Challenge Brief

Goal：

This project uses questionnaires and interviews to observe and listen to the voices of different users, analyzes the relationship between public space design, waste management, and behavioral norms, and explores how to reduce cigarette butt pollution while not affecting individuals' community-based common solutions.

Involving aspects: Environment, society

Why matter？

1) Help increase people's awareness of smoking itself and the harm of this behavior (harm to nature and human beings themselves).

2) The relevant policies we propose can be implemented to help the locals in terms of the environment and community relations.

Mission：

Helping Changshu City to reduce environmental pollution caused by smoking, increase public awareness of the negative effects of smoking, and reduce disputes over smoking issues, in order to improve the well-being of the community.
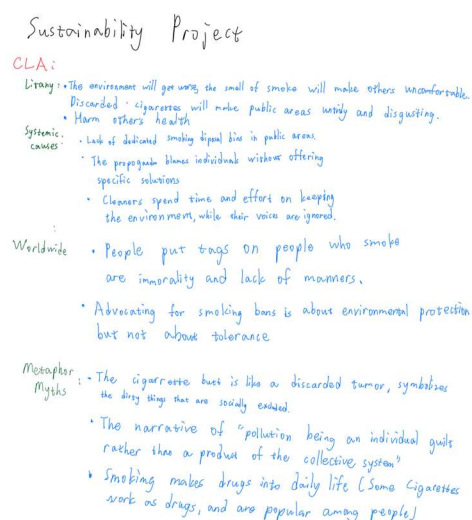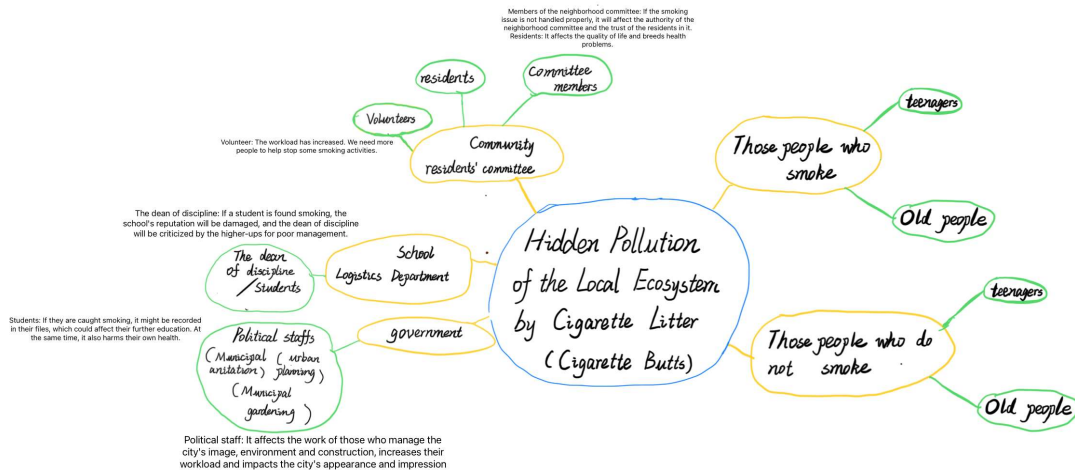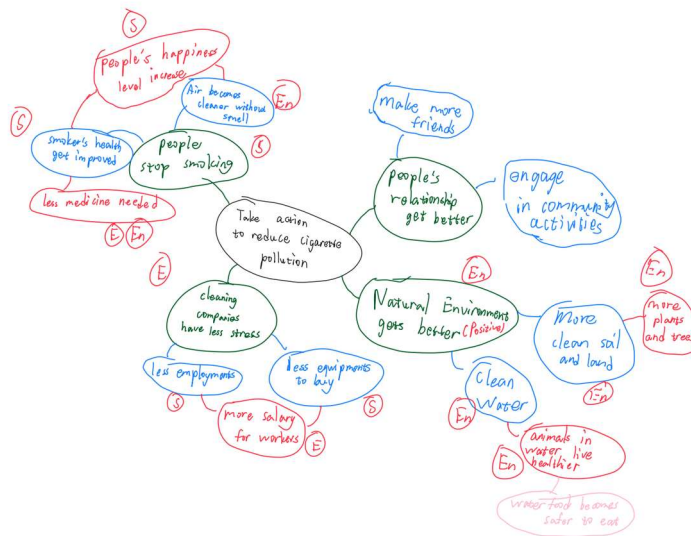
Lib Design

EMPATHIZE

Brief: We found that cigarette litter has a significant impact on the local ecosystem and pollution.

