The WASABY App

Final Report on Communication, Dissemination and Engagement

Deliverable D2.1

December 2020 to June 2021

Association of European Cancer Leagues (ECL)

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Introduction

About the WASABY project

WASABY (*Water & Soil (WS) pollution & Breast cancer (BC) in young women*) is a 3-year pilot EU project, which began in January 2018 and aims to:

1. collaborate with population-based cancer registries to identify areas of high breast cancer risk;

2. improve the use of deprivation indexes in spatial analysis by cancer registries to help understand the influence of socio-economic status;

3. prepare an ecological study on the association between water and soil contamination and breast cancer risk;

4. prepare an educational tool to promote cancer prevention messages to young females aged 13-19 years old (with a focus on established risk factors only).

The Association of European Cancer Leagues (ECL) leads the work package 2 on dissemination and is responsible for one of the outcomes of the WASABY project - the development and dissemination of an online course for young girls/adolescents to be developed in cooperation with cancer leagues and validated by the target group. After thorough discussion with all involved stakeholders, it was decided to develop a digital tool to promote more generally cancer prevention messages to adolescents across Europe.

About the WASABY app

The Association of Cancer Leagues (ECL) has developed a digital health educational tool with a gamified strategy. Based on the messages within the European Code Against Cancer (ECAC), the WASABY mobile application (hereafter "WASABY app") delivers information on healthy lifestyles and cancer prevention in multi-language platform (currently available in English, French, Italian, German, Romanian, Spanish and Slovenian) across the 53 WHO Europe region countries.

Following a gamified method of teaching, as in the *Duolingo app*, the WASABY app consists of 10 modules of interactive content and quizzes. After each module is completed, reward badges are unlocked. Real-time information on progress is tracked, creating an international ranking list of 'top learners' around Europe.

The WASABY app is aimed at young healthy adolescents resident in the European Union and aged approximately 14 -19 years old. The app does not provide medical advice for cancer patients or

any other vulnerable or sick populations. The app is available for download on both Google Play Store (for Android devices) and the App Store (for iOS devices).

