace
  - Booking.com
  - Blue Apron
- [Team] In-class presentation: 15%
  - Summary of pre-class readings/videos
- [Team] Final project: 35%

# IN-CLASS RESPONSIBILITIES / PARTICIPATION



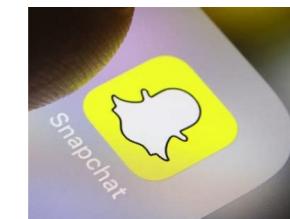
- Come prepared (readings, cases, etc.)
- Sit with your team. Attendance is expected.
- Contribute to the discussion (I will try not to cold call; raise hands!)
- Quality not quantity
  - build on your peers' comments
  - in cases, use case facts
- Help your peers with your experience and expertise
  - Many of you have very relevant experience!



stripe



amazon



# TEAM FORMATION (SECTION A)



## Team 1

Raymond Chin  
Dan Watts  
Aditya Mahajan  
Chanon Chatchaluay  
Darshini Chilakapati  
Akshit Sahai  
Chiranjeev Singh

## Team 2

Jared Smith  
Tejal Marlapudi  
Kranthi Yelisetty  
Yogesh Dhamija  
Thiago Terceiro Irineu  
Aleyna Kocabas  
Kevin Gu

## Team 3

Lexi Chen  
JS Han  
Punyapa  
Poonapanont  
Scott Trowbridge  
Raymond Zhang  
Kendrick Hales  
Apeksha Bhamhani  
Sanchay Mathur

## Team 4

Vishal  
Surianarayanan  
Sachin Pathak  
Derek Sun  
Akash Elumalai  
Aswin Nagarajan  
Sandhya Gopakumar  
Fonda Santoso  
Vaishnavi Merugu

## Team 5

Will Paik  
Anika Yadav  
Narulita Fubian  
Leo Lian  
Anushikha Sharma  
Tanvi Anand  
Haseeb Chhapra  
Mo Napasorn Phiphobmongkol

## Team 6

Meenu Ramu  
Nuch Buraphavat  
Sanjay Mysore  
Taylor Blanchard  
Caitlin Thompson  
Ayush Yadav  
Yash Somanı  
Varshita Ravi

## Team 7

Keerthanna Govindarajan  
Santhakumar  
Shilvia Silalahi  
Jai Parvatina  
Yash Dasgupta  
Tom Riley  
Bhavana Savanth  
Ankit Vimal

# TEAM FORMATION (SECTION E)

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**Team 1**

Rishav Jain  
Siddhartha  
Choudhury  
Steven Huang  
Ton Patiwejwong  
Roman Dyachenko

**Team 2**

Lohit Lingam  
Yogesh Bhatia  
Satya Dasara  
Andrew Chen  
Chien Chih Ho

**Team 3**

Blake Rodenberger  
Venetia Liao  
Lawrence Hua  
Ravi Kamal  
Harish Reddy  
Kondapalli  
Ruben Quesada  
Alvarado

**Team 4**

Kun-Han Lu  
Rahul Dev  
Parashar  
Daniel  
Garaguso  
Samad Siddiqui  
Claire Chang

# YOUR TEAM WILL SUMMARIZE PRE-CLASS READINGS/VIDEOS ONCE IN A MINI

- Pre-class readings/videos
  - Canvas > Assignment: You can find the assigned material for your team
- Logistics
  - In-class presentation: no more than 15 minutes & 4 slides
  - **Pose 1-2 questions at the end for the in-class discussion.**
  - **Please be creative!** Add any other material or your own experiences you think are related.
  - Submit slides to Canvas > Assignment **by the beginning of the corresponding class**
  - Other teams: watch the videos, read the articles before coming to the class & ask questions and make comments!

# FINAL PROJECT



- Problems product managers are facing (pick one)
  - **Working From Home (WFH)**
  - The COVID-19 pandemic has catalyzed a lasting transition towards remote work, particularly pervasive in tech and other sectors, signaling a long-term alteration in the work environment. Consequently, there's a heightened demand for products tailored to support this new working paradigm.
- **Generative AI**
- As generative AI becomes increasingly integrated into workflows, its impact on productivity and creativity is becoming as significant. The demand for tools that incorporate generative AI capabilities is on the rise, particularly in sectors that benefit from automation and enhanced creative processes.

# FINAL PROJECT



The image shows a screenshot of a CNBC article titled "THE RISE OF CHATGPT". The article features the OpenAI logo and a large, glowing brain graphic. Three AI-generated responses are displayed in a Q&A format:

**Q: Do you have any limitations or restrictions?**

**A:** As a language model, I don't have my own personal beliefs or feelings. I was only trained on the instructions and information that I was provided with, which means that my answers may be limited in their accuracy or completeness. Additionally, my knowledge is based on the data that was available to me at the time of my training, so it may not be up-to-date. And as a AI model, I might make mistakes based on the model's predictions.