Explanation: In the local area, cigarette butts are litter that people usually ignore and forget, but they are the most collected waste. They are the most harmful pollutants at the same time. In a cigarette butt, there are materials like plastic, paper, and tobacco. Some of the substances are toxic. When a cigarette butt goes into water, about 2500 toxic chemicals are released. These poisons include arsenic, mercury, lead, tar, and pesticides. Current environmental protection campaigns often criticize smokers as being "lacking in public morality", but do not provide a manageable and efficient way to understand smokers' situations in public areas. As a result, this project aims to listen to diverse voices, analyze space management in public areas, and examine the relationship between garbage management and the code of conduct to explore how to reduce cigarette pollution and to create a common solution that every individual can benefit from by conducting surveys, interviews, field research, and other methods. (Referenced from *Surfrider*)

As a result, we emphasized the stakeholders who may be included in the issue and what actions could be taken to change the environment to help us understand the topic more effectively.

Through research, we found out that smoking a brief amount of dopamine alleviates withdrawal symptoms and maintains the habit through conditioned reflexes. Initially, it is mostly driven by social and psychological factors, but the continuation relies on pharmacological effects. Socioeconomic disadvantages exacerbate dependence, and the poor find it more difficult to quit. (Jarvis's paper and Luo's paper summary and foundings)

Mind map 1 — Take action to reduce cigarette pollution

- (S) People's happiness level increase
- Air becomes cleaner without smell (En)
- smoker's health get improved (E)
- people stop smoking (S)
- less medicine needed (E)(En)
- make more friends
- people's relationship get better
- engage in community activities
- Natural Environment gets better (Possible) (En)
- More clean soil and land (En)
- more plants and trees (En)
- cleaning companies have less stress (E)
- less employments (S)
- less equipments to buy
- more salary for workers (S)(E)
- Clean Water (En)
- animals in water live healthier (En)
- water food becomes safer to eat

Mind map 2 — Hidden Pollution of the Local Ecosystem by Cigarette Litter (Cigarette Butts)

- Community residents' committee: residents, Committee members, Volunteers
- Those people who smoke: teenagers, Old people
- School Logistics Department: The dean of discipline / students
- government
- Political staffs (Municipal urban sanitation) (Municipal planning) (Municipal gardening)
- Those people who do not smoke: teenagers, Old people

Members of the neighborhood committee: If the smoking issue is not handled properly, it will affect the authority of the neighborhood committee and the trust of the residents in it. Residents: It affects the quality of life and breeds health problems.

Volunteer: The workload has increased. We need more people to help stop some smoking activities.

The dean of discipline: If a student is found smoking, the school's reputation will be damaged, and the dean of discipline will be criticized by the higher-ups for poor management.

Students: If they are caught smoking, it might be recorded in their files, which could affect their further education. At the same time, it also harms their own health.

Political staff: It affects the work of those who manage the city's image, environment and construction, increases their workload and impacts the city's appearance and impression

DEFINE

Insert your evidence here (e.g., paste images, add screenshots, notes, describe your actions, or reflect on your experience).

To investigate the smoking situation and the cognition people have on the pollution caused by cigarettes on the campus and around Changshu City, and to get appropriate policies or solutions, we decided to do an online survey and an interview. Before that, we study out an outline about what to ask.

We are going to ask about their personal smoking information first. For different groups of people, we design different questions for them, so for the first question, we will ask whether they smoke in their daily lives.

If their answer is "yes", they will then be asked about the frequency of smoking and the ways to deal with the places and processes of smoking. They will also be asked whether they have considered the quilt.

If their answer is "no", they need to answer the question about the average number of smokers around them and their attitude about smoking.

After that, for each group, we will ask about whether they know any influence the smoking may bring (e.g., environment, social), their attitude, and their expectations about the policies on banning or limiting cigarettes. We have searched information on the internet to collect the policies.

