



Sanofi's 2nd Global University

Dare to Dream:
Digital Healthcare
Innovation Case
Competition

DAN Team

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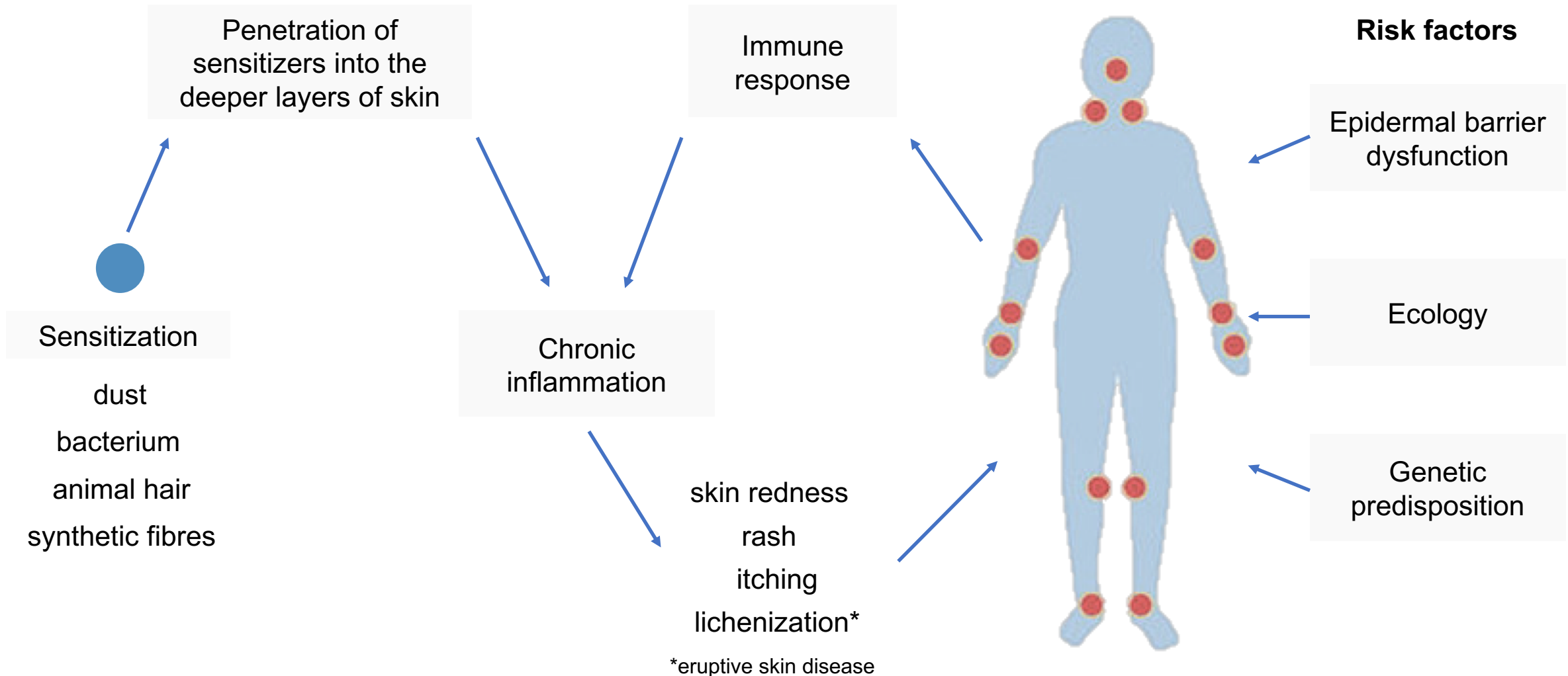
Moscow, Russia, 2020



Atopic dermatitis is a skin disease that may be a **form of genetic predisposition** or can be **caused by external factors** that potentially act as **irritant of patients' skin**

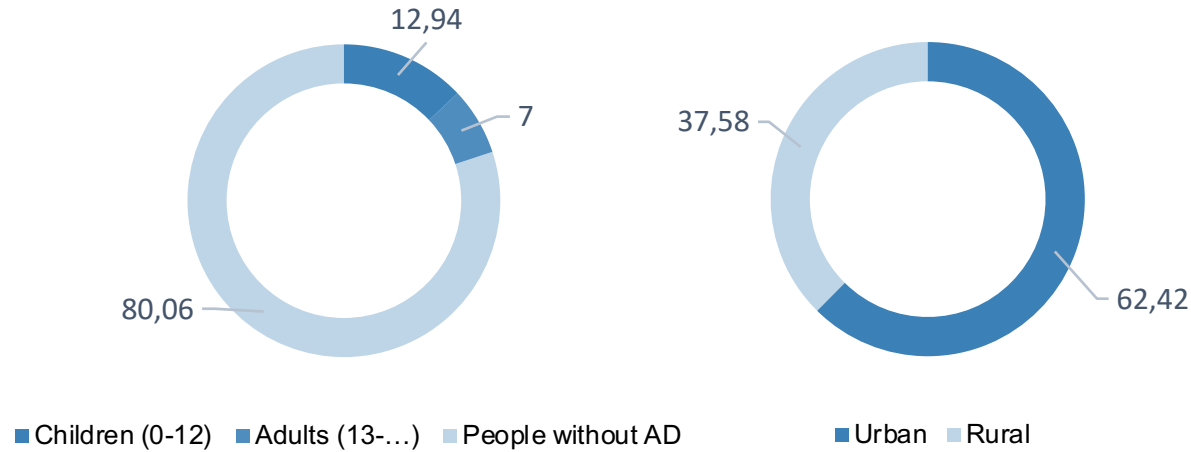
1

Causes and consequences of the AD disease



Atopic dermatitis disease can be characterized as acute problem in China that requires an effective digital solution

