THE SCOOP

THE OFFICIAL VERTUAL NEWSLETTER

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CONTENT

Message from the CEO

by Debra Leeves, CEO

The past year has flown by and ESTRO '24 is just around the corner. It has been a few years since the conference was held in the UK and we're excited that it is happening this year in Glasgow, a wonderful city with good food, stylish restaurants, and plenty of entertainment. And because the conference is on our doorstep, many of Vertual's employees who don't usually attend these conferences will be attending, including our finance team, our business manager, IT, and the members of the R&D team. We look forward to introducing the wider Vertual team to our VERT users and distributors.

As always we have some new products to show you at ESTRO this year, which I think you'll love. We recently launched VERT 7 and if you haven't seen the software and all the new features then please come along for a demo. Additionally, VERT 7.1 will be released soon, and we can demo some of the planned features for this too. Finally, please do come and discuss VERT on Demand with us. We have developed an amazing cloud based product, with teaching content and student workbooks. It's our most ambitious project yet, and words don't do it justice. For those not attending ESTRO this year we can also do on-line demos at a time and date to suit you.

I hope you enjoy this newsletter and I hope to see some of you in Glasgow in May.

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VERT 7 Release

by Tamsyn Vivian

VERT 7 is here! Our team have been working so hard on the latest release of VERT bringing you new features and enhancements including additional DICOM data (Sample Plans 5), virtual hand pendant, virtual presenter improvements, image matching ROI box and much more. A big thank you to all our customers in software support and our reference sites for testing our pilot releases and providing feedback, we couldn't do it without you.

VERT 7.1 is just around the corner which will feature the 4D animated structures, Anatomy mode, dose difference and new sample plans! A webinar will be hosted after the release of VERT 7.1 so stay tuned!

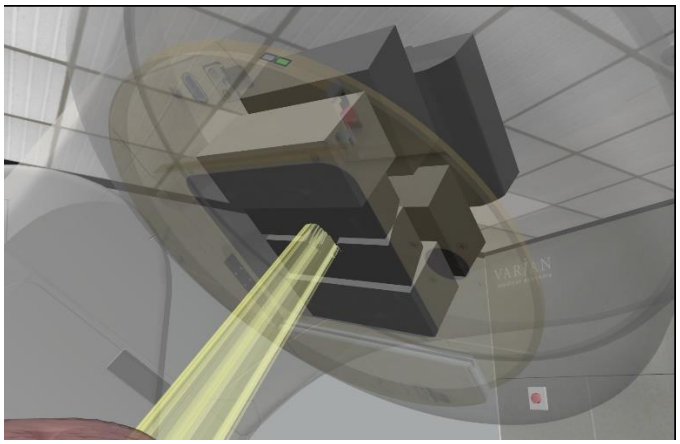
If you aren't in software support, don't worry it's not too late! Book a meeting in with our dedicated product specialists to find out more: **https://calendly.com/vertual/vert-demo-website?month=2024-03**

If you haven't had a release email, please contact sales@vertual.co.uk.

VERT 8 Update

by Jan Antons.

VERT 7 is now available to customers in support, and VERT 7.1 will be released in the coming weeks.
For VERT 8 and beyond we have captured great feedback from you, our VERT community. Thank you to everyone who completed the survey. One of the features requested, now and previously, was to see inside the Linac. I am delighted to report that Linac anatomy is one of the planned features for VERT 8 so you can explain how a Linac works! Here is a sneak peek of the first part of this implementation (a work in progress) showing the jaws, and MLC leaves. Further development will include additional Linac parts, and this feature will be released with VERT 8.



Last year, Vertual started a new initiative, called the VERT advisory board. We have been working with a group of customers to gain their perspective and feedback on the specifications for the new VERT 8 features.
Huge thanks to our advisory board members UKSH (Kiel, Germany), OHSU (Oregon, USA), Texas State University (San Marcos, USA) and the University of South Australia (Adelaide, Australia) for their feedback so far and helping to provide the voice of our customer. Thanks also go to our reference sites, Aarhus University Hospital (Aarhus, Denmark), City University (London, England) and QUT (Brisbane, Australia), and to Bellarmine University, who provided their feedback for VERT 8.

We think this feature will be a fabulous addition to VERT and early feedback suggests our users agree. Comments on the Linac anatomy feature included "…very comprehensive and will be a great feature!" and "this extension is simply terrific."