Here is our draft

Here is our questionnaire design

1. 是否吸烟
   是：
   你吸烟的频率？
   你一般怎么处理抽烟的场所/过程
   你一般怎么处理抽烟的场所/过程

   你还知道吸烟会在其他那些方面有影响，直接说方面。
   举例子：
   可能会影响的方面：环境、社会（与他人的关系）、经济（个人获国家收入）

   你有戒烟的打算吗

   你怎么看待目前政府的相关吸烟政策
   举例子：
   1. 禁止所有室内公共场所、工作场所和公共交通工具内吸烟，
   2. 通过提高烟草税，减少烟草消费
   3. 全面禁止线上线下烟草产品的各类广告、促销活动及赞助行为
   4. 实施严格的烟头乱扔处罚措施，推广烟头收集设施，开展无烟环境清洁行动
   5. 禁止电子烟销售、进口或使用
   6. 政府提供免费或低成本戒烟咨询、药物治疗等服务，建立戒烟支持网络

   你对政府在这方面有什么期望

否：

周围有多少人吸烟？（1 到 5）

你对吸烟行为【行为本身】（好中坏）

你还知道吸烟会在其他那些方面有些影响，直接说方面

你怎么看待目前政府给的相关吸烟政策

举例子：

1. 禁止所有室内公共场所、工作场所和公共交通工具内吸烟，
2. 通过提高烟草税，减少烟草消费
3. 全面禁止线上线下烟草产品的各类广告、促销活动及赞助行为
4. 实施严格的烟头乱扔处罚措施，推广烟头收集设施，开展无烟环境清洁行动
5. 禁止电子烟销售、进口或使用
6. 政府提供免费或低成本戒烟咨询、药物治疗等服务，建立戒烟支持网络

你对这些方面有什么期待【同上】

INQUIRE

During my research, I thought about questions including:

What are the existing policies that have been tested?

What are those most effective policies?

Why are those effective?

Do they pay attention to environmental problems?

If not, how can we address that?

1. Literature Review and Question Development

We first developed our interview questions based on a review of existing literature. The literature mainly fell into three categories:

- the current situation of smoking in China;
- smoking-related policies in China;
- expert interviews and studies related to smoking.

In addition to comparing these sources, we also examined local regulations as well as tobacco control policies and public facility arrangements in Shanghai and Suzhou. Through this process, we identified and organized the relationship between management measures and smoking-related behaviors, which formed the theoretical basis for our interview questions.

2. Field Observation

We conducted on-site observations in areas surrounding the school, residential communities, and public spaces. Based on these observations, we identified several issues that required further exploration, particularly regarding how smokers dispose of cigarette butts and how public space design influences behavior.

3. Interviews

We carried out short interviews with both smokers and non-smokers, asking about their views on cigarette butt disposal methods and their awareness of the environmental impacts of smoking-related waste. These interviews provided insights into public perceptions and behavioral motivations.

Evidences

We consider nine types of tobacco control policies that have been examined empirically and can be directly implemented by national or subnational government agencies: **(1) taxation, (2) clean air laws, (3) restrictions on advertising, (4) anti-smoking media campaigns, (5) health warning labels, (6) the enforcement of youth access laws, (7) school education programs, and (8, 9) policies to increase the utilization of cessation treatments and services.**

1. Tax increases generally yield at least commensurate increases in cigarette price,15,16 which, in turn, reduces cigarette consumption.

2. Clean indoor air laws may prohibit smoking in a range of public places. The more comprehensive laws also include restaurants, bars, and private workplaces. Clean indoor air laws may make smoking less attractive by reducing opportunities to smoke and by supporting social norms against smoking. The implementation of clean indoor air laws has been motivated by substantial evidence of the harms of environmental tobacco smoke (ETS) to nonsmokers

3. Advertising and promotions can increase the attractiveness of smoking by creating an image favorable to those considering or already engaged in smoking. In the United States, policies to control the advertising and promotion of tobacco products include a

PROTOTYPE

Explanation:

1) Through the investigation of data from other countries, we have found that the legal constraints on smoking behavior are relatively weak, and we do not have enough time to get our policies and plans approved by the government within two weeks.

2) We attempt to apply all the PS projects (product design and lib design) we have come into contact with last semester to this theme.

3) We have decided to promote our entire project in the form of a website to reach a wider audience. (The website will not only cover our current project but also include other relevant information to advocate for people to stay away from smoking.) This way, more people can view our "exhibition".

4) We have decided to wait until after the interview and then try to adjust the previous policy based on the outcome.