1 Disease rate and geographic coverage of AD in China



Our target audience

Children and Teenagers



Adults



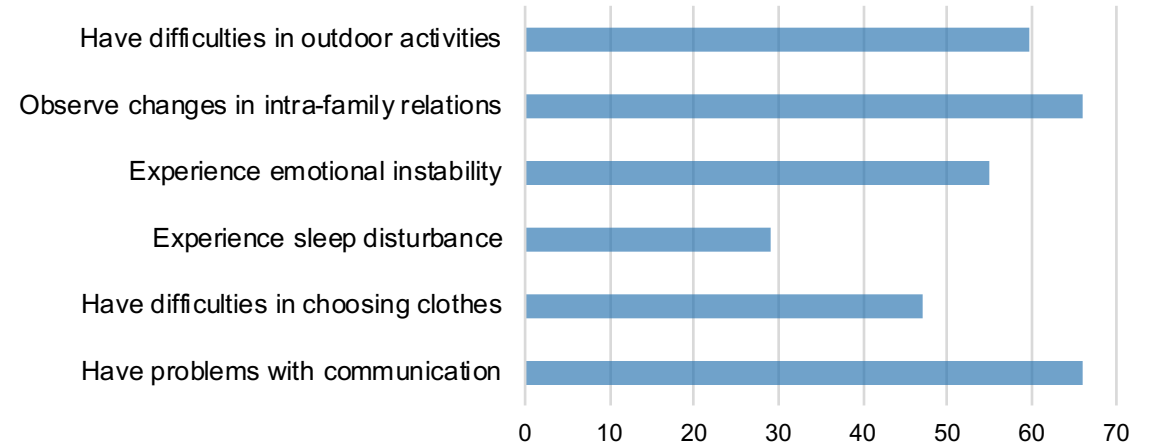
Pregnant women



Families



2 Most common problems faced by patients with AD



Areas of concern

Nutrition



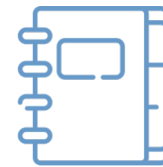
Product choice



Outdoor activities



Record-keeping



Communication

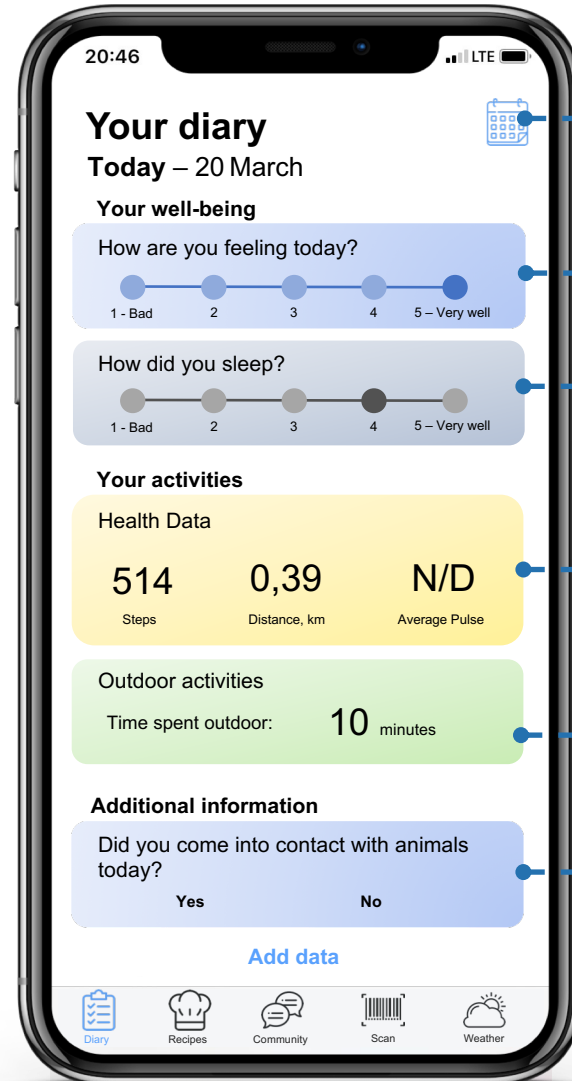


3 Our app will cover the entire target audience and become a solution to all identified problem areas

Using Your Diary page on daily basis the patient **can understand the cause and effect relationship** between different external factors and their well-being in order to **minimize identified threats**

Our patients don't understand:

- 1 **What factors** negatively affect their state?
- 2 **What parameters** should be monitored on daily basis?
- 3 **How to remember to track** the well-being every day?
- 4 **Is it possible to keep active** and practice sports?
- 5 Is the physical **contact with animals bad** for them?



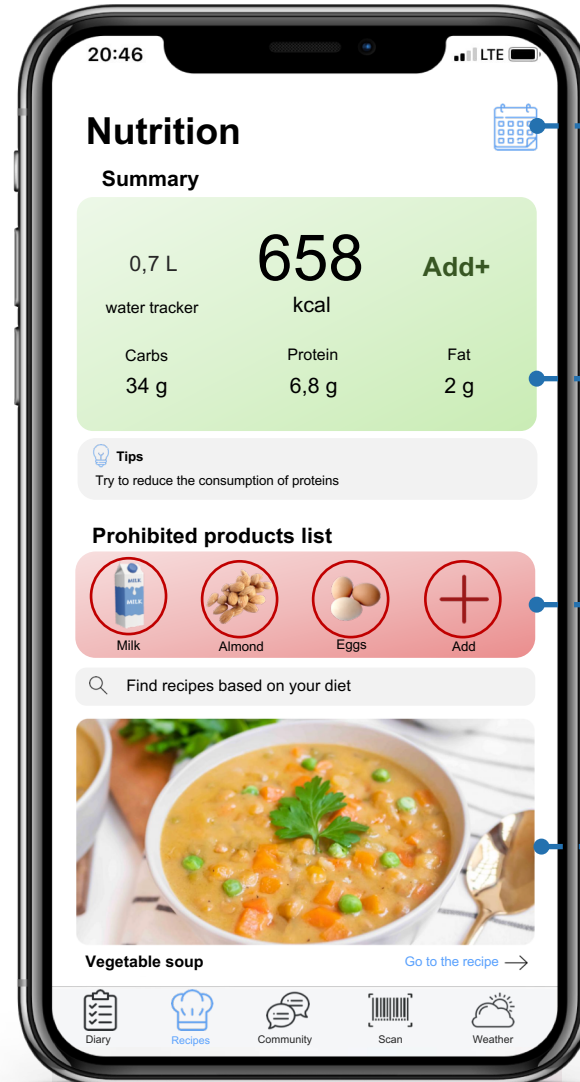
We help them to:

- 1 Form a **month report** of well-being with the **major trends** and **personal tips**
- 2 Monitor **5 key factors**: general well-being, sleep quality, physical activity, contact with irritants and nutrition
- 3 Don't forget to track their state, sending them **app notifications**
- 4 **Keep active**, offering personalized set of exercises and tracking outdoor time
- 5 Understand whether contact with an **animal acts as an irritant or not** through follow-up questions

Our application **correlates the severity of AD's symptoms with food-borne sensitizers** and **offers allergen-free recipes** in order to make the process of eating **tasty and healthy**

Our patients don't understand:

- 1 **Which food** causes a negative effect on their well-being?
- 2 **Why is it needed to keep a diet log** with kcal, carbs, protein and fat recording?
- 3 **How to remember the whole list** of prohibited products?
- 4 **Is it possible find a recipe** given that many products are prohibited?