WASABY app's interface and wireframes are depicted below, with its key features explained. Upon sign-in, a tutorial is displayed. Following it, the user can complete its registration at the profile screen, including personal information and associated risk factors data collection.
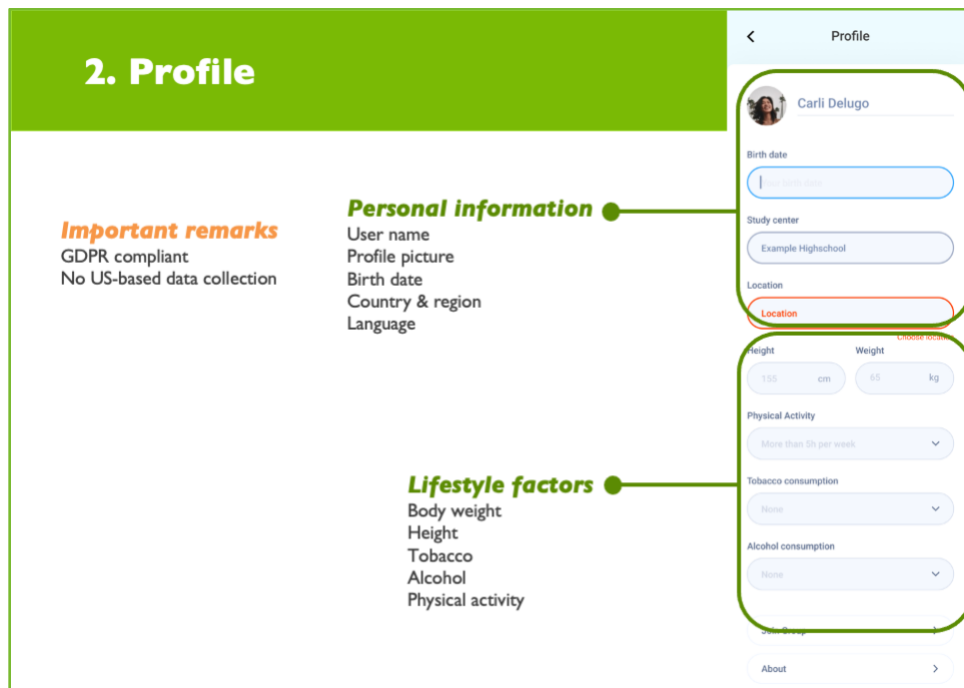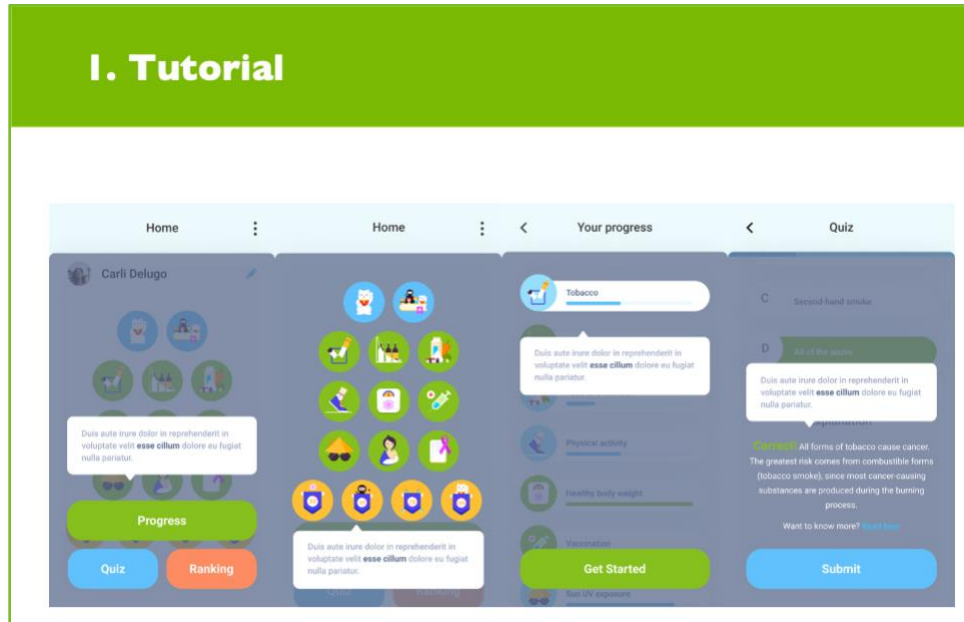
The user then lands into a home screen with 16 badges related to the goals proposed in the gamification strategy. Clicking on the "your progress" button, the user enters the app's content.
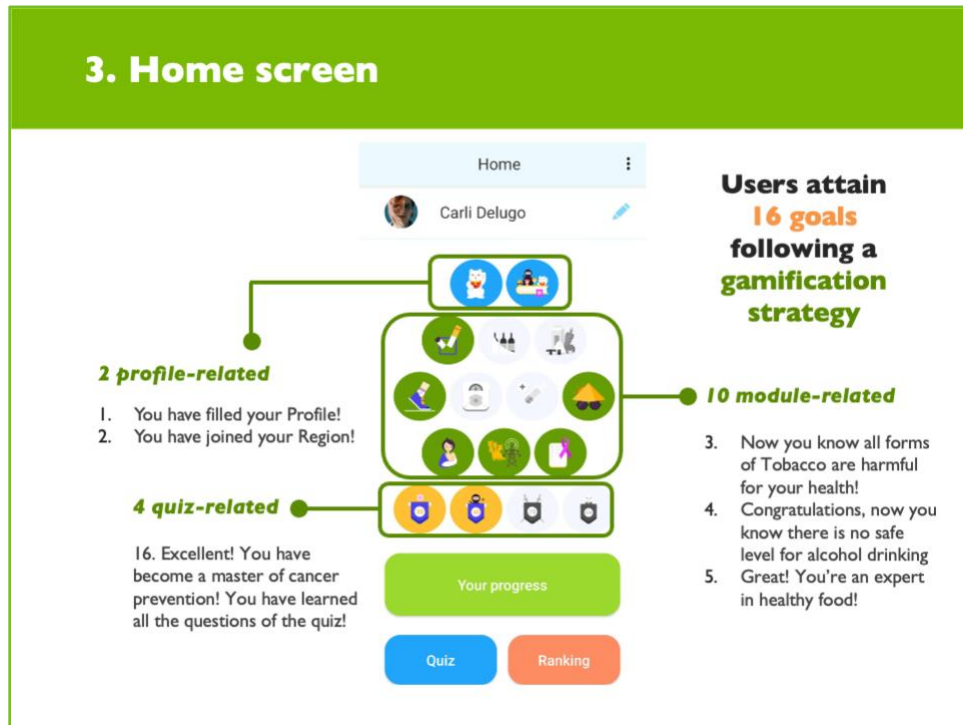
Through the progress screen, the user can access the WASABY app's 10 modules, with indication of its completion status through a coloured bar.
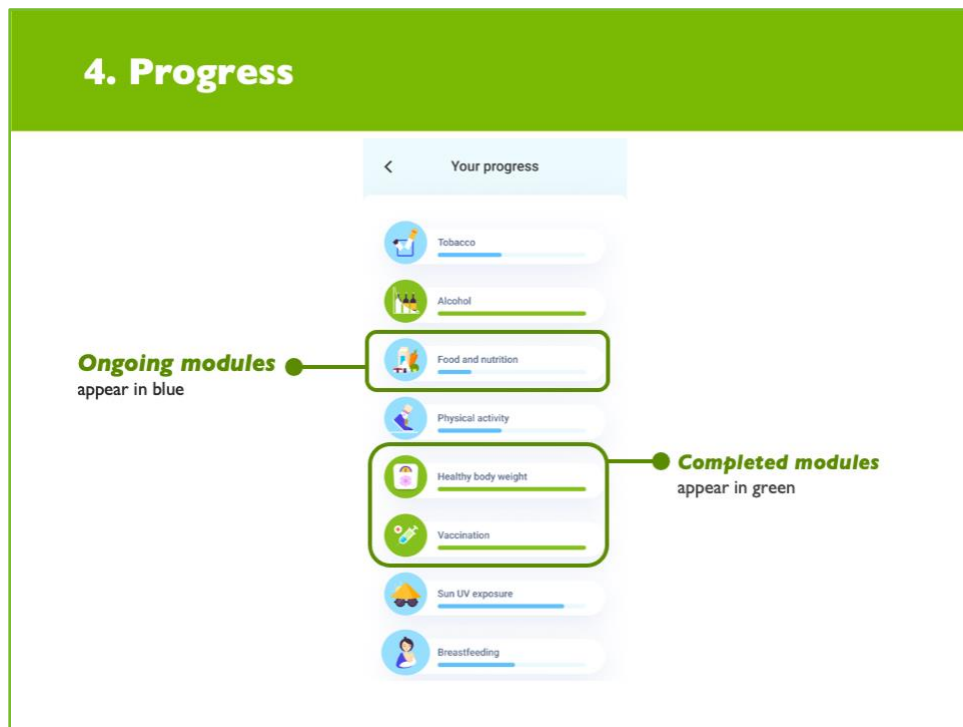
Each module consists of an initial teaser sentence, followed by an ECAC animation, then a few paragraphs of content, and finally a button to indicate the user has completed the reading.
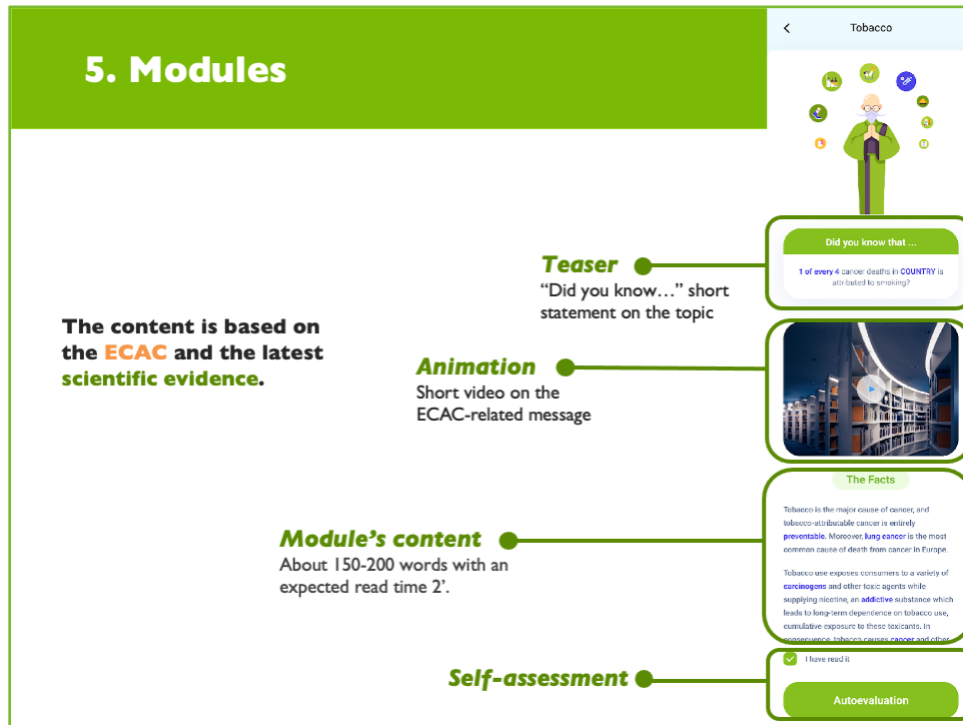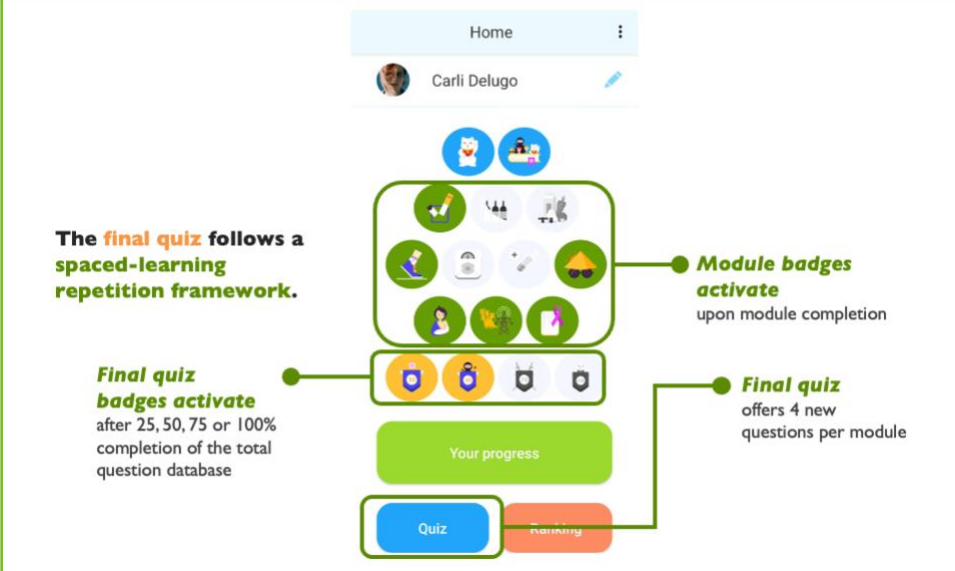
Upon module reading, the user is invited to complete 3 auto-evaluation questions. They are followed by an explanation and a link referring to further information on the ECAC's website.
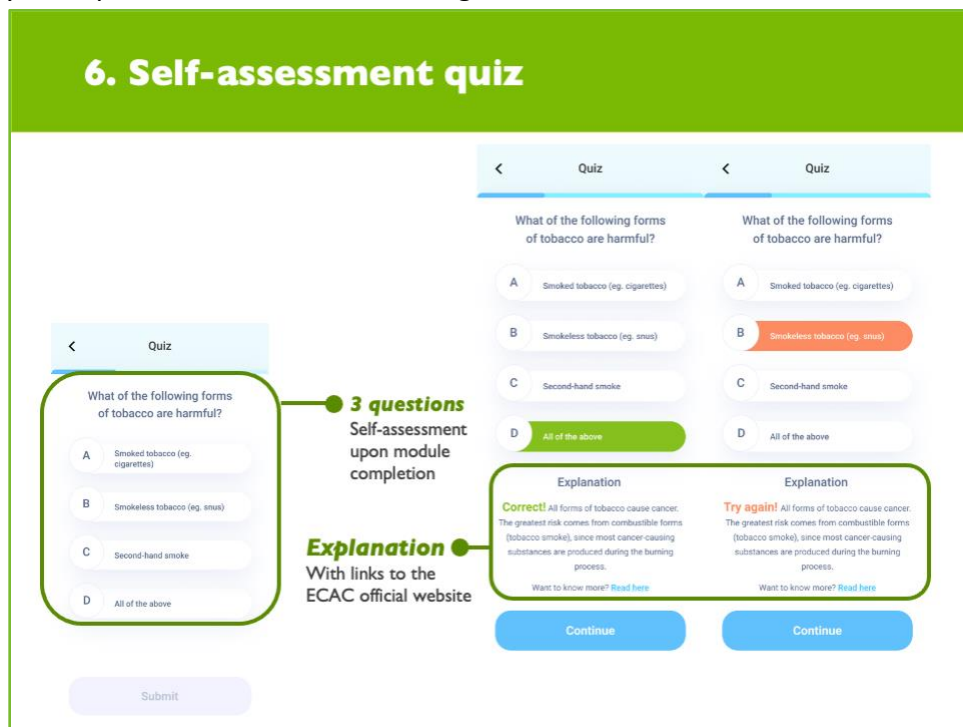
Once back to the home screen, the user can access a final quiz, consisting of 4 questions for each of the 10 modules. This evaluation follows a spaced-learning repetition framework, and questions are considered as learnt after having been answered correctly 3 times.