We designed three products that could limit cigarettes and the bad impact it may have on the environment by changing the types of cigarettes. Here are our drafts.
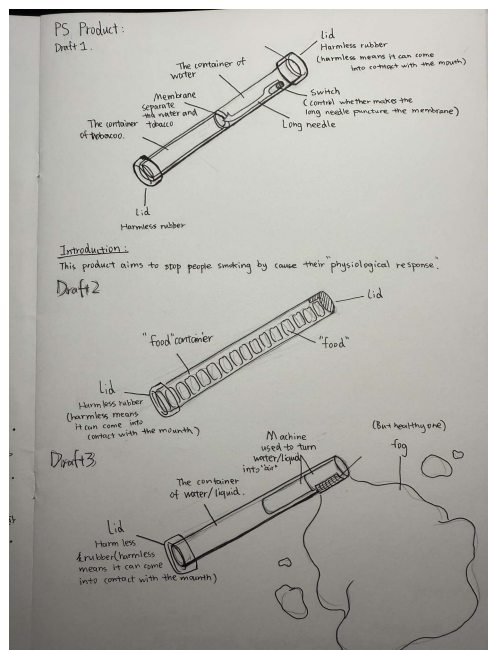
We made a website about our project, including the background, the processes of doing it, and the finding.

Smoking Pollution: An Overlooked Ecological Threat

https://yhfeng25-create.github.io/

We also made a board that could promote our project.

IMAGINE

Insert your evidence here (e.g., paste images, add screenshots, notes, describe your actions, or reflect on your experience).

I made the Futures Wheel to imagine potential problems. Also, I included possible solutions in black.

1. Introduce popular science courses to teach students the harm of cigarettes and the methods to reduce the pollution it brings.
2. Invite experts to the school and share the risk about the cigarette used and related pollution.
3. Organize fun activities in the school to help students understand the disadvantages of cigarettes and their impact on the environment.
4. Organize environmental-protection activities in the school to let students observe the contamination that is caused by cigarettes more directly.
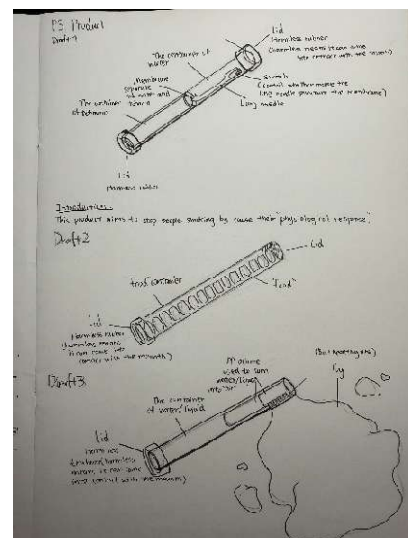5. Post relevant videos on the school website for students to watch and assign them as required homework.
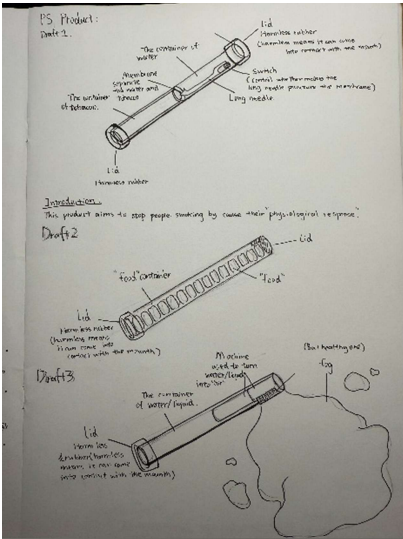
TRY

We interviewed strangers randomly in the shopping mall using our questionnaire and got proper results. Among the proposed products, Product 2—an unpleasant-tasting but beneficial edible tablet—was the most favored. This preference suggests that respondents believe aversion-based behavioral interventions may be more effective than purely informational or substitute-based approaches.

However, skepticism remains regarding actual consumer adoption. Some respondents doubted that many smokers would be willing to purchase such products, This reflects a broader challenge in public health: interventions that appear effective in principle may face resistance due to discomfort, stigma, or lack of motivation.

Additional examination of survey data shows a robust anti-smoking normative environment as mirrored in low smoking prevalence, high perceptions of society-wide harm and widespread endorsement for regulatory action. Although existing measures are well accepted by the public, there is a desire for more stringent controls and novel methods for quitting. These data indicate that future tobacco control strategies are likely to receive great public backing if they also focus on environmental and social concerns, in addition to health effects.