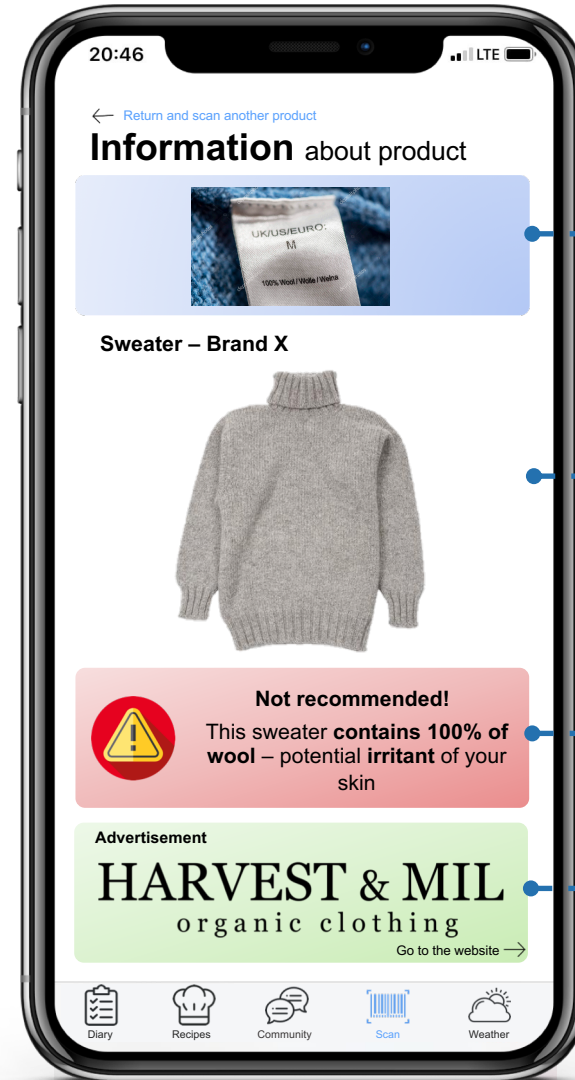
We help them to:

- 1 **Find out which products make a negative impact** on their health, synchronizing a diet log with Your Diary page and including it in month report
- 2 **Monitor the amount of consumed nutrients** in order to prevent malnutrition or overeating
- 3 Have permanent access to the **customized prohibited products list**
- 4 **Find wide range of simple recipes** excluding prohibited products automatically

A patient can use our application to **select a hypoallergenic goods**, avoiding most risks by **analysing the composition of a product**

Our patients don't understand:

- 1 **Does the product** that they buy (food, clothes, household chemicals) **contain harmful substances** for them and their well-being?
- 2 How to **quickly determine** whether it is recommended to buy a particular product or not?
- 3 Where can they buy the appropriate products for them?



We help them to:

- 1 **Quickly determine the composition of the product** for harmful substances, introducing 4-step identifying technology:
- 2

4-step identifying technology

Take a photo of product's label, using smartphone's camera and upload it

Using AI technologies, the app will **identify the text** on the label

The identified text will be examined for signs of **prohibited components**

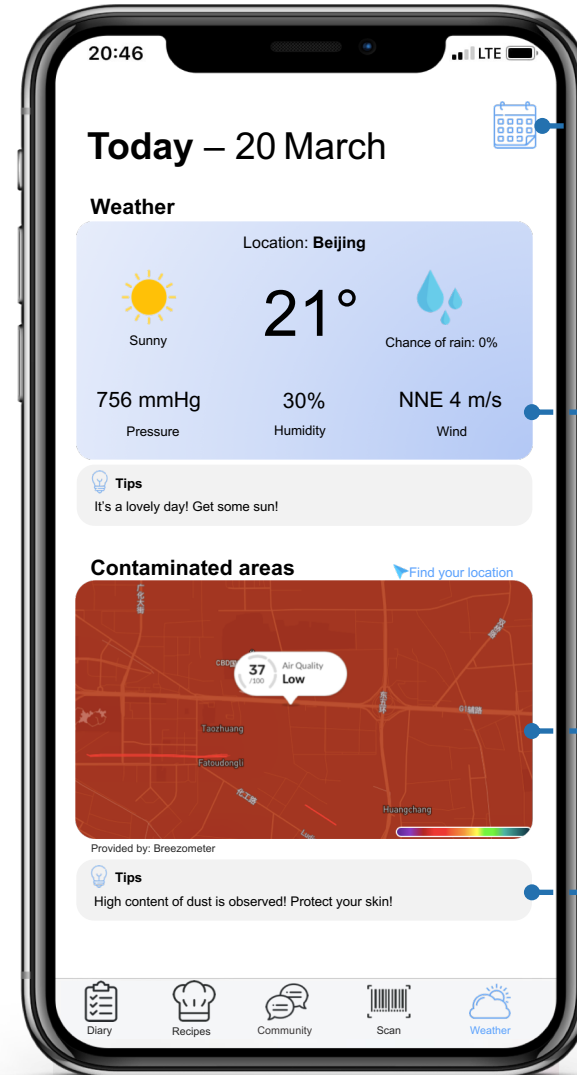
The app will render a decision whether this product **recommended or not**

- 3 Learn about organic brands and shops (as an advertisement)

Informing our users about such parameters as temperature, humidity, sun, dust we can **warn them against the negative effects of these factors**

Our patients don't understand:

- 1 Under what weather conditions** is it recommended for them to go outside?
- Going outdoor today, **what can potentially act as the threats** for them?
- What is recommended to wear** in order to mitigate the risk of skin irritation?
- When** is the most favourable time to **go outside**?