Comments on the implementation of Linac anatomy included "…this will aid understanding and application of Linac structure and function theory, that is delivered in academic courses in year 2 predominantly. Also, this may supplement physics principles introduced in year 1…."

Stay tuned!
We are currently working on other exciting developments for VERT 8. Look out for the June newsletter for further updates as development progresses.
VERT 8 is planned for release in October 2024.

We are still accepting feedback. If you wish to share your ideas for the future development of VERT, or if you have any questions, please get in touch please email support@vertual.co.uk

Vertual's Charity of the year – Radiotherapy UK

by Alison Goulding

Radiotherapy UK is the only charity in the country advocating specifically for this lifesaving, cost-effective, curative treatment, the patients that receive it, and the workforce that delivers it. With a lot of common ground, Vertual has chosen Radiotherapy UK as its Charity of the Year and will take part in this year's #Miles4Radiotherapy summer challenge.

The relentless efforts of the #CatchUpWithCancer campaign, co-founded by the charity in 2020, recently saw the campaign petition hit the half a million signatures milestone, thanks to the backing of broadcaster and author, Stephen Fry. It was a big moment for the charity, which began the campaign with the Russell family after they lost their daughter, Kelly, to bowel cancer at the age of 31. Kelly's treatment was delayed because of the pandemic, but sadly, little has changed in recent years.

At present, NHSE statistics show that around 4 in 10 patients are waiting too long for cancer treatment. People with cancer should be treated within 62 days of a referral for suspected cancer, yet this key target has not been met for many years, even before the pandemic. The UK is lagging around 10 to 15 years behind comparable countries when it comes to cancer, according to a recent article in The Lancet Oncology.

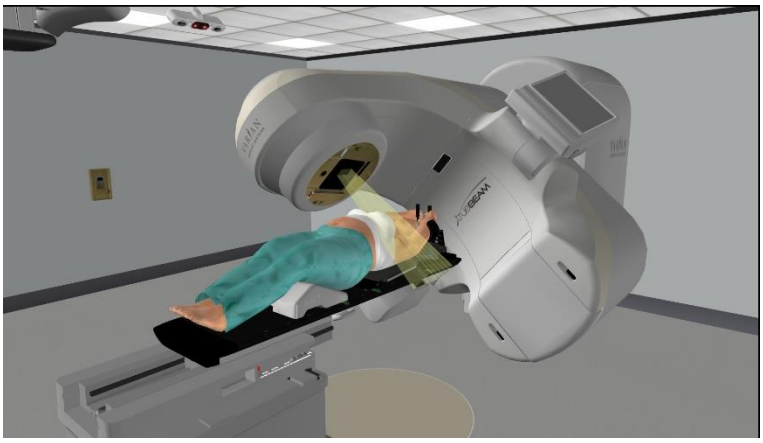
There are also some deeply concerning statistics around individual treatments. In countries with higher survival rates, around 53% of patients receive radiotherapy, while in the UK, just 24-27% access it.

It's the charity's #CatchUpWithCancer campaign that keeps this dire situation in the spotlight, but equally important is their work in creating patient resources. At present, the team are working hard behind the scenes to create a hub of resources to help patients and families understand the full treatment journey through radiotherapy.

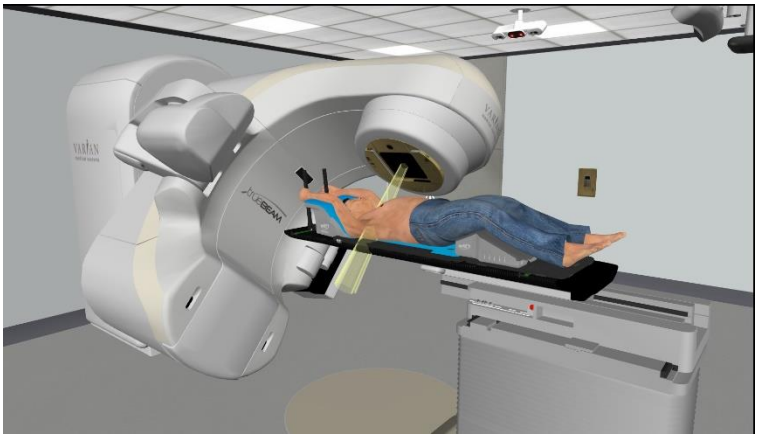
Partnering with Vertual has been a welcome addition in developing these resources. The charity's patient engagement group responded favourably to the detail and insight given by the software and a co-designed video will soon be released looking at external beam radiotherapy for people with breast cancer. Resources that empower and inform patients can drive better treatment experiences, and the Vertual software has been a brilliant way to show patients what to expect in the treatment room and some of the detail around the treatment beam, how it enters the body, and how this influences side and late effects.