11. 您周围有多少人吸烟? How many people around you smoke? (0 得分)   更多详细信息

- 几乎没人吸烟 Hardly anyone around me smokes   11
- 少数几个（1-3 人）A few people (1-3 people)   10
- 一部分人（4-10 人）Some people (4-10 people)   8
- 大部分人 Most people around me smoke   2
- 几乎所有人吸烟 Almost everyone around me smokes   0

6%
35%
26%
32%

12. 您对吸烟这一行为本身的评分为?（1-10分，1分为最低）How would you rate the act of smoking itself?（1 = Lowest, 10 = Highest）（0 得分）   更多详细信息

2.39
平均评分

级别 10
级别 9
级别 8
级别 7
级别 6
级别 5   5
级别 4   6
级别 3   2
级别 2   1
级别 1   17

Revisit: EMPATHIZE

In our survey, we found out that different people have different ideas about the products we designed. For the first Product, no disagreements or other improvement comments were raised.

第一款 Product 1	6
第一款 Product 1	无
第一款 Product 1	很好
第一款 Product 1	无
第一款 Product 1	无
第一款 Product 1	我觉得产品三没有什么用处 因为吸烟使人上瘾的主要原因是可卡因 产品二有一个缺陷 就是你想吃就吃想不吃就不吃 对于没有自控力的人效果不大
第一款 Product 1	挺好
第一款 Product 1	不要吸烟就是最好的办法
第一款 Product 1	无
第一款 Product 1	第二款完全鸡肋 只会对药片有厌恶作用 而且没有什么强制服药的办法 所谓的"难吃"概念也很模糊
第一款 Product 1	无
第一款 Product 1	No
第一款 Product 1	无
第一款 Product 1	暂时没有
第一款 Product 1	无
第一款 Product 1	无
第一款 Product 1	no
第一款 Product 1	无
第一款 Product 1	早日落实
第一款 Product 1	没有 不了解此类产品
第一款 Product 1	None
第一款 Product 1	It looks okay
第一款 Product 1	不太了解

For the second product, the solution contains different sounds. Some said no one will buy this because it doesn't meet stakeholders' requirements. Some said they would not be willing to put the product in their mouths because it would feel uncomfortable. Some suggested that good taste could also be used.
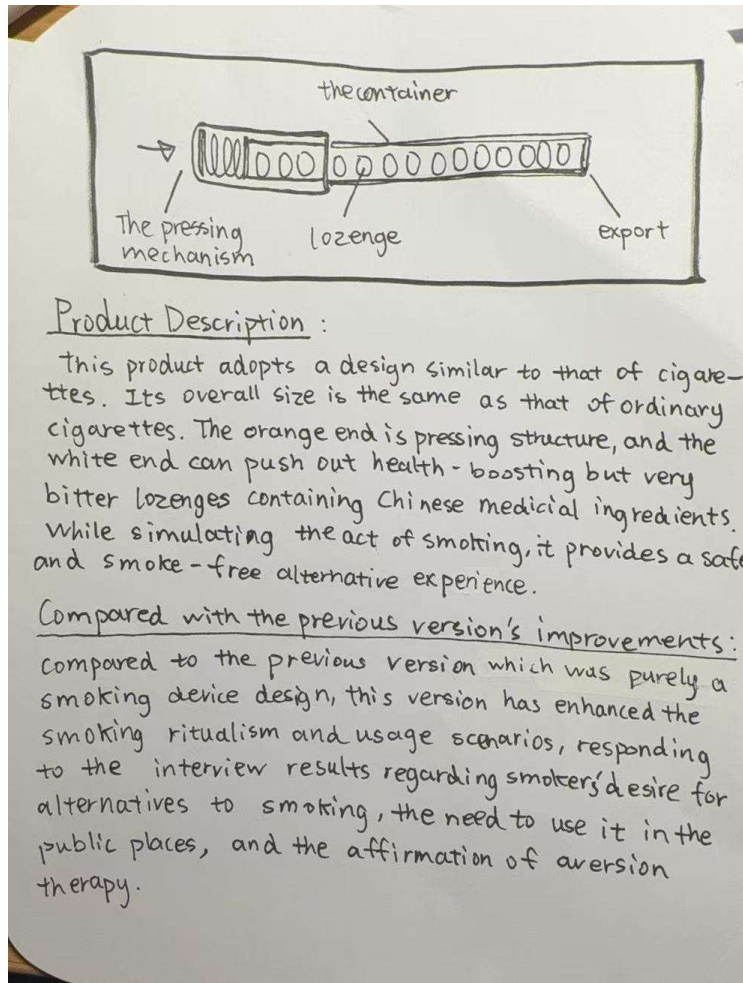
第二款 Product 2	无
第二款 Product 2	没有人会购买 没有满足他们的需求
第二款 Product 2	
第二款 Product 2	产品一二都是提供给想戒烟的人吧。如果不想戒烟应该不会碰这两个产品。产品二用什么食材呢？如果为不想戒烟的人提供产品，让其通过逐渐戒烟。
第二款 Product 2	免费试用
第二款 Product 2	我认为提高吸烟者的认知，我是吸烟几十年的老烟民，疫情期间戒了烟，确实很容易的，只要有坚韧的决心，一周后就不在想吸烟了。希望烟民们不要找什么
第二款 Product 2	我不希望把一个酷似U盘的东西放到自己嘴里
第二款 Product 2	无
第二款 Product 2	无
第二款 Product 2	无
第二款 Product 2	没有
第二款 Product 2	个人觉得第二款最好
第二款 Product 2	如何让吸烟者愿意购买
第二款 Product 2	no
第二款 Product 2	暂无
第二款 Product 2	没有
第二款 Product 2	无
第二款 Product 2	暂时无
第二款 Product 2	No
第二款 Product 2	idk
第二款 Product 2	Nop
第二款 Product 2	No
第二款 Product 2	None as of now lessgo
第二款 Product 2	Nop
第二款 Product 2	N/a
第二款 Product 2	no spitting out the cigarette water seems gross and unsanitary in some public areas
第二款 Product 2	其实挺好的 希望你们能做出来！
第二款 Product 2	No
第二款 Product 2	Very good products
第二款 Product 2	产品二不一定要设计成难吃的口味。用美味来替抽烟也可以是一种选择.
第二款 Product 2	第二款便携。产品有水会增加重量，容易泄露。