Finally, as part of the gamification strategy, information on progress is tracked and users are ranked in an international classification of 'top learners', according to their performance by country and region.

WASABY app launch and outreach

Internal launch - 4 December 2020

A digital launch party to give a sneak preview of the app and its features to ECL member cancer leagues and Youth Ambassadors for the European Code Against Cancer took place on 4 December 2020.

The digital party was attended by 34 people and provided an opportunity for the ECL Secretariat to (i) build excitement about the mobile application in view of the official launch in February 2021, (ii) encourage cancer leagues to integrate the app in existing and planned activities targeting young people, (iii) gather ideas about promoting the app at the national and regional level and (iv) offer help in preparing materials to be used to promote and disseminate the app as part of the official launch.

The digital party also gave the opportunity to Dr Paolo Baili from the Fondazione IRCCS "Istituto Nazionale dei Tumori" and Work Package 1 Leader to present the overall WASABY project and its objectives to cancer leagues and Youth Ambassadors across Europe.

- The agenda of the event can be consulted here.
- The recording of the digital launch party is available here.
- The full deck of slides can be viewed and downloaded here.
- The list of participants is available here.

External launch - 4 February 2021

The WASABY app was officially launched on World Cancer Day on 4 February 2021. The app was mainly promoted through targeted emails and social media (on Instagram via the official handle of the European Code Against Cancer (ECAC) as well as the ECAC and ECL's handles on Facebook, Twitter and LinkedIn).
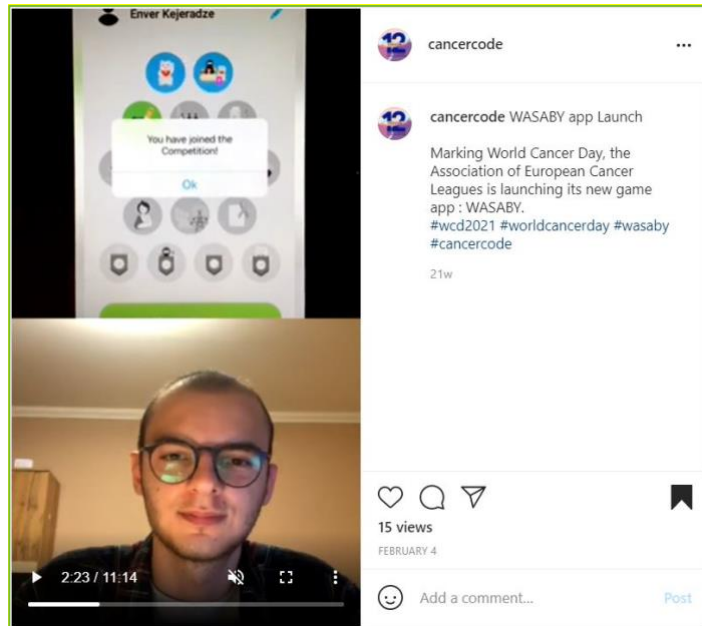
All 48 ECL Youth Ambassadors, selected cancer leagues (including Association of Slovenian Cancer Societies, Cancer Focus Northern Ireland, Swiss Cancer League (presented the app to feel-ok.ch and ciao.ch) and partners (including European Public Health Alliance, Health and Environment Alliance, International Agency for Research on Cancer, International Federation of Medical Students' Associations (promoted the app to European members), Union for International Cancer Control) were encouraged to promote the launch of the app through their own channels.

Website landing page

A dedicated page on ECL's website, including instructions to download the app and links to the Google Store and App, was set up on 3 February 2021. The webpage's content used for promoting the app can be found in Annex 1.

The number of unique page views[1] of the WASABY project webpage on ECL's website between 4 February - 30 June 2021 was 438, with visits lasting on average 03:26 minutes.

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[1] Unique page views refer to the number of sessions during which the webpage was viewed at least once
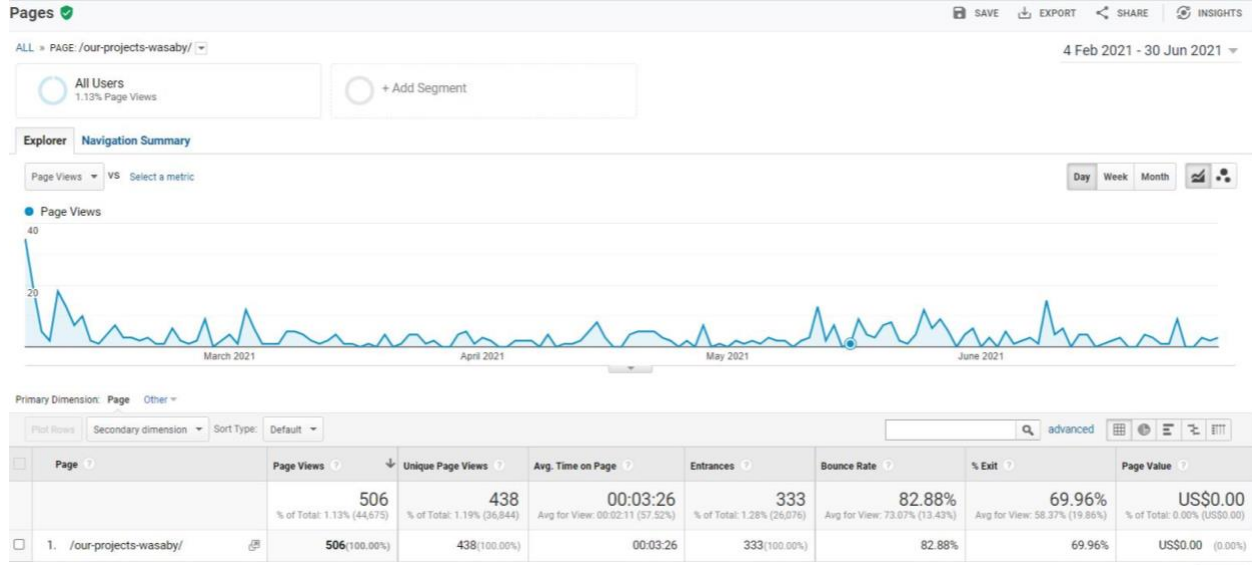
Demonstration video

ECL Youth Ambassadors created a [short demonstration video](#) to illustrate to the target group how the app works by showing it in action and explaining its key features. As of 30 June 2021, the demo video has been watched 168 times.