As these resources are developed, Radiotherapy UK will continue to advocate for change at the highest level. Recently, the charity was the proud facilitator of a new 10-year Vision for Radiotherapy, created for the radiotherapy community and designed to guide government decision makers who seek to improve cancer services across all four nations. The Vision, named **World-class Radiotherapy in the UK: Right Patient, Right Treatment, Right Time**, was co-authored by Sarah Quinlan, director of Radiotherapy UK, Tim Cooper, and Dr Katie Wakeham. It has also been endorsed by Bryan Robson OBE, the former England campaigner who underwent radiotherapy for throat cancer in 2012.

Mr Robson said: "Radiotherapy saved my life. It's given me the priceless gift of time and memories with my friends and family. I strongly believe every UK cancer patient that needs radiotherapy should have access to a world-class service." Read the Vision here: https://radiotherapy.org.uk/radiotherapy-vision/



Radiotherapy UK
Vital cancer treatment



Gamification in Prospective Student Advising: Transforming Engagement with Virtual Environment Radiation Therapy (VERT)

by Subramanya K. Betageri BS., DRTT., R.T. (T)(ARRT)., RTR (HCPC., UK)

Introduction

Pursuing innovative pedagogical strategies remains paramount as we converge at the forefront of radiation therapy education. Within this scholarly discourse, we embark on an insightful exploration into the integration of Virtual Environment Radiation Therapy (VERT) at Bellevue College, specifically focusing on its profound impact on prospective student advising within radiation therapy.

The landscape of radiation therapy education is intricately woven with the threads of technological advancements, clinical expertise, and educational excellence. Within this intricate tapestry, VERT emerges as a transformative tool, reshaping how we guide and mentor the next generation of radiation therapy professionals.

At Bellevue College Radiation Therapy Program, a bastion of educational prowess, the utilization of VERT in advising prospective students has transcended traditional boundaries, offering a paradigm shift in immersive educational experiences. Through the lens of scholarly inquiry, we dissect the nuances of this integration, delving into its theoretical underpinnings, practical applications, and pedagogical implications.

A new frontier emerges in the ever-evolving landscape of radiation therapy education and simulated clinical practice: the gamification terrain. This report delves deep into the integration of Virtual Environment Radiation Therapy (VERT) at Bellevue College, explicitly examining its transformative role in gamified advising for prospective students and simulated clinical experiences in radiation therapy.

Bellevue College Radiation Therapy Program's integration of Virtual Environment Radiation Therapy (VERT) stems from a commitment to innovative pedagogical strategies in radiation therapy education. VERT's immersive simulations and gamification elements have reshaped how prospective students are advised and simulated clinical experiences within radiation therapy education.

Background

Before integrating Virtual Environment Radiation Therapy (VERT) with the information session for prospective students at Bellevue College Radiation Therapy Program, the prospective student advising process followed a traditional in-person format led by professor and clinical coordinator Subramanya "Manya" Betageri. These advising sessions were held once a month, lasting approximately one-and-a-half hours, and were structured around PowerPoint presentations, videos, and interactive Q&A sessions.

Prospective students received a checklist and observation form during these in-person advising sessions. Before applying to the radiation therapy program, they were required to visit a radiation oncology clinic to observe the radiation therapy process firsthand. This observation is crucial in helping prospective students understand the field and make informed decisions about their career paths.

In response to the evolving landscape of education and the shift towards online learning, many health science programs within the Health Sciences, Education, and Wellness Institute (HSEWI) transitioned their in-person group advising sessions, or information sessions, to online asynchronous virtual information session (VIS) modules. These VIS modules allowed prospective students to access advising materials and information at their own pace and convenience.

However, Manya did not want to abandon the in-person element of the advising sessions completely. During these sessions, he found joy and fulfillment in interacting with prospective students face-to-face, understanding their aspirations, and witnessing their enthusiasm for the field.

