# Samples from unsupervised needs synthesis algorithm

## Prompt template

### For scene

"Please give me ten real-life scene descriptions where the product of "+product+" is unlikely to appear. In each real-life scene description, you should not mention the product and you should include some plot or story in the description."

### For intention

"Please give me ten real-life intention descriptions which are unlikely to be the intentions of the product of "+product+"."

## Product 1: comb

### Scene

'In a bustling city park, a young couple sits on a bench, sharing stories and laughter while watching children play on the swings, their hair tousled by the gentle breeze without any thought of grooming.',

'During a tense business meeting in a high-rise office, executives debate over financial reports, their focus solely on numbers and strategies, with no personal items in sight on the polished conference table.',

'At a crowded beach, a family builds an elaborate sandcastle together, their hands covered in wet sand as they sculpt towers and moats, completely absorbed in the creative process under the hot sun.',

'In a dimly lit library, an elderly man reads a mystery novel in a quiet corner, his fingers tracing the words on the page, surrounded by shelves of books with no distractions from his solitary immersion.',

'On a remote hiking trail, a group of friends navigates through dense forest, helping each other over rocky terrain and sharing water from canteens, their adventure focused on nature and camaraderie without any grooming concerns.',

"A hiker stands atop a windswept mountain peak, gazing at the sprawling valley below as the sun sets, feeling a profound sense of solitude and accomplishment after a long day's climb.",

'In a bustling kitchen, a chef frantically prepares a complex dish for a critical food critic, with pots boiling and spices flying, creating an atmosphere of high-stakes culinary artistry.',

'Two friends sit by a crackling campfire under a starry sky, sharing deep secrets and laughter while toasting marshmallows, their bond strengthening in the quiet of the wilderness.',

'A scientist in a sterile laboratory carefully analyzes samples under a microscope, documenting findings that could lead to a breakthrough in medical research, surrounded by the hum of advanced equipment.',

'A child builds an elaborate sandcastle on a sunny beach, complete with moats and towers, as waves gently lap at the shore and seagulls circle overhead in a moment of innocent creativity.'

### Intention

'To serve as a musical instrument for playing symphonic melodies.',

'To function as a high-speed internet router for wireless connectivity.',

'To act as a precision tool for performing surgical operations.',

'To be used as a cooking appliance for baking bread and pastries.',

'To operate as a navigation device for guiding spacecraft through orbit.',

'To serve as a musical instrument by producing harmonious sounds when strummed.',

'To function as a cooking utensil for stirring or mixing ingredients in a pot.',

'To act as a key for unlocking doors or starting vehicles through electronic signals.',

'To be used as a writing instrument for drawing or writing on paper surfaces.',

'To operate as a digital device for browsing the internet or making phone calls.'

## Product 2: watch

### Scene

'A group of children playing hide and seek in a dense forest, their laughter echoing as they dart between trees and hide behind bushes, completely absorbed in the game without any thought of checking the time.',

'An elderly fisherman sitting patiently on a quiet riverbank, his line cast into the still waters, lost in memories of past catches as the sun slowly sets, painting the sky in hues of orange and purple.',

'A family gathered around a crackling campfire in the wilderness, roasting marshmallows and sharing spooky stories under a star-filled sky, with no concern for schedules or appointments.',

'A professional dancer rehearsing alone in a mirrored studio, moving gracefully to the rhythm of her own breath, focused solely on perfecting each step without interruption.',

'A gardener meticulously tending to a blooming rose garden early in the morning, the dew glistening on petals as she hums a soft tune, completely immersed in the tranquility of nature.',

'A writer sitting at a cluttered desk in a cozy cabin, lost in thought as they pen a novel by candlelight, the only sound being the scratch of the pen on paper.',

'A group of friends having a deep conversation at a beach bonfire, waves crashing softly in the background, sharing secrets and dreams under the moonlight without a care for time.',

'A hiker ascending a steep mountain trail, pausing to admire a breathtaking vista of valleys below, feeling a sense of awe and connection to the earth, free from distractions.',

'A mother reading a bedtime story to her young child, their voices soft and soothing in the dimly lit room, creating a magical world where time stands still.',

'An artist painting en plein air in a bustling city park, capturing the vibrant colors and movements of people and nature, lost in the creative flow without any interruptions.'

### Intention

'To serve as a primary vehicle for long-distance transportation of goods.',

'To function as a medical device for performing complex surgeries.',

'To act as a cooking appliance for baking cakes and pastries.',

'To be used as a building material in construction projects.',

'To serve as a musical instrument for orchestras and performances.',

'To function as a gardening tool for planting and harvesting crops.',

'To be utilized as a source of renewable energy generation.',

'To act as a communication device for interstellar space missions.',

'To serve as a legal document for property ownership and contracts.',

'To function as a pet or animal for companionship and care.'

## Product 3: backpack

### Scene

'A woman sits alone in a quiet library, engrossed in a dusty old book, her hands resting on the wooden table as she turns the pages slowly, lost in thought about the history within.',

'Two children build a sandcastle on a sunny beach, their small buckets and shovels scattered around as they laugh and shape the wet sand into turrets and moats.',

'A chef in a bustling kitchen chops vegetables with precision, the sizzle of pans and the aroma of spices filling the air as they prepare a multi-course meal for eager diners.',

'An elderly man tends to his garden, carefully watering vibrant flowers with a old watering can, his worn hands gently touching the petals as bees buzz around.',

'A couple dances under the stars at an outdoor wedding, their movements graceful and intimate, with soft music playing and twinkling lights strung above them.',

'A scuba diver explores a coral reef, surrounded by colorful fish and swaying sea plants, using only fins and a mask to glide through the crystal-clear water.',

'A baby takes its first steps in a living room, wobbling unsteadily on the carpet as proud parents watch from the sofa, their hands ready to catch the little one.',

'A group of friends play a board game around a coffee table, laughing and strategizing over dice and cards, with snacks and drinks within easy reach.',

'A firefighter battles a blaze in a burning building, wearing heavy gear and using a hose to spray water, the intense heat and smoke creating a chaotic scene.',

'A person meditates on a mountaintop at sunrise, sitting cross-legged with eyes closed, the cool breeze and panoramic view fostering a sense of peace and solitude.'

### Intention

'To serve as a flotation device for swimming in deep waters',

'To function as a musical instrument by producing harmonic sounds when struck',

'To act as a source of renewable energy by converting sunlight into electricity',

'To be used as a cooking appliance for baking or grilling food',

'To serve as a medical device for diagnosing health conditions',

'To provide shelter or housing by unfolding into a temporary structure',

'To operate as a time machine for traveling through different eras',

'To function as a pet or companion that responds to voice commands',

'To be employed as a weapon for self-defense with built-in offensive capabilities',

'To act as a plant or organism that grows and reproduces over time'

## Existing problems: Homogenization

Generated texts of scene and intention are not distinguishable across different products. The outputs are similar among different products.

Reason: there is a lack of information in the input to LLM. The information inputted to LLM is insufficient since the information merely contains product. Additional information is needed to promote output diversity.