

Varian Medical Hungary

Follow up of Cancer patient

Introduction to the Challenge

Care for people diagnosed with cancer does not end when active treatment has finished. Your health care team will continue to check that the cancer has not come back, manage any side effects, and monitor your overall health. This is called follow-up care.

Your follow-up care may include regular physical examinations, medical tests, or both. Doctors want to keep track of your recovery in the months and years ahead. Follow-up care is also important for screening for other types of cancer.

Cancer rehabilitation may be recommended, and this could mean any of a wide range of services, such as physical therapy, career counseling, neurocognitive testing, pain management, nutritional planning, and/or emotional counseling.

An example of the cancer follow-up:

Some survivors experience breathlessness, a dry cough, and/or chest pain 2 to 3 months after finishing radiation therapy of breast cancer. That is because radiation therapy can cause swelling and a hardening or thickening of the lungs called fibrosis. These symptoms may seem similar to the symptoms of pneumonia but patients shall not go away with antibiotics. The symptoms can be treated with medications called steroids. Most people fully recover with treatment. Patients need to talk with their doctor if they develop any new symptoms after radiation therapy or if the side effects are not going away.

However, especially in such a world-wide pandemic situation like what we have, the personal follow-up between the care-team and patient is very cumbersome. Moreover, due to the capacity issues of oncology departments patients' cases cannot be tracked as thoroughly as it might be needed.

So here comes the challenge:

You as a hacker, developer, engineer shall develop an application which lifts up a bridge between patients for follow up and their doctors in the care team. You must consider the usability aspects of the application:

- who are the users
- what ages are we targeting

- how they (the patient and the care team) can use the application

The user shall be able to give an input about his/her statuses, the ones which are measurable and the ones which are simply free text answers. Or even, you can consider attaching certain data a patient could have after the cancer treatment.

The radiotherapy literature already defines many "algorithms" which give a certain decision or outcome based on the given values. With such automation the care team's work can be supported.

And last but not least there are many cancer related researches which are published on the internet. It would be very futuristic if the application could find relevant research materials based on the input given by the patient!

Solve our challenge and join us **FIGHTING FOR A WORLD WITHOUT FEAR OF CANCER!**

Who we are

At Varian, a Siemens Healthineers company, we envision a world without fear of cancer. For more than 70 years, we have developed, built and delivered innovative cancer care technologies and solutions for our clinical partners around the globe to help them treat millions of patients each year. With an Intelligent Cancer Care approach, we are harnessing advanced technologies like artificial intelligence, machine learning and data analytics to enhance cancer treatment and expand access to care. Our 10,000 employees across 70 locations keep the patient and our clinical partners at the center of our thinking as we power new victories in cancer care. Because, for cancer patients everywhere, their fight is our fight. For more information, visit <http://www.varian.com>.

What we will provide

Competitors will be supported by various software developers and product managers from the medical domain, moreover we invite a physicist from the Nation Oncology Institute to answer healthcare related questions. Moreover, the latter colleague will give you a short introductory session about the background of the challenge which can tingle your brain cells already.

Implementation and technology

There is no "technical" limitation, you can choose whatever languages/platforms/tooling you want to use.

Judging criteria

For the evaluation process we will use the following matrix:

Steps	Points 0 - 10
Step 0: Presentation – Presenting the killer product idea	
Step 1: Application serves patient to send information to doctors, focus is on usability	
Step 2: Care team is supported with some automated evaluation	
Step 3: Application can find relevant research information and call care team's attention to it	
Step 4: Your creative idea which can burst the workflow	

Prizes

1st place: 1250 EUR

2nd place: 500 EUR