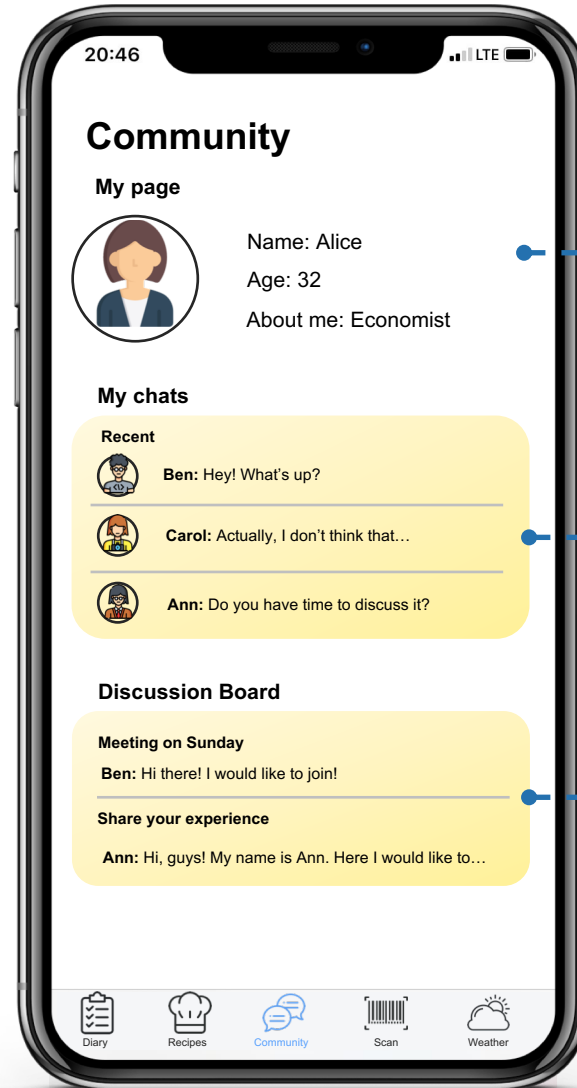
We help them to:

- 1 Find out what temperature and other weather conditions are the most preferable** for them to go outside, synchronizing weather data with Your Diary page
- 2 Be kept informed about all potential threats:** temperature, solar activity, air pollution...
- 3 Get personalized tips** based on current weather report: Recommended **time** to go outside
- 4 Recommended means of protection**

Using our application users can **build up the communication with other people**, suffering from AD, **filling** thereby **the lack of communication**

Our patients don't understand:

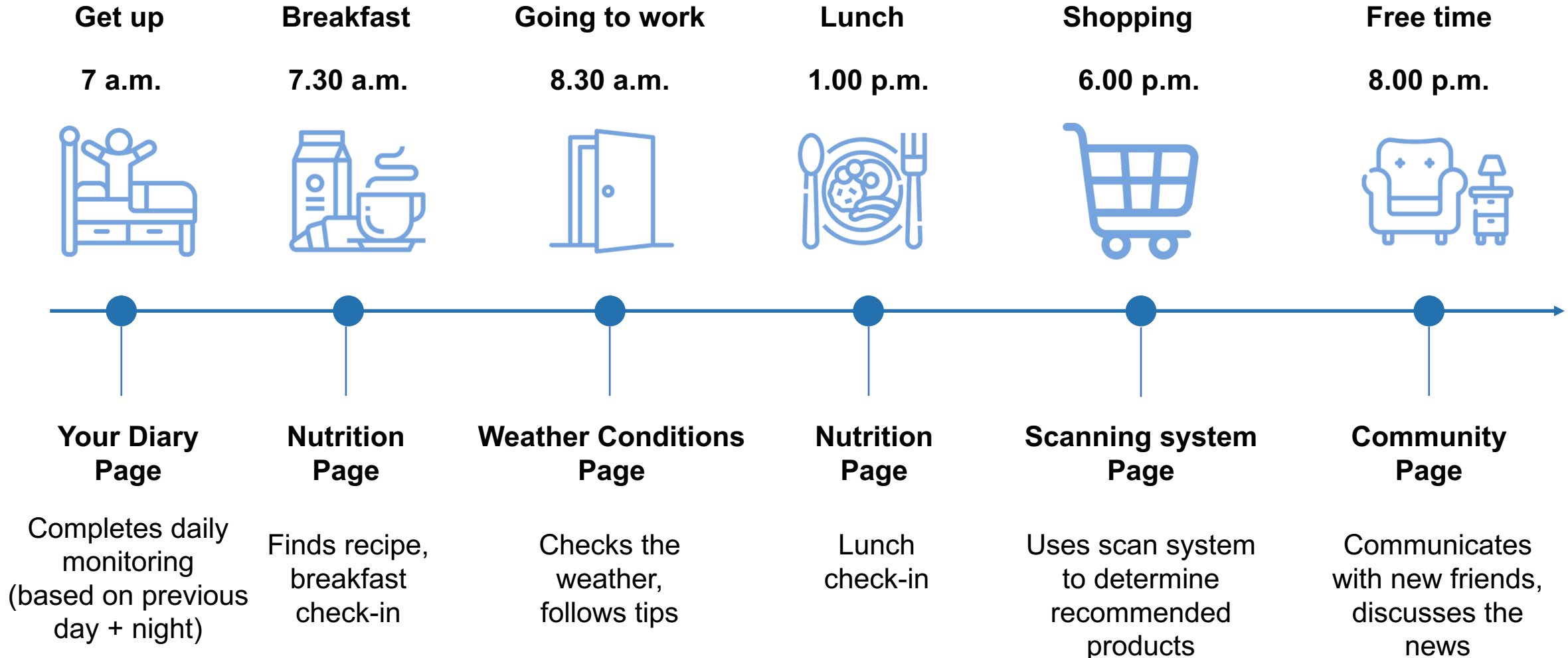
- 1 **How find people who understand** their illness concerns?
- 2 **How to make new acquaintances** without fear that their illness will alienate new people?
- 3 Is it possible to **reduce acute emotional distress**?
- 4 **Are there any forums** that bring together people who also have atopic dermatitis?



We help them to:

- 1 **Find people** who not only **have a similar illness**, but also **have common interests**, adding information on My Page
- 2 **Meet new people** and have the opportunity to **communicate with them in chat rooms**, sharing your thoughts and concerns and discussing topics of interest
- 3
- 4 Discuss the latest news with other users in **discussion board**

Our application **stays in contact with the patient throughout the day** from the morning till the evening, radically **change their lives for the better**



The development of the application on the **WeChat platform** will allow to **facilitate the process of app development** and its **promotion**

1 Application development platform

We have chosen WeChat Mini App because ...

- ✓ Extremely high rates of usage per capita
- ✓ Low cost of application develop
- ✓ One single platform for iOS and Android users
- ✓ High download speed
- ✓ Transaction guarantee system

All drawbacks can be levelled:

- Usage of specific WXML and WXSS programme languages → Chinese developers involvement
- Existed limitations on appearance and functions of the application → Use of maximum allowed functionality

2 Promotion plan

We act through...



Beauty bloggers



Health care bloggers

...with the audience of about 100K followers...

