

Product Documentation Seeing Asthma



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Team Information

Team Name: Healthy Coder

Team Number: TA 09

Team Member: This team consists of graduating postgraduate students from Monash University in various disciplines. Listed below are our contact details and the division of responsibilities of each member in product design and development. This team looks forward to communicating with you if you have any questions about our products.

Role	Name	LinkedIn
Business Analysis	Kaijia Yu	Kaijia Yu
Full Stack Engineer	Ridong Jiang	Ridong Jiang
Front-end Engineer	Shiyu Wu	Shiyu Wu
Data specialists	Navrattan Singh Dhillon	Navrattan Dhillon
Cyber Security Specialist	Sonia Lakhani	Sonia Lakhani

Product Overview

The project "Seeing Asthma" is based on research into the many allergens that are widespread in Australia and pose a serious threat to the health of children with asthma. The main objective of this project is to provide a platform for parents of asthmatic children to learn more effectively and utilise features to better manage their child's asthma through this website.

The Seeing Asthma website is an integrated platform with not only comprehensive asthma knowledge but also many new features to help you better manage your child's asthma. These include a "picture recognition" feature that helps parents identify asthma triggers regardless of location, time, or device. Recommendations for asthma-friendly activities and diets. In addition, the project has developed animations and games to promote self-protection awareness, so that children can be taught how to prevent asthma.

Problem Statement

Around 20% of school children in Melbourne under the age of seven have asthma. It can be challenging for parents, especially mothers, to diagnose a problem in young children because they sometimes find it difficult to communicate their symptoms. It's critical to address this issue given the health risks for kids. How can we provide Victorian parents, especially mothers, the information, and resources they need to recognise and manage asthma triggers so that their children can grow up healthier?

Target User & User's pain point



The design of the product started by considering the many pain points of the users as follows:

1. The lack of user understanding and mastery of asthma knowledge.
2. Many asthma-related websites have mixed functionality.
3. Lacking authoritative evidence to support the content of many asthma-related websites.
4. Users do not know how to detect allergens in the home environment.
5. Users are unable to manage their living environment effectively.
6. Users do not know how to detect allergens in the home environment.
7. Users are not clear about which diets, nutrients in dishes, outdoor activities can help children manage their asthma better, and many other factors.

Feature Design and Justification

Website Link: <http://seeing-asthma.healthcoder.live>

Feature Name	Justification
Comprehensive asthma knowledge base	Seeing Asthma has been set up strictly around the needs of the customers to provide users with a comprehensive introduction to asthma. By presenting detailed information on the symptoms, severity, and other aspects of childhood asthma, it helps users learn and understand the information in greater depth.
Video Teaching	It uses simple animated videos to teach children about asthma, aiming to help them develop the ability to look after their own asthma from an early age.
Game Interaction	Designed the game in a way that correlates with asthma knowledge to help children understand asthma more deeply and to promote a good interactive experience.

Healthy recipes and exercise	With authoritative sources designed to showcase and recommend healthy recipes and asthma-friendly extracurricular exercises, it aim to provide parents with comprehensive resources and guidance. This can help parents manage their child's asthma condition more efficiently and ensure optimal health in their daily lives.
Image recognition	The "Picture Recognition Function" in the product uses Google API and other tools to effectively detect and recognise allergens in your child's living environment. By detecting allergens in pictures that may cause asthma and providing alerts to the user, help parents optimise their home environment to reduce the risk of asthma triggers.
Plant and pet breed identification	The products can also help you manage your child's asthma risk by using "picture recognition" to further identify plant and pet species and detect whether they may be asthma triggers.

Ethics Canvas

https://drive.google.com/file/d/1IJqneS3A0rFwhCkrmbItRgVwznrKPDi5/view?usp=share_link

Mapped to the ACS code of conduct

The development of the products incorporates compliance with the ACS Code of Conduct as follows:

Public Interest: The aim of the products has been developed to help better manage children with asthma, and we have sought and developed features that provide value to children and parents and have a positive public impact.

Competence: The aim is to fulfill its expertise and skills during the design and development stages of the product, ensuring that design principles and development standards are followed and that the quality of data and code is maintained.

Professionalism: Development team members respect each other during the development process to ensure that the quality of the team's product development continues to improve.

Future Possibilities: Seeing Asthma products have a good future, as people are becoming more aware of their health as technology improves. The point is that the products are currently aimed at children, whose good health is also the basis for the future, as they are not able to express themselves effectively so that parents can manage to help them enjoy a better and healthier life.

The website has relevant expertise and reliable data. Expanding in the future, more features will be designed to incorporate future weather data and environmental aspects, making it a more comprehensive and integrated platform.

This system can work with Asthma Research Australia to help more people solve asthma-related problems and help users enjoy a better healthier life. At the same time, our products can also cooperate with the Australian Child Protection Organisation to help more children solve similar problems. These products are also available worldwide, and other countries can use Seeing Asthma's existing and future features to address the needs of their communities.

Resource requirement

Resources	Number	Technology stack
Full stack developer	1	Frontend: Next.js, Chart.js Backend: Python & Flask API
Cloud Analyst for maintenance	1	AWS – Free tier (USA region) Number of users supported: 100-500 AWS server: EC2.
Security Analyst	1	Pentesting tools and Linux

Maintenance Documentation:

<https://drive.google.com/file/d/1->

[0YZWYoYDZf_MrzOPCjSLW0ak0AAOxS2/view?usp=share_link](https://drive.google.com/file/d/1-0YZWYoYDZf_MrzOPCjSLW0ak0AAOxS2/view?usp=share_link)