Dissemination toolkit

A [Dissemination Toolkit](#), containing information and resources to amplify the WASABY app promotional campaign, was distributed to ECL member cancer leagues, ECL Youth Ambassadors and over 70 partners ahead of the official launch of the app.

The Toolkit (which included ready-made messages, a template dissemination email, a template press release and links to social images, GIFs, a video tutorial and 10 supporting videos) can be found in Annex 2.

Press release

A template press release was circulated to ECL member cancer leagues, Youth Ambassadors, partners and collaborators for them to easily customise it to reflect their brand and adapt the messaging.

A press release in English titled '[Healthy lifestyles at the palm of your hand: European Cancer Leagues launch WASABY mobile app for teens](#)', was published on 4 February 2021. As on 30 June 2021, the press release was viewed 41 times.

Social media promotion

The ECL Secretariat advertised the WASABY app via a promoted post on @CancerCode which included a call-to-action button driving traffic to a dedicated WASABY webpage on ECL's website (https://bit.ly/wasabyapp) and a caption encouraging Instagrammers to (i) download the app and (ii) going through its 10 modules. Below are the promoted post's GIF image and caption used to target and attract the target group.
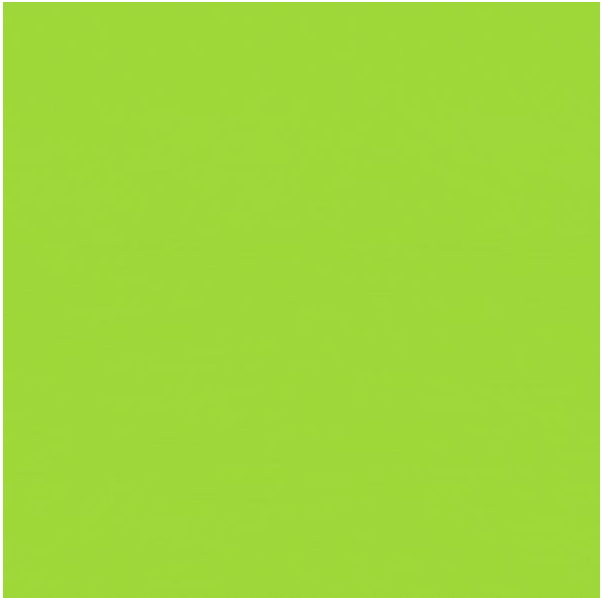
☞Between 14-19 years old? Looking for a fun way to learn about #healthy lifestyle choices?

Download #WASABY app – now available on Google Play & App Store! https://bit.ly/wasabyapp

📱 Go through 10 modules of interactive content and take quizzes to unlock #reward badges. The more you play, the better your chance to feature as #1 top learner in the app's international ranking!

ⓘ WASABY is an educational #healthapp to help young people learn about the messages within the European Code Against Cancer and follow a healthy lifestyle

#WorldCancerDay2021 #WCD2021 #cancerprevention #applaunch #WASABYapp #healthy #healthylifestyle #cancercode #healthliteracy #education

As of 30 June 2021, the shortened link (https://bit.ly/wasabyapp), redirecting users to the WASABY app page on ECL's website, was clicked 10,315 times.

Our Projects: WASABY | Association of European Cancer Leagues - ECL
https://www.europeancancerleagues.org/our-projects-wasaby/

bit.ly/wasabyapp   COPY   SHARE   EDIT   REDIRECT   QR CODE

REFERRERS

Instagram.com	7,537
Email, SMS, Direct	2,562
l.instagram.com	193
+5 more	23

10,315
TOTAL CLICKS

User engagement on @CancerCode saw a dramatic surge thanks to the promoted post. Overall, the promoted post on Instagram, with a budget of €484 for 10 days, performed successfully by getting good traction and driving user engagement. It also successfully drove Instagrammers aged 13-17 years old to ECL's webpage.
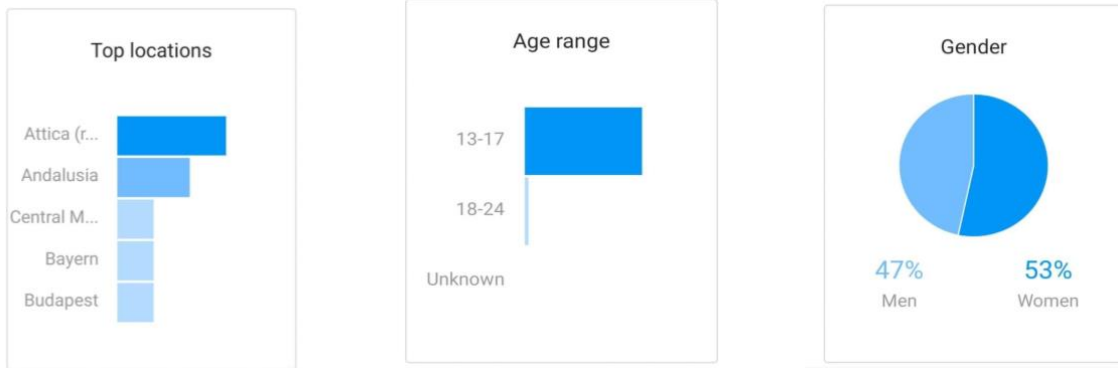
By the end of the promotion campaign on 14 February 2021, the promotion insights below were recorded:

Post	People reached[2]	Impressions[3]	Promotion clicks	Likes	Comments	Views
Promoted post	851,149	2,470,418	2,185	1,428	4	97,407

A series of posts from the official social media handles of the ECL and the ECAC was also done.

Post	Impressions	Engagements[4]	Likes	Shares	Media Views
ECL Tweet 1	5,103	69	22	11	319
ECL Tweet 2	1,576	18	7	2	-
ECL Tweet 3	649	15	9	-	-
ECAC Tweet 1	854	20	8	2	70
ECL FB post 1	119	23	12	1	-

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[2] The number of people who saw the Instagram post

[3] The number of times that the promoted post was seen on Instagram

[4] The number of times that people interacted with the post

ECL FB post 2	160	17	8	3	-
ECAC FB post 1	89	14	7	-	-
ECAC FB post 2	65	6	4	-	-
ECAC FB post 3	109	8	3	1	-
ECL LinkedIn post 1	536	-	24	3	-
TOTAL	**9,260**	**190**	**104**	**23**	**389**

European Week Against Cancer (EWAC) - 25 May 2021

A second round of promotion and dissemination of the WASABY app took place during European Week Against Cancer (EWAC) 2021. The app was promoted through targeted emails and social media.