Rank	Followers	Ads price
Top	> 10 millions	~300 000 Y
Medium	~ 1 million	~85 000 Y
Beginner	~ 100 thousand	~5000 Y

...in order to achieve at first target audience and reach...

~ **20** million users
in short-run

~ **80** million users
in long-run*

*total number of users

Freemium pricing strategy allows to use app **for free with some limitations** or **for a fee** providing **full functionality** that **covers approximately 95% of existing patient's problems**

1

Patients with AD...













...will use our app on daily basis because

- ✓ It accompanies the patient **throughout the day**
 - ✓ It is **able to solve all the acute problem** that the patient had previously encountered
 - ✓ It has **simple and comfortable functionality**
 - ✓ **Always in contact** with the patient, sending app notifications
- ...will prefer our app to others because:
- ✓ It covers **more than 95%** of the important factors of the patient's life

2

Monetization plan

Freemium pricing strategy

	Freemium pricing strategy	
For free	 Limited recipe list	 Only text messages
	 Only 15 products on prohibited products list	 Contains ads
	 5 labels per day for scanning	 Limited range of exercises
Paid services	 Extended recipe list	 Stickers, backgrounds
	 Unlimited prohibited products list	 No ads
	 Unlimited labels per day for scanning	 Extended range of exercises



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Institute of Pharmacy



Student Olympiad
"I am professional"
Participant
Skolkovo Pharma's cool



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Institute of Pharmacy



Student Olympiad
"I am professional"
prize-winner



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NRU HSE 21'
BA in World Economy



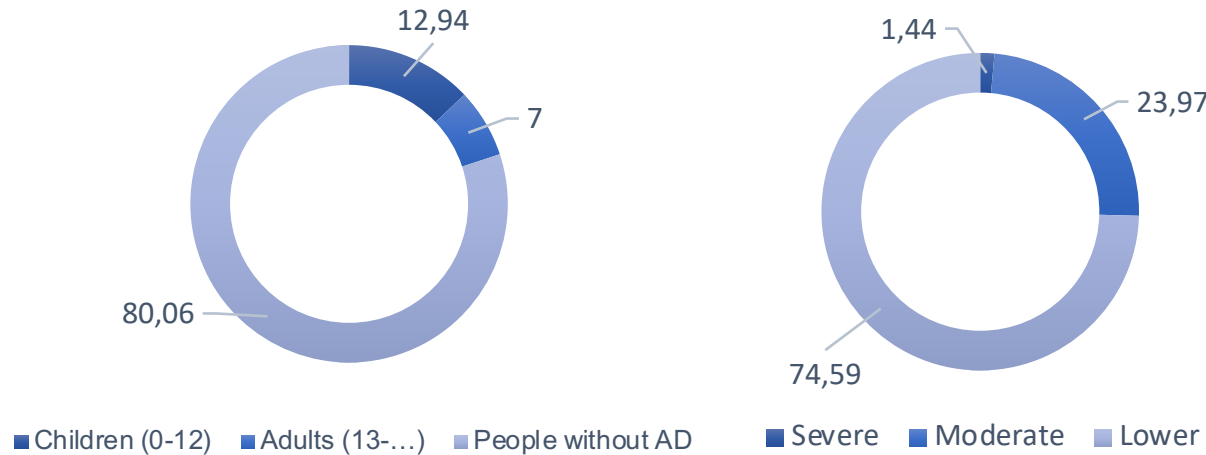
Cup Moscow 19'
semi-finalist
Modern Trade Code 19'
prize-winner (2nd place)

Appendix



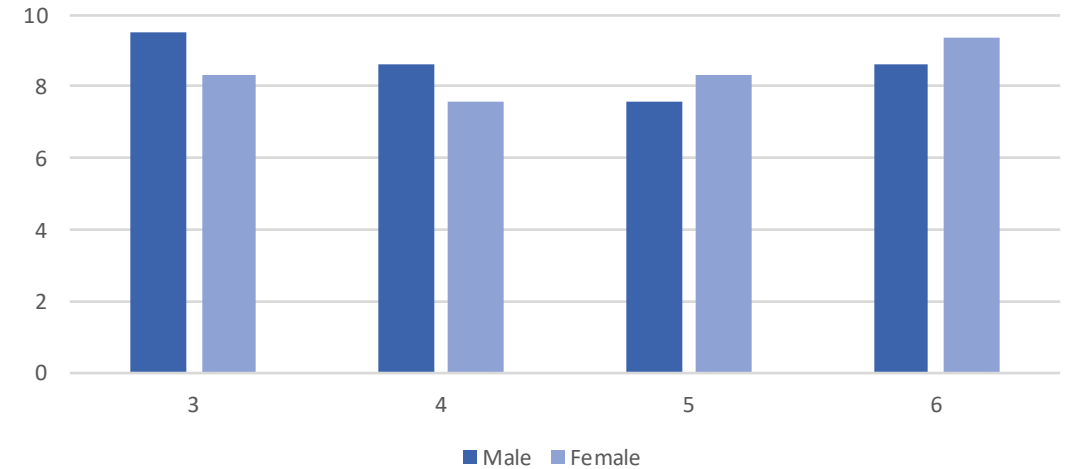
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Disease rate and severity of AD in China