Additionally, Manya and the program chair, Professor Linda Schinman, value the continuity of seeing these prospective students throughout their journey - from the

selection interview process, through the program (in the class and clinical site), and eventually as radiation therapists in clinical settings post-graduation.

Manya proposed a hybrid approach to preserve meaningful interaction and personal connection with prospective students. He decided to maintain the online VIS modules for foundational information but introduced a new element: an in-person VERT activity (except for out-of-state students) and a Q&A session. The out-of-state prospective students meet with Manya via Zoom. This session would be scheduled after prospective students completed the online module on the website, allowing them to experience VERT firsthand and engage in interactive discussions with him.

By integrating VERT into the advising process, Bellevue College Radiation Therapy Program aimed to blend the convenience of online learning with invaluable in-person interaction, creating a comprehensive and enriching experience for prospective students interested in pursuing a career in radiation therapy.

Implementing Gamification Using VERT in Prospective Student Advising

Implementing Gamification Using VERT in Prospective Student Advising

Bellevue College Radiation Therapy has implemented a gamified approach using Virtual Environment Radiation Therapy (VERT) to enhance the advising process for prospective students interested in radiation therapy. This innovative strategy aims to provide a comprehensive and engaging experience while guiding prospective students through exploring basic radiation therapy routine tasks.

Step 1: Online VIS Modules

Prospective students now have the flexibility to complete the Virtual Information Session (VIS) modules at their convenience and pace. Thanks to our instructional design specialist, Jackie Hubbard, for creating VIS modules and program manager, Carmina Cruz, for designing the website. These modules, available on the Bellevue College website, offer foundational information about the radiation therapy program, career prospects, and educational requirements. Upon completing the entire module, students can download a certificate of completion.

Step 2: Scheduling a VERT Activity and Q&A Session

After obtaining their certificate of completion, prospective students email it to the program manager, Carmina Cruz, to schedule a VERT Activity and Q&A session with Manya in the VERT Lab. These sessions are conducted once a month and provide students with an immersive experience using VERT technology. Through interactive simulations and discussions, students gain insights into the radiation therapy environment and can ask Manya questions directly.

Step 3: Supplementary Learning Resources

In the interim period before their scheduled VERT session, prospective students are encouraged to familiarize themselves with the radiation therapy process further. They are directed to watch a YouTube video from the American Society of Radiation Oncology, providing an overview of the radiation therapy process and its importance in patient care.

Additionally, students are encouraged to review the technical and academic standard requirements for radiation therapists. This document, posted on the Bellevue College Radiation Therapy website, outlines the essential skills, knowledge, and qualifications expected of radiation therapy professionals. Familiarizing themselves with these standards prepares students for the rigors of the program and the profession.

Prospective Students' Responses and Reactions in the In-Person VERT Activity and Q&A Session

During the in-person VERT Activity and Q&A session in the VERT lab, prospective students' initial reactions varied, with some expressing hesitancy or reluctance to engage in the activity but keen on asking questions they have based on the VIS they completed. However, their responses evolved as they gained a deeper understanding of the virtual environment and its applications in radiation therapy.

At the beginning of the session, Manya typically gauges students' familiarity with computer games by asking if they have ever played them. Most students respond affirmatively, indicating prior experience with interactive digital platforms. Leveraging this familiarity, Manya addresses any apprehensions about the VERT activity by emphasizing its virtual nature and safety features.

He reassures students that the VERT environment is designed for learning and practice, emphasizing that they will not encounter actual patients or equipment that could be damaged during the simulation. Manya emphasizes the essential aspects, such as the hand pendants used to operate the virtual linear accelerator, highlighting their significance in student training and clinical practice.

Manya creates a supportive and engaging atmosphere by addressing students' concerns and providing context for the VERT activity. As the session progresses, students become more comfortable and actively participate in operating the virtual equipment, asking questions, and discussing scenarios related to radiation therapy practice.

VERT Activities

During the one-and-a-half-hour VERT activity and Q&A sessions in the VERT lab, prospective students engage in a series of 7 different activities interspersed with interactive Q&A sessions. The activities are designed to provide hands-on experience and simulate real-world scenarios while having fun with the activity. Manya provides the instructions step by step, and they complete the activities following instructions.