Social media promotion

A mini social media campaign was carried out on 27 May 2021 to encourage young people to download the app and reach the 1,000 users' milestone.
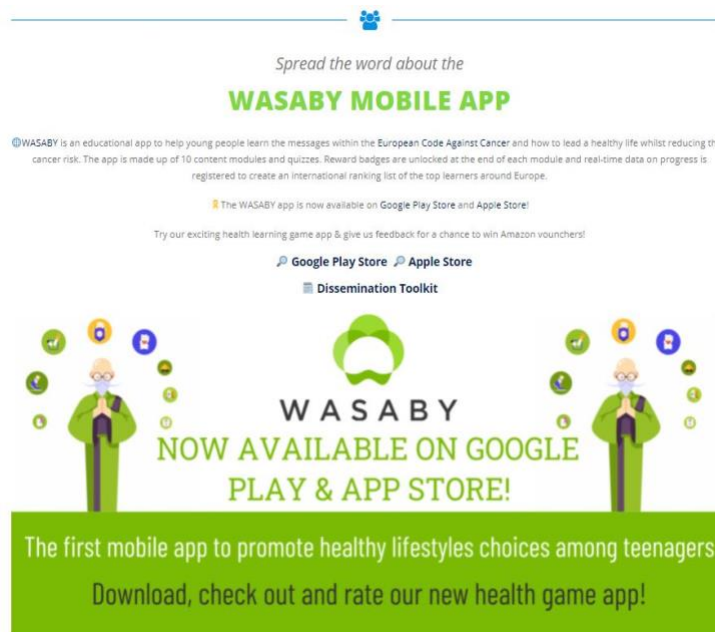
Post	Impressions	Engagements[5]	Likes	Shares	Media Views
ECL Tweet 1	1,717	30	9	4	80
ECL Tweet 2	2,088	35	10	6	-
ECL FB post 1	120	14	11	1	22
ECAC FB post 1	48	2	2	-	-
Instagram post 1	261	-	18	-	-
TOTAL	**4,234**	**81**	**50**	**11**	**102**

Website

The official EWAC 2021 webpage, which included a section about the WASABY app instructions to download the app and links to the Google Store and App, was set up on 1 May 2021. The number of unique page views[6] of the EWAC webpage on ECL's website between 1 May - 1 June 2021 was 1,362, with visits lasting on average 04:15 minutes.

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[5] The number of times that people interacted with the post

[6] Unique page views refers to the number of sessions during which the webpage was viewed at least once

Key statistics

- **2,483,912** impressions of posts on Instagram, Facebook, Twitter and LinkedIn between February - June 2021
- **10,315** clicks on the shortened link (https://bit.ly/wasabyapp), redirecting users to the WASABY webpage on ECL's website between February - June 2021
- **2,456** engagements with posts on Instagram, Facebook, Twitter and LinkedIn between February - June 2021
- **1,800** unique page views of the WASABY webpages on ECL's website between February - June 2021
- **1,582** likes on posts on Instagram, Facebook, Twitter and LinkedIn between February - June 2021

WASABY app usage and engagement

After duly IT development and two subsequent phases of alpha and beta testing, ECL developed a final version of the WASABY app, which is available for both Android ([Google Play store](#)) and iOS ([Apple store](#)) devices. Its content was translated into 7 European languages (English, Spanish, French, German, Romanian, Slovenian and Italian), corresponding to the official languages used by the cancer leagues involved in its development. Having been made initially available in 28 countries (EU member states and the United Kingdom), its scope was expanded to all the 53 countries within the WHO European region (both on Google Play Store and App Store).

WASABY app monitoring framework

ECL designed a monitoring framework for the WASABY app, as the main deliverable of the WASABY project's specific objective 5 (SO-5). Indicators were collected at three levels:

- Social media promotion (through the Instagram platform);

- App store performance (both iOS and Android);

- App usage (through user registration and app completion data).

Each level of the monitoring framework is explained below. Technical details related to indicators, variables and filters can be found in Annex 3.

WASABY app social media monitoring framework

The app's promotion on social media was closely monitored following its activity on the Instagram account [@CancerCode](#). This is ECL's Instagram account dedicated to the promotion of the [European Code Against Cancer](#).

The following indicators were be monitored monthly, and analysis were expanded in certain campaigns (namely World Cancer Day (WCD), and the European Week Against Cancer (EWAC)): Accounts Reached, Content Interactions, Profile Visits, Website Taps, Top Post, and Follower specific analysis. More details on the mini social media campaigns carried out for WCD and EWAC can be found in the previous chapter "*WASABY app launch and outreach*" of this report.

WASABY app store monitoring framework

The app's presence and engagement in both Google Play and App stores were analysed through Key Performance Indicators (KPIs). Below is the monitoring proposal with close to comparable indicators between the two platforms available (iOS and Android).

Android	iOS	Merge
Key Performance Indicators (KPIs)		
Store listing visitors (1)	Impressions (1a)	1. Product page views
New users acquired (2a)	App units (2a)	2. Product installations
Store listing conversion rate (3=2a/1)	Conversion rate (3=2a/1a) [7]	3. Conversion rate
User loss (4)	Deletions (4)	4. Deletions
Crashes and ARNs (5a+5b)*	Crashes (5) *(opt-in only)* [8]	5. Crashes
-	Sessions per active device (6c=6a/6b) *(opt-in only)*	6. Retention
Average rating (7)	Average rating (7)	7. Average rating
Filters		
Countries[9]	Countries (territories)	Countries
Dates	Dates	Dates
Traffic sources (*Google Play search, Third-party referrals*)	Source *(app referrer, web referrer, campaigns)*	Source

From January to June 2021, WASABY app received in both iOS and Android stores 3,426 impressions, leading to 1,109 downloads. That accounts for a 32.37% conversion rate and was especially linked to the WCD and EWAC promotional campaigns, as depicted in the following graph, which showcases the impressions from Apple store from February to June, 2021.

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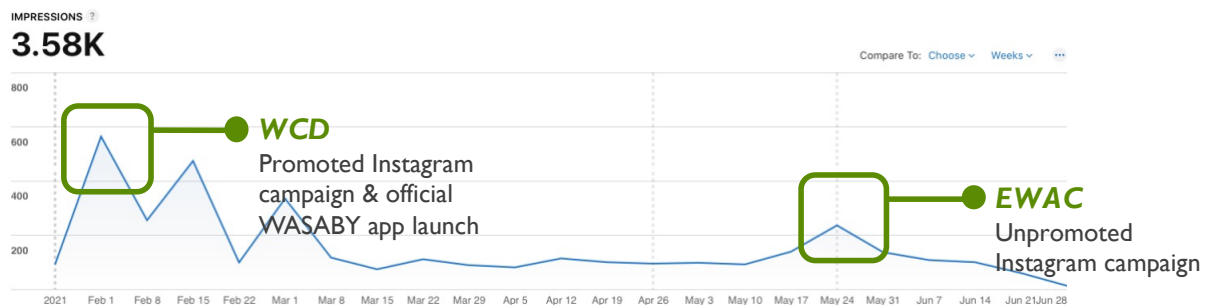
[7] The calculation between iOS and android is quite different, as iOS uses impressions in the denominator, while Android uses a more restrictive understanding of product page views.

[8] Not available separately per country.

[9] Maximum of 10 per data extraction.