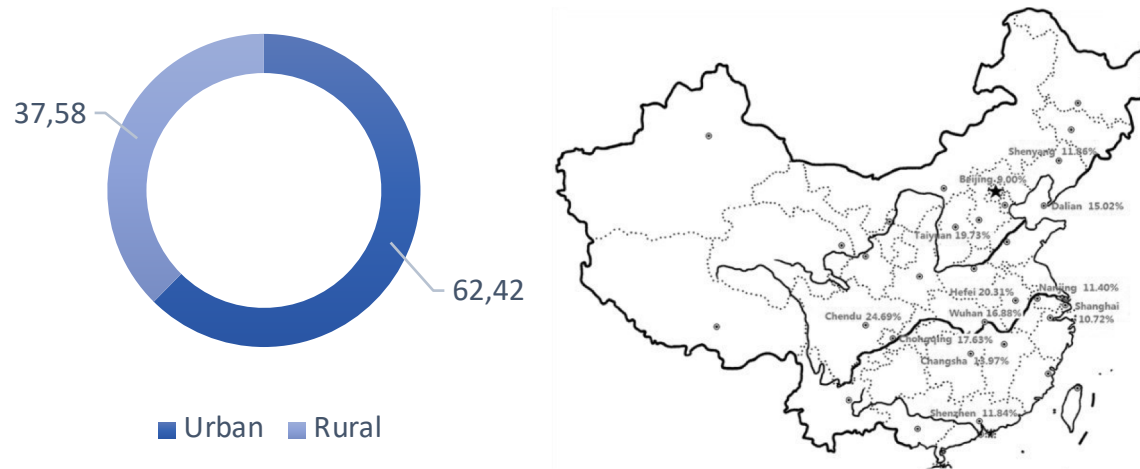
2

The incidence of AD among children 3-6 y.o., %



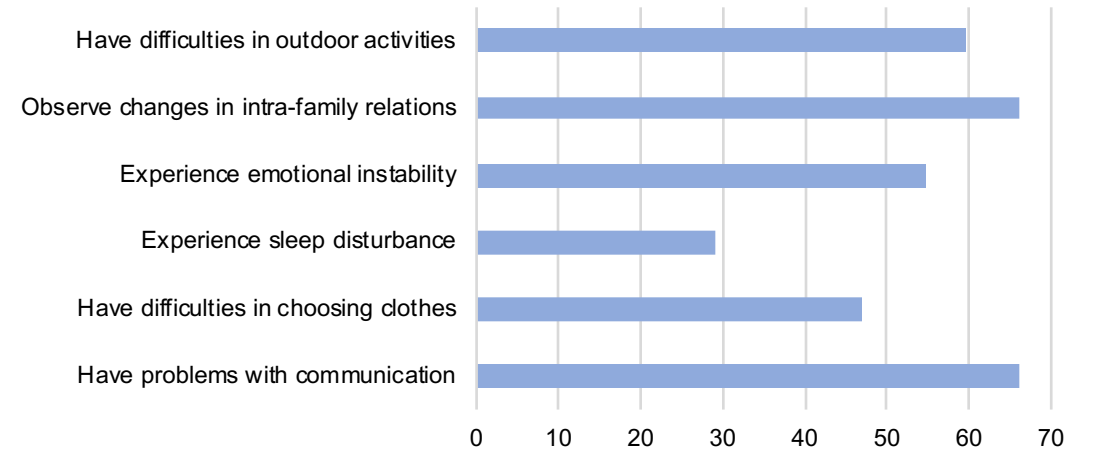
3

Geographic coverage of AD in China







4

Most common problems faced by patients with AD



Appendix 2. Target audience

Age	AD has different prevalence and treatment regimens at different age	 0-2	 2-12	 12-60	 66 - ...
Severity of disease	Different ages have various degrees of severity	Mostly severe form	Severe/moderate form	Moderate/lower form	Moderate/lower form
Lesions zones	Have different significance and treatment	Face, neck, fossa cubitalis, fossa poplitea, calves		Waist, feet, torso, fossa cubitalis, fossa poplitea, calves	
Frequency	Allows to imagine more specifically the incidence of AD	~15-17%	~11,3%	~3-4%	~5-7%
Risks of complications and appearance of other disease	Predicting possible complications and developing suitable therapy	Bacterial infections, fungal infections, protozoal infections			
		Increases the likelihood of developing bronchial asthma and allergic rhinitis	Coronary artery disease, congestive heart failure		
Risks of mental disease appearance	Timely psychological assistance to the patient to prevent emotional trauma	Behavioural Disorder, Depression, ADHD, Suicidal Thoughts, Epilepsy		Low-risk	

1 Why it is important to monitor key factors on daily basis?



General state assessment
We consider mood, well-being, the presence of itching and pain in order to determine cause-and-effect relationships



The sleep quality
It is important to take into account the sleep quality, which affects patient's psychoemotional state



Walking and sport activities
An increased level of overall workload can make an adverse impact on patient

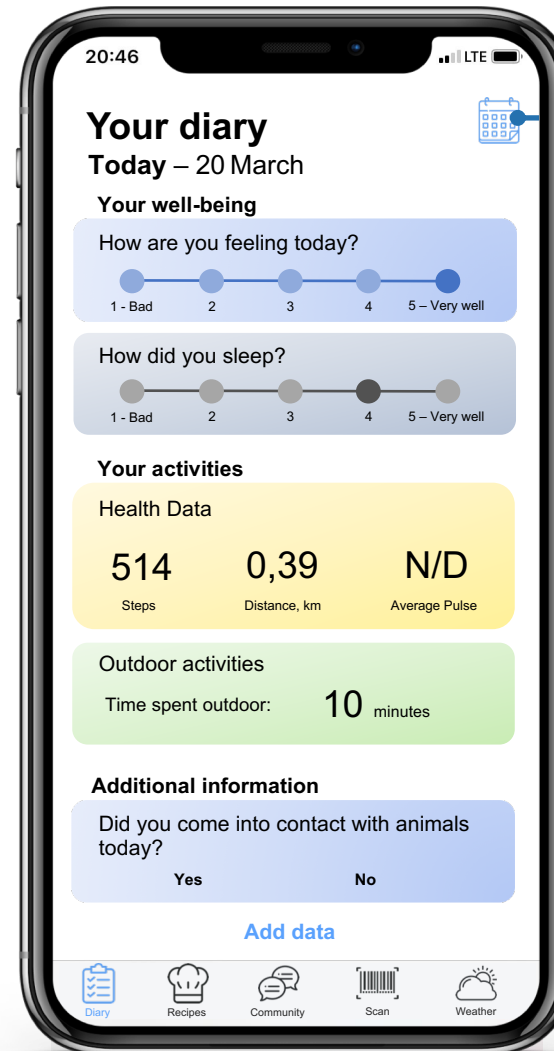


Outdoor time tracking
Sufficient time on the open air can positively affect your condition, but it is worth tracking the weather and air conditions



Contact with animals
Different animals act as common sensitizers that can adversely affect you

2 Full My Diary page functionality



1 Why it is important to introduce this feature?



Keeping a diet log

Food allergies can be developed due to any products, that's why it is crucial to correlate the diet with the intensity of symptoms



Recording kcal, carbs, protein, fat consumption

It is necessary to monitor the composition of consumed products. Helps to prevent malnutrition or overeating