For the third product, some people say it serves similarly to electronic cigarettes. In our view, they will prefer electronic cigarettes to our product. As a result, this may be inefficient. Some said people won't choose these kinds of products actively.

第三款 Product 3	目前没想到
第三款 Product 3	产品二难吃的话，一开始就会被拒绝，可否考虑好吃的办法
第三款 Product 3	没有，都不咋地
第三款 Product 3	no
第三款 Product 3	能满足吸烟要求且对公共环境无害
第三款 Product 3	没有
第三款 Product 3	可加入带有香烟味的无害添加剂以加速重度依赖烟草人士的戒烟
第三款 Product 3	无
第三款 Product 3	无
第三款 Product 3	很有意思的产品目前没有
第三款 Product 3	无
第三款 Product 3	爱抽烟的人可能不会对烟味感到厌恶，说不定还会感到很兴奋。
第三款 Product 3	不太知道
第三款 Product 3	暂时没有
第三款 Product 3	严格说，没有戒烟内在需求的人不会主动选择
第三款 Product 3	暂无
第三款 Product 3	可能前两种更适合强行矫正戒烟，毕竟没有外部压力，人们很难
第三款 Product 3	都很棒
第三款 Product 3	none so far
第三款 Product 3	无
第三款 Product 3	No
第三款 Product 3	无 挺不错的
第三款 Product 3	Nope
第三款 Product 3	无
第三款 Product 3	I think there can be some research on why people started smoking
第三款 Product 3	None
	第三款像是电子烟，不要太多推广可以加过滤器把尼古丁排除

In conclusion, the first product is considered the best solution. However, considering the ethical rules, we need to ensure that the product is safe to go into the mouth. We will seek advice from teachers and conduct research for further progress.

For Product 1, after considering the ethical rules, we must ensure that the product safely enters the mouth. However, tobacco contains harmful things to a person's mouth. For Product 3, people may choose e-cigarettes instead of our product, and it has no market advantage. The effect may also be poor. After careful consideration, we decided to improve Product 2. This plan is the most suitable one and has a greater innovation, which will be further studied and explored in the future based on this plan by our group.

Product Description :

This product adopts a design similar to that of cigarettes. Its overall size is the same as that of ordinary cigarettes. The orange end is pressing structure, and the white end can push out health-boosting but very bitter lozenges containing Chinese medicial ingredients. While simulating the act of smoking, it provides a safe and smoke-free alternative experience.

Compared with the previous version's improvements:

compared to the previous version which was purely a smoking device design, this version has enhanced the smoking ritualism and usage scenarios, responding to the interview results regarding smoker's desire for alternatives to smoking, the need to use it in the public places, and the affirmation of aversion therapy.

Reference:

Surfrider, "https://www.surfrider.eu/what-we-do/cigarette-butts/" www.surfrider.eu/what-we-do/cigarette-butts.

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