Notably, the number of downloads was closely linked to the national league's endorsement and its promotion through the organisation's activities. As of March 2021, the Association of Slovenian Cancer Societies adopted WASABY app for youth-targeted actions. Its direct impact can be observed in the graph below showcasing store listing acquisitions (i.e. downloads from Google Play Store) over the period of February to June 2021.
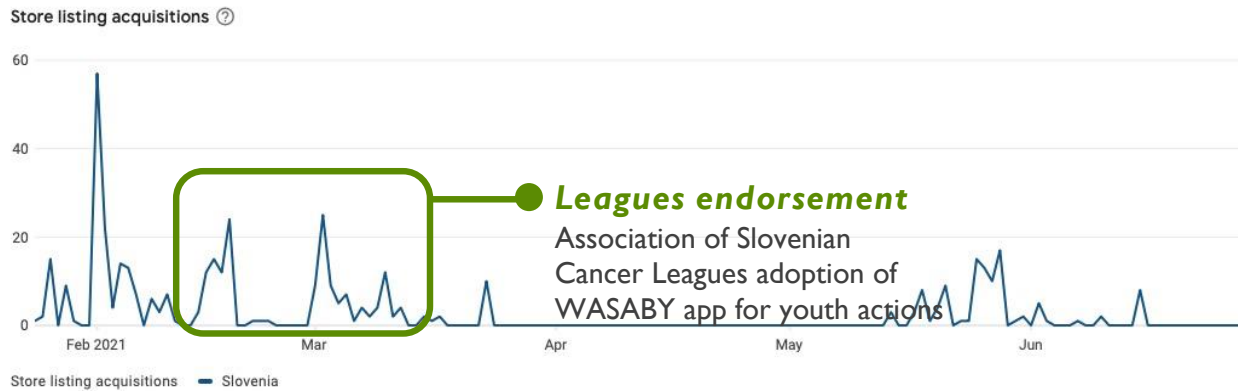
Over the same period, 645 app deletions were reported, which are to be contextualized given the 2-week completion timeframe under which the app was designed. Moreover, 262 app crashes were reported and duly reviewed by the app software developers. Finally, through the iOS platform, an average of 3.32 sessions per active user were recorded. A summary of the WASABY app store KPIs is found in the table below.

Key Performance Indicators	Android	iOS	Overall
1. Product page views	834	2592	3426
2. Product installations	594	515	1109
3. Conversion rate	73.02%	19.87%	32.37%
4. Deletions	466	179	645
5. Crashes	82	180	262
6. Sessions per active device	-	3.32	3.32
7. Average rating	3.9	5	3.97

WASABY app completion monitoring framework

The following variables from the **user registry** were collected, after a process of anonymization to comply with the General Data Protection Regulation (GDPR).

- User identification: user ID

- Demographics: birth date, sex, height, weight, country, region, language

● Associated risk factors: physical activity, tobacco use, alcohol use

Further information on WASABY app **modules completion** was collected, with each variable being assessed separately for each of the 10 content modules. The variables were: visits, readings, auto-evaluation, quiz correct answers, learned questions.

At the time of the WASABY app's inner data extraction, on 31 May 2021, the app's database had 931 users with 16 years-old of median age, being 64% female and 51% Slovenian. The graphs below depict users' demographics.
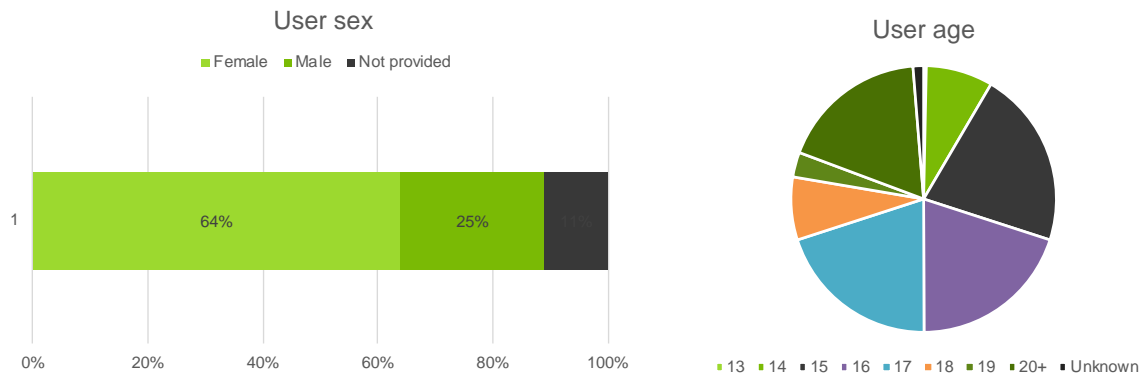
During user registration, information related to cancer risk factors (tobacco use, alcohol consumption and weekly physical activity) were collected. From the 931 users, 91% reported not to smoke, 51% not to consume any alcoholic drinks (44% reported to be occasional drinkers - either rarely or on weekends) and 90% were physically active (of which 73% spent 3 or more hours per week being active).

91% non-smokers

44% occasional drinkers (rarely or weekends)

90% physical active (73% 3+ hours per week)

Finally, on average users had taken 22 quiz questions, out of which 11 had been correctly answered and 4 were considered as learnt (after having answered them correctly 3 times each). The modules that attracted the most interest (therefore had more visits and readings), where the first two ones – on tobacco and alcohol – and the latest two – on mythical causes of cancer and cancer prevention.

WASABY app SO-5 indicators

The WASABY project's consortium agreed to evaluate the app according to the table below. Process indicators were covered by both the alpha and beta testing phases. Output indicators were estimated through app store's performance analytics. Impact indicators were assessed through internal WASABY app's usage.

Specific Objective Number	SO-5		
Specific Objective	Design courses on breast* cancer risk factors awareness		
Process Indicators	**Target**	**Value M42**	**Comments**
Number of target countries where promoting the online course	>=5	27	IG promotion in all EU member states (app is available in 53 WHO Europe countries)
Number of participants per target country taking part in "alpha test" of online course	>=15	28	Testing for technical aspects of WASABY app, both iOS and Android (7 languages tested, 4 testers per language, 2 per platform - iOS and Android)
Number of participants per target country taking part in final "beta test" of online course	>=15	83	Testing for comprehensibility and suitability of WASABY app's content by the target population, n=83 testers from n=25 EU members states
Mean age of participants to testing phase	14.5 y	16.2y	Mean age of beta testers (n=79 with variable available)
Output Indicators	**Target**	**Value M42**	**Comments**
Number of unique visits to online course per target country	>=5,000	3,426	Sum of Google store (n=834) and Apple store (n=2,592) listed visitors and impressions, respectively
Engagement rate of Facebook page (or other social media metric)	>=50%	32.37%	Overall conversion rate from Android and iOS devices (n=1,109 installations from n=2,592 store visits)
Mean age of participants to online course	14.5 y	16.0y	From n=931 registered users at the time of data extraction (1 June 2021), users' median age is 16.0 y. Simple average is

Outcome/Impact Indicators	Target	Value M42	Comments
			19.4y, probably higher due to app's open access within stores
Number of unique visitors completing online course per target country	>=4,000	119	From n=931 registered users, there's n=119 (12.78%) that correctly answered a minimum of 30 questions, corresponding to all 10 modules autoevaluation
Number of unique visitors following hyperlinks to referral information / partner web pages after completion of course per country	>=1,000	2,185	From a total of n=2,470,418 impressions among n=851,149 people reached on @CancerCode Instagram page, n=2,185 users engaged with a dedicated-WASABY promoted post (sum of comments, likes, saves, story reactions and reposts)

Scope of the project was expanded to include generally cancer prevention content.

Conclusion

The primary objective of the WASABY app was to develop and pilot a digital health intervention that could be embedded in existing health education programmes implemented by national and regional cancer leagues directed towards school age young people. The experience from the pilot indicated that mobile applications following a 'gamification' framework can be helpful for engaging young people in learning more about cancer prevention and healthy lifestyles. However, due to the public health measures in place to minimise the transmission of SAR-COV-2 various, the WASABY app could only be promoted online and not in the school setting by cancer leagues.

Further implementation research is required at the local and community level to explore the potential for the WASABY app to be incorporated into school health education programmes. ECL member, Association of Slovenian Cancer Societies, has expressed an interest to participate in an implementation research study of the app that would assess its impact on behavioural change.