Exclusion prohibited products

A number of products can provoke negative symptoms

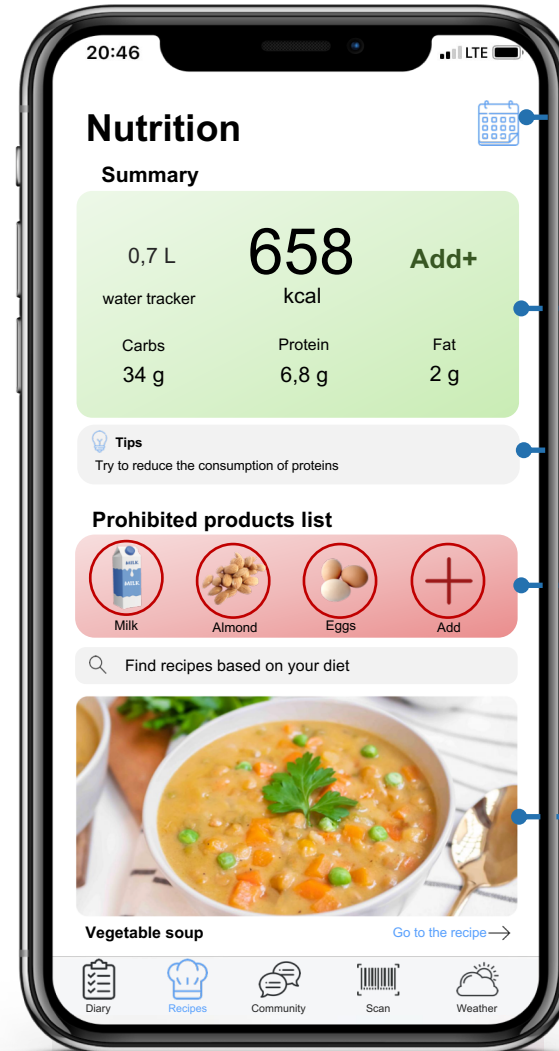


Selection of specific recipes

Sometimes patients find it difficult to cook something as their diet is very limited and excludes many products

2

Nutrition page functionality



Synchronization of diet log with **Your Diary** page in order to generate an overall **report** based on certain indicators

Dietary intake track with “add-meal” access, which allows to monitor the amount of consumed nutrients

Personal tips based on Dietary Intake track

Customized **Prohibited products list** with “add-product” access will be always in sight and will allow to build a **personal diet program**

Wide range of simple **recipes** excluding prohibited products

Recipes will be integrated with the third-party sites

1 Why it is important to introduce this feature?

Weather conditions

The optimal temperature and humidity for people with atopic dermatitis are 18-22 degrees and 35-45% humidity respectively.

With an increase in these parameters, sweat evaporates worse from the surface of the skin, which creates conditions for the adhesion of dust particles and microbial contamination.

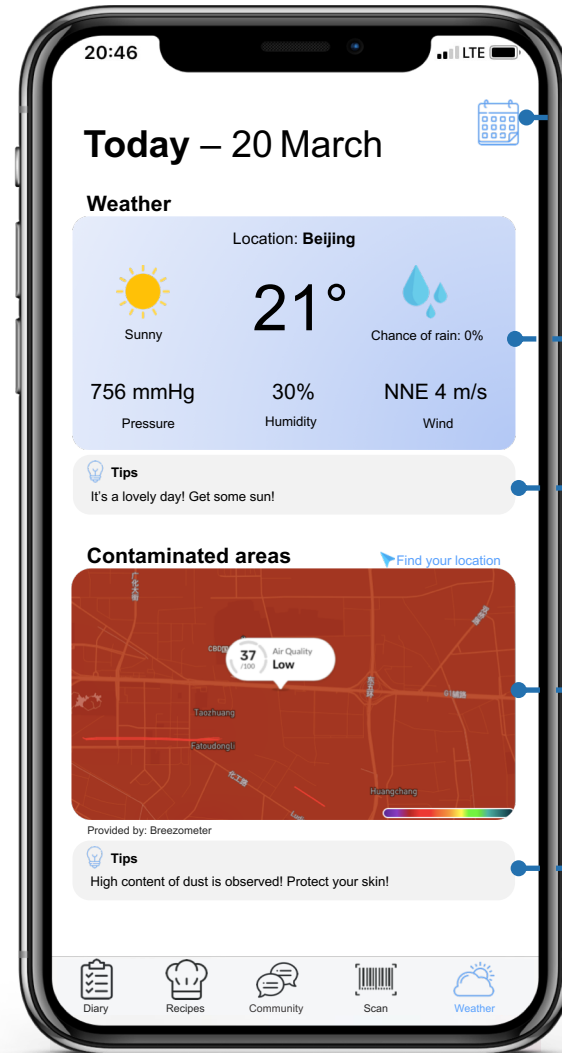
When these indicators are lowered, moisture evaporation occurs, increasing the chance of epidermis' damage, which facilitates the penetration of allergens into the deeper layers of the skin

The presence of the sun (vitamin D) has a positive effect on the patient.

Air pollution

Due to impaired skin barrier function, areas with increased dust concentration should be avoided

2 Weather condition page functionality



Synchronization of weather data with **Your Diary** page in order to generate an overall **report** based on certain indicators

Providing full **weather report and key indicators** based on various weather databases to inform the user about potential threats and form personalized tips

Tips based on weather report:
Example: The sun is too active now! It is better to go outside later!

Providing **air pollution map** with 100-point system to inform the user about potential threats and form personalized tips

Tips based on air pollution map:
Example: High content of dust is observed! It is better to wear long-sleeve shirt

1 Why it is important to introduce this feature?



Food

It is necessary to be cautious about selecting products, excluding prohibited items like nuts, fish and etc.



Clothes

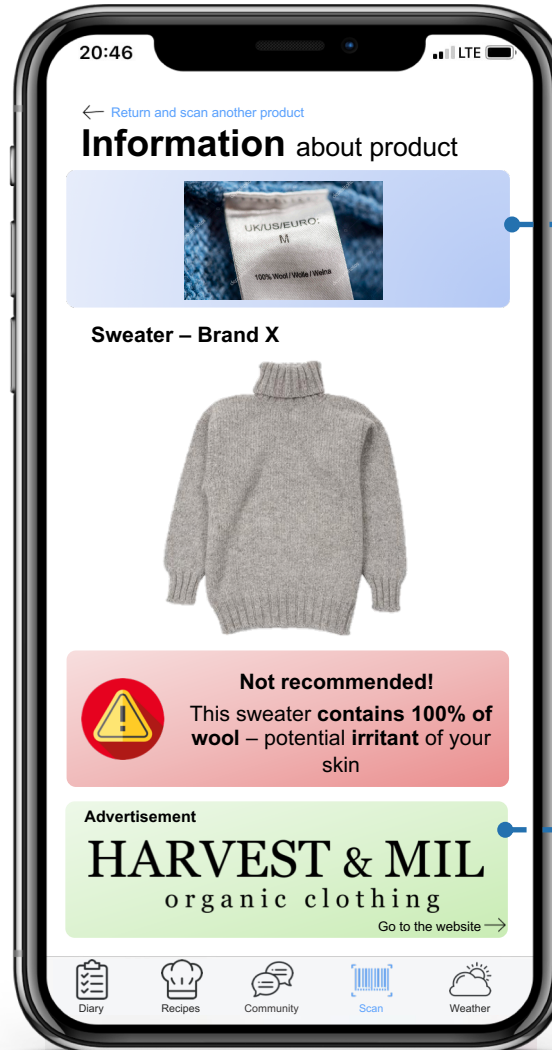
Clothing consisting of coarse material (wool) or synthetic materials (acrylic, polyester...) can cause negative symptoms of atopic dermatitis as they scratch the skin, opening it to sensitizers