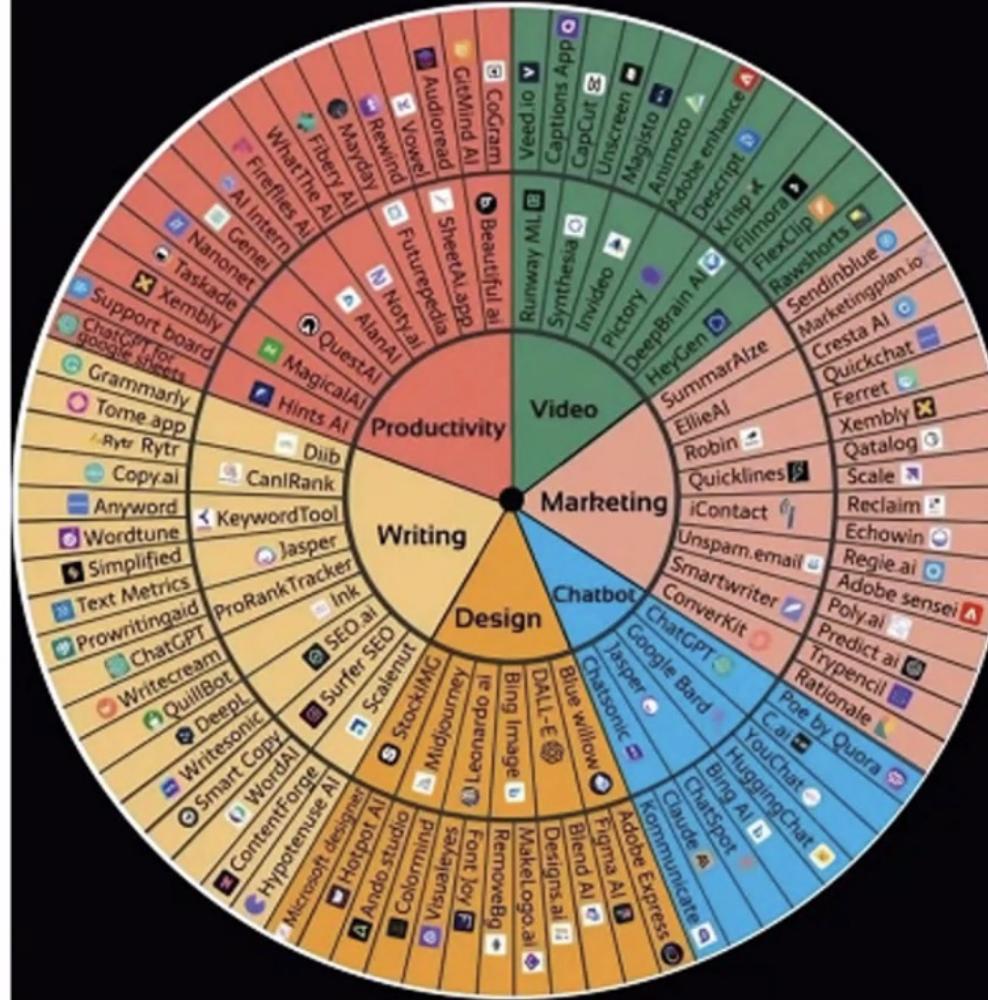
**Q: What do you do if someone asks you to help them do something that's potentially dangerous like making a bomb?**

**A:** As a language model, I am not able to take any physical actions, and my primary function is to assist with generating and understanding text. I am not able to provide instructions or information on illegal or dangerous activities such as bomb-making. It is also illegal to use AI or any other technology to create weapons of mass destruction. I would advise you to seek help from a legal and

# FINAL PROJECT



# 120 MIND-BLOWING AI TOOLS



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# FINAL PROJECT

- Context
  - You are a PM at an existing tech firm that “owns” the project that solves the “Problem Statement.”
  - Rollout of a single new product feature for an existing product.
  - Your existing product already has customers and a degree of product-market fit (PMF, more next classes)
  - For your task, your market, customers, and competitor firms and products must be “real”.
- Your Team will choose:
  - The tech firm you work at (e.g., Zoom, Microsoft, etc.)
  - The product that you work on (Zoom classroom, Teams, etc.)
- Deliverable: 20-minute Final Presentation & Slides
- Due: See Canvas for the presentation date & slides due date



WYZE CAM

# So, what is this course about?



- Product Management covers the design of software, hardware, and hybrid products. PM roles vary significantly, even at the same firm and product.
- This course is targeted at new (and future) PMs. We will cover product fundamentals, common PM tasks, and a few frameworks and methods.
- Course is structured around the development process of a new product feature.



# MEET YOUR TEAM MEMBERS!



- Submit the followings by the beginning of next Monday's class to Canvas > Assignment (one submission per team):
- Choice of
  - Problem: WFH or Generative AI?
  - Two Firm/Products
- Not evaluated, but needs the instructor's approval