Finally, the experience of the WASABY app can be useful towards the proposed 'EU Mobile App for Cancer Prevention', described in [Europe's Beating Cancer Plan](#) to be funded under the [EU4Health programme](#).
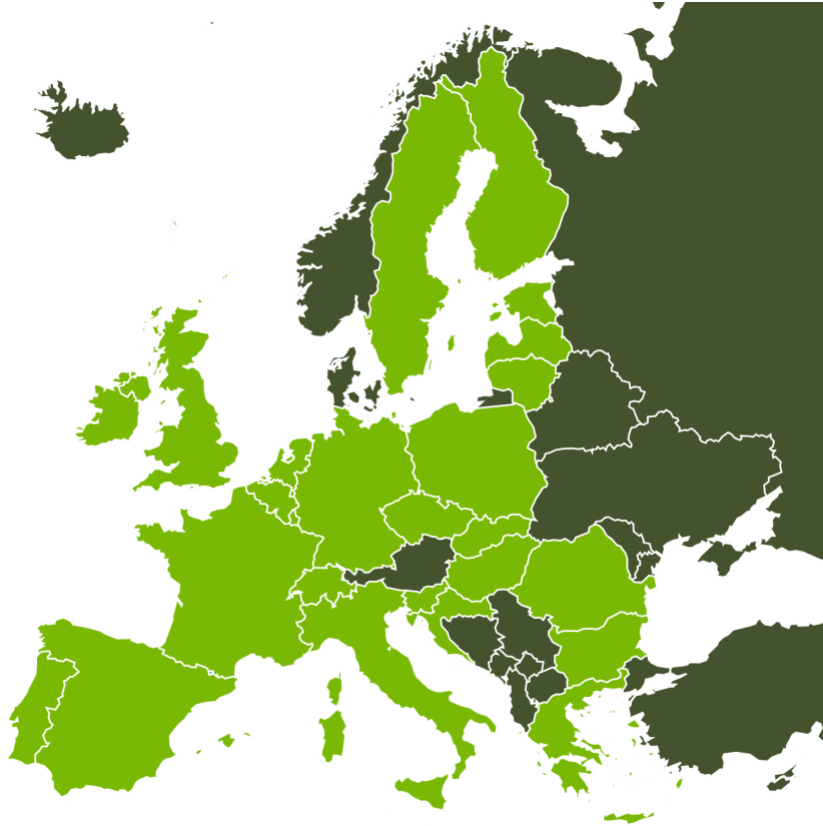
About ECL

The Association of European Cancer Leagues (ECL) is a not-for-profit organisation that unites, supports and represents 30 national and regional cancer leagues across 24 countries within the WHO European region. Established in 1980 by prominent NGOs and experts, and based in Brussels (Belgium), ECL provides a voice and forum for cancer leagues to collaborate with their international peers and share knowledge, primarily in the areas of cancer prevention, tobacco control, access to medicines and patient support, and create opportunities to advocate for these issues at the EU level and beyond.

Contact

For further information, contact the ECL Secretariat at ecl@europeancancerleagues.org or visit our website at www.cancer.eu.

Annexes

1. WASABY app landing webpage

What is WASABY?

WASABY is a 3-year pilot programme funded through the EU Health Programme, which began in January 2018. The action focuses on the geographical analysis of population-based cancer incidence data in connection with environmental factors, using breast cancer and water/soil contamination as an example. Read more.

Activities envisaged include:

- A spatial analysis by cancer registries to map cancer incidence risks identifying localities with higher-than-regional average cancer incidence. This will include a focus on the estimation of socio-economic deprivation indicators across the European cancer registries
- An environmental pilot study, incorporating a literature review on water/soil environmental risk factors for breast cancer, will connect cancer registries with environmental protection agencies in the areas with identified increased cancer risk. The study will be performed in at least one cancer registry area with the aim of studying correlation between soil and water contamination and breast cancer risk.
- An online courses aimed at increasing breast cancer risk awareness for girls and adolescents will be designed and promoted.

About the WASABY app

☞ECL, with technical partner Salumedia and in the framework of the WASABY project, has developed the mobile application WASABY.

⊕WASABY is an educational app to help young people learn the messages within the European Code Against Cancer and how to lead a healthy life whilst reducing their cancer risk. The app is made up of 10 content modules and quizzes. Reward badges are unlocked at the end of each module and real-time data on progress is registered to create an international ranking list of the top learners around Europe.

♟The WASABY app was officially launched on 4 February 2021 to mark World Cancer Day. The app is now available on Google Play Store and Apple Store!

DOWNLOAD THE APP:

- **Google Play Store**

- **Apple Store**

✅ **Press Release**

✅ **Dissemination Toolkit**

✅ Check out the **short Instagram live session @cancercode** that took place on World Cancer Day 2021 to present the app and its features to interested people and users!

Important notice: please note this App is aimed at young healthy adolescents aged approximately 14 to 19 years to provide information on health promotion. In no case does it provide medical advice for cancer patients or any other sick populations.

2. Outreach and Dissemination Toolkit

WASABY app outreach and dissemination toolkit available here.

3. WASABY app monitoring framework technical details

Instagram | Insights Metrics

IG account @CancerCode.

Indicator	Meaning
Accounts Reached	The number of unique accounts that have seen any of the account's posts
Content Interactions	The total number of likes, comments and saves received (both separate by typology and aggregated interactions)
Profile Visits	The number of users that have visited the Instagram profile
Website Taps	The number of users who have clicked on the website link located in the profile's bio (WASABY-app link)
Top Post	Account's top post in terms of likes, saves, comments, interactions and engagement ration. Due to Instagram's algorithms, a top post can appear more frequently in a user's search or explore pages.
Follower specific analysis	The number of followers the account has, alongside: follower gender percentage split, follower age brackets and the follower top 5 locations based on country.

Android | Google play console

Sign in here. Information on the google play console here and here

Filters:

- Countries*
- Dates
- Comparison metric *(against any other variable)*

* Maximum of 10 per data extraction. Prioritise: UK, Italy, France, Spain, Slovenia, Romania, Germany, Austria, Malta.

Key Performance Indicators (KPIs)

Indicator	Description	Measurement
New users acquired	The number of users who installed your app for the first time. This includes when a user activated a device your app was pre-installed on.	● daily absolute number ● 30-days rolling average ● % vs. previous period
User loss	The number of users who have uninstalled your app from all of their devices.	● daily absolute number ● 30-days rolling average ● % vs. previous period
Average rating	Average rating your app receives each day.	● average rating
Crashes & ARNs	Number of times your app crashed or served an Application Not Responding error.	● daily absolute number ● % vs. previous period

Statistics (variables)

Domain	Variable	Description	Population
Users	Installed audience	The number of users who have your app installed on at least 1 device that has been turned on it the last 30 days.	*All users* (all your new and returning users)

Additionally, for "user acquisition": |
| | User acquisition | The number of users who installed your app and didn't have it installed on any other devices at the time. Includes users who activated a device on which your app was pre-installed. | *New users* (users who have never installed your app before) |
| | User loss | The number of users who have uninstalled your ap from all of their devices. | *Returning users* (users who have previously installed and then uninstalled your app from all their devices) |
| Devices | Install base | The number of active devices your app is installed on. An active device is one that has been turned on at least once in the previous 30 days. | *All devices* (all your new and returning devices)