1. **Hand Pendant Activity:** In this activity, prospective students familiarize themselves with operating the virtual linear accelerator using the hand pendant controls. They learn to navigate through different control options and simulate treatment delivery processes.
2. **Select the Linac Models and Associated Hand Pendant Activity:** prospective students select different Linac models from the drop-down menu. They then engage in associated hand pendant activities to operate the models.
3. **Select Patients, Turn On and Off Laser Lights, Room Lights, and ODI Activity:** This activity involves selecting virtual patients for treatment and performing tasks such as activating and deactivating laser and room lights. Students also utilize the Optical Distance Indicator (ODI) to check the SSD.
4. **Select Patients with Appropriate Accessories and Immobilization Devices Activity:** Students play by selecting patients with specific accessories (Orfit) or immobilization devices required for treatment. This allows them to see that patients receive treatment in different anatomical regions and sites.
5. **Pull and Retract Imaging Panels Activity:** Prospective students pull and retract imaging panels, simulating imaging procedures commonly used in radiation therapy. This activity helps students understand the role of imaging in treatment planning and verification.
6. **Electron Applicator Activity:** Prospective students play selecting electron applicators to see that you may treat patients with electrons or photons as prescribed and planned.
7. **VMAT Play:** In this final activity, students can play with Volumetric Modulated Arc Therapy (VMAT) techniques. They explore advanced treatment planning and delivery methods to get a fundamental understanding of the complex treatment techniques and modalities.

Conclusion

Integrating Virtual Environment Radiation Therapy (VERT) has transformed prospective student advising in radiation therapy. Through gamification strategies, immersive VERT activities, and interactive Q&A sessions, students explore radiation therapy in a dynamic environment. The shift from traditional advising to online VIS modules and in-person VERT activities showcases Bellevue College Radiation Therapy Program's funfilled, hands-on information dissemination approach. This gamified method engages students and informs them with hands-on skills crucial for radiation therapy careers. The prospective students were also handed observation forms and checklists with instructions for scheduling their observation of radiation therapy procedures at the hospital or radiation oncology clinics.

Founders Corner – We wanted to do more

by Andy Beavis

The last few years have brought us different ways of working and facilitated an universal acceptance of those that we now accept. Every now and again, I am reminded of some of the experiences we went through in the 'Covid-time'. Watching a repeat of a TV news-satire show from 2021, it was almost shocking to be reminded of being confined to our homes on the evening and weekends when not working extra hours at the hospital, whilst colleagues in Vertual were confined to barracks for the whole day.

Coming out of that period, along with some personal experiences, gave me an attitude to make sure I tried different things and to put myself outside of my comfort zone. Following the loss, to Oesophogeal Cancer, of a friend and team-mate from Beverley Rugby Club I was asked to give an after-dinner speech at Ladies Day in March 2023 that was raising money in his memory. The talk went well, though a little daunting compared to normal, given the amount of Prosecco and wine enjoyed by the room and the boisterous atmosphere. The topic was our journey in Hull from 2D radiotherapy through to today. At the end of each section I marked it by saying "we called that 2D.., 3D… etc radiotherapy, but we always wanted to do more". In pantomime tradition, with little inhibition left (!), the room joined in shouting the chorus back to me. A few days later, I decided to record the talk, but felt I should do something very different.

Now, I am not claiming to be a Poet, but I can now say I am a published poet; with the help and some mentoring from a friend in the music business, who is also a Professor of English, I wrote the history up as a poem. This was published in the Spring edition of IPEM's Scope magazine (p51) and is easily accessed using this link. I modified it to cover the development of contemporary radiotherapy and to celebrate the work I was involved with between 2007 and 2014 in driving the countrywide modernisation of radiotherapy in England. The help from my friend inspired me to pepper the work with various music references.

All those mentioned are friends of mine and I had a wonderful experience writing this and recalling those exciting times of radiotherapy development. Some are now sadly not with us and it made me proud thinking of our work together. Since it's publication, Radiotherapy-UK, a charity that Vertual is associated with, independently picked it up and have used it in their campaign to try to persuade the current UK government to fund a second phase of country-wide modernisation, following their publication of a new ten year strategy. I am looking forward to being re-enlisted as one of Tim and Mike's Urban Guerillas.

I hadn't tried anything like it since my school studies 45 years or so ago and can recommend it. I hope you take the time to have a look and read it. If you do, I hope that you enjoy it and find some of the references and maybe check out some of the songs – email me, smiley-face. I will continue to look for the chance to do stuff outside of my comfort zone.