Household chemicals

Household chemicals should not contain phosphates, dyes, perfumes, optical brighteners. It is important to select hypoallergenic washing powders to minimize irritation

2 Scanning system page functionality



4-step identifying technology

- 1 **Take a photo** of product's label, using smartphone's camera and upload it
- 2 Using AI technologies (Optical Character recognition), the app will **identify the text** on the label
- 3 The identified text will be examined for signs of **prohibited components**
- 4 The app will render a decision whether this product **recommended or not**

Advertisement

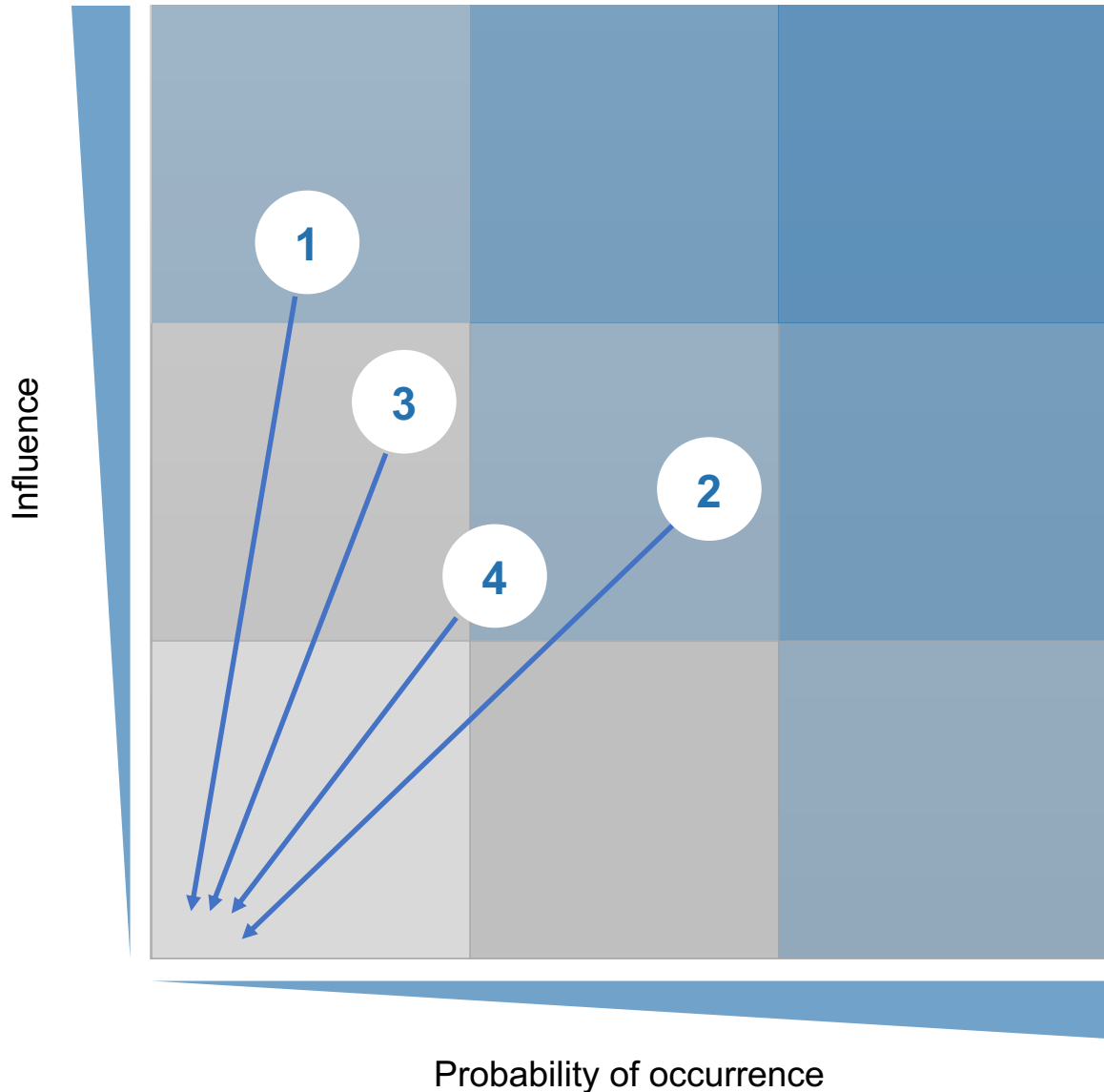
Context advertisement based on previous researches will help our users to learn about organic brands and shops

Appendix 7. Monetization of the app

$$X \text{ (App Currency)} = 0,12 Y$$

	Basic		Top	
Subscription	120X or 15,48 Y		416X or 49,92Y	
	Includes: No ads Stickers, backgrounds Extended range of exercises		Includes: Basic subscription features + Extended recipe list Unlimited prohibited products list Unlimited labels per day for scanning	
Purchase of individual features	Service	Price	Service	Price
	Stickers, backgrounds	39X or 4,69 Y / for pack	Extended recipe list	103X or 12,35 Y
	No ads	63X or 7,56 Y	Unlimited prohibited products list	63X or 7,56 Y
	Extended range of exercises	63X or 7,56 Y	Unlimited labels per day for scanning	103X or 12,35 Y

Appendix 8. Risk Matrix



	Risk	Leveling
1	Users dissatisfaction	App's improving based on feedback, bug fixes
2	Appearance of application analogues on the market	Permanent app's improving and effective promotion plan
3	Loss of investors interest	Exponential growth of connections through massive advertising (online, pharmacies, lobbying through doctors)
4	Decline in demand	Potential coverage of a wider audience through specialization in other diseases (asthma, rhinitis, etc.)

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