Additionally, for "device acquisition": |
	Device acquisition	Number of devices that users installed your app on. This includes when a device on which your app was pre-installed is activated.	*New devices* (devices where your app was installed for the first time)
	Device loss	The number of devices your app has been uninstalled from. Includes when a device becomes inactive.	*Returning devices* (devices where your app was previously installed and then uninstalled)
	Device updates	Number of devices that update to the latest version of your app.	
	Device loss after update	Number of devices where your app is uninstalled after the app was recently updated.	
	Install events	The number of times your app has been installed, including devices that your app was installed on previously. Doesn't include devices with your app pre-installed, or device reactivations.	
	Uninstall events	The number of times your app has been uninstalled. Doesn't include when a device becomes inactive.	
Ratings	Daily average rating	Average rating that your app receives each day.	-
Quality	Crashes	The number of times your app crashed.	-
	ANRs	The number of times your app stopped responding.	-
	App download size	The compressed size of your app downloaded by users at install time.	-

	App size on device	The approximate size of your app on the user's device after installation, before the app is opened for the first time. After the app is opened, the size of the app will vary depending on app usage.	-
Pre-registration	Pre-registered users	The number of users who have pre-registered for your app.	-
	Conversions	The number of pre-registered users who installed your app within 14 days after release.	-

Grow - store performance indicators

Domain*	Indicator	Description	Measurement / Population
Store analysis	Store listing visitors	The number of users that visited your store listing who didn't already have your app installed on any of their devices.	● daily absolute number ● % vs. previous period Additionally, for acquisitions: ● traffic source (Google Play search, Third-party referrals).
	Store listing acquisitions	The number of users who visited your store listing and installed your app, who didn't have it installed on any other devices at the time.	
Conversion analysis	Store listing conversion rate	The percentage of store listing visitors who installed your app. Does not include visits or installs from users who already have your app installed on another device.	● % conversion rate ● % vs. previous period *Compared to peers median & range (educational)*
Additional store analysis	Countries / regions	The country or region where the user's Google account is registered.	● daily absolute number of "store listing acquisitions" ● % vs. previous period
	Languages	This is based on the language setting on the user's device.	
	Search terms	The term the user searched for before navigating to your store listing. Only available for Google Play search.	
	App install states	Whether the user is installing your app for the first time, or has previously uninstalled it.	
	Store listings	The store listing that the user visited. Either your main store listing, or a custom store listing.	
	UTM sources & campaigns	The value of the utm_source or campaign URL parameter in deep links to your store listing. Only available for third-party referrals.	

Additional domain "play game services" not available for WASABY.

WASABY

Quality - app performance indicators

Domain	Indicator	Description	Measurement / Population
Ratings & reviews	Average rating	Average rating your app receives each day.	● daily average rating ● lifetime average rating ● rating distribution by date *Compared to peers median (educational)*
	Users	The total number of users who have rated your app. Users can update their rating at any time.	Ratings breakdown by user (maximum last 3 months): ● Country /region ● Language ● App version ● Android version ● Device ● Carrier
	Users with review	The total number of users who have rated & reviewed your app.	● unique users ● with/without reply
	Benchmarks	See how users rate your app across a number of different areas, and compare these ratings with similar apps in the Educational category. Available for reviews written in English.	● unique users
	Topics	Topics are the words that users most frequently mention in reviews for your app. See how reviews that mention each of these topics contribute to your app rating. Available for reviews written on devices using the languages shown below.	
	Review highlights	Highlights show common themes from reviews written in English. Highlights are shown on your app's store listing page to English language users.	*No data*
Android vitals*	ARN & crash rate	Percentage of daily sessions during which your users experienced at least one ANR or crash. A daily session refers to a day during which your app was used.	*No data*
	Daily sessions without ARN & crash	Percentage of daily sessions between (last month) during which users didn't experience any crashes.	*No data*
	App size	App download size	● app download size ● app size on device *Compared to peers median (educational)*

* There's a "performance" section not available for WASABY. More info here.

iOS | App Store Connect

Sign in [here](). Information on app store connect [here]().

Filters:

- region (Europe) and territory (countries)
- dates *(days, weeks, months, range)*
- source *(app store search, app referrer, app store browse, web referrer, campaigns)*
- device *(iPhone, iPad)*
- platform version (e.g. iOS 14.2)
- app version

Key Performance Indicators (KPIs)

Indicator*	Description	Measurement
Impressions	The number of times your app was viewed on the App Store for more than one second. This includes search results, Featured, Explore, Top Charts and app Product Page Views. Apps listed in Updates in the App Store app are not included.	- daily absolute number - daily average % vs. previous period
Product page views	The number of times your app's App Store page has been viewed on a device using iOS 8 and tvOS 9 or later.	
App units**	The number of first-time app purchases (which includes both paid and free apps) made on the App Store using iOS 8 and tvOS 9 or later. App updates, downloads from the same Apple ID onto other devices, and redownloads to the same device are not counted. Family Sharing downloads are included for free apps, but not for paid apps.	
Conversion rate	Calculated by dividing app units by unique device impressions.	
Sessions per active device	The number of times the app has been used for at least two seconds on a device. *Note: opt-in only****	
Crashes	Crashes only include data from users who have agreed to share their diagnostics and usage information with app developers. *Note: opt-in only*	
Retention	The percentage of users that first installed the app on a given day and used it again in the following days. *Note: opt-in only*	

* Additionally, indicators "sales" and "sales per paying user" not applicable for WASABY.

** Not to confuse this term with "installs," which is a metric that only counts installations from users who chose to share data with Apple (20%- 25% or so of all users).

*** Sessions only includes data from users who have agreed to share their diagnostics and usage information with app developers.

Metrics (variables)

Domain	Variable	Description	Population

App store	Impressions	The number of times your app showed up on the App Store.	Aggregated (all devices) Unique devices
	Product page views	The number of times the app's product page was viewed on the App Store on devices running iOS 8 or tvOS 9, or later.	
Sales*	App units	Each app purchased on a device with iOS 8 or tvOS 9, or later.	Unique devices
Usage	Installations	The total number of times your app has been installed. Includes redownloads and restores on the same or different device, downloads to multiple devices sharing the same Apple ID, and Family Sharing installations.	Aggregated (all devices)
	Sessions	The number of times the app has been used for at least two seconds.	
	Active devices	The total number of devices with at least one session during the selected period.	Unique devices Cumulative 30-days
	Crashes	The total number of crashes. Actual crash reports are available in Xcode.	Aggregated (all devices)
	Deletions	The number of times your app has been deleted on devices running iOS 12.3 or tvOS 13.0 or later.	Unique devices
	Daily retention	The percentage of users that first installed the app on a given day and used it again in the following days.	*Pending data available*

* Includes also in-app purchases, sales and paying users (not applicable to WASABY).

Source

App referrer	Customers tapped a link in an app that brought them to your App Store product page. Includes apps that load your product page with StoreKit API. *E.g. Instagram (@cancercode, other leagues accounts)*
Web referrer	Customers tapped a link from a website that brought them to your App Store product page.
App store search & browse	-
Campaigns	Track app and website referrals to measure the impact of an advertising campaign.

Internal app database | WASABY app completion

During the user registration process, information related to associated personal **risk factors** in relation to tobacco consumption, alcohol use and performed physical activity was collected in the following categories:

Value	Tobacco	Alcohol	Physical activity
0	None	None	Sedentary
1	Less than 5 cigarettes per day	Rarely	1h per week
2	Between 5 and 10 cigarettes per day	Only on weekends	3h per week
3	Between 10 and 20 cigarettes per day	Often	5h per week
4	More than 20 cigarettes per day	Every Day	more than 5h per week

Furthermore, the following variables were collected in regards to **app completion**:

Variable	Definition	Scope
Visits	Number of times a module-related screen was visited by the user	Modules of content (10 in total)
Readings	Sum of completed readings per category	Modules of content (10 in total)
Auto-evaluation	Sum of completed auto-evaluations per module	Auto-evaluation & general quiz questions (7+)
Quiz correct answers	Sum of questions correctly answered per module	Auto-evaluation & general quiz questions (7+)
Learned questions	Sum of learnt questions per module	Auto-evaluation questions & general questions (7 max)