

Virtual NDT Laboratory.

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During COVID times our company (like many other) was forced to prepare online training materials for many NDT methods. It was a time to collect and systematize all our knowledge and prepared materials. As a result, we receive a training portal (generally standard for this for this times) which include webinars, animated presentations, video materials and progress evaluation system. The results show the big difference of distant and onsite training (of course student after distant training were much less prepared for practical training on equipment). It was the task to find the way to prepare candies for practical training on equipment and increase the efficiency of practical part which was limited in time. The decision was a virtual equipment, which can be used by candidate online and help the candidate to become familiar with inspection process and operation with equipment. First of all, we write a technical task and try to find the subcontractor, but as a surprise we receive the response that it is a very difficult task which require 1-2 years for usable beta version. It was too long and expansive. So we make a decision to create this software with our own forces. We have 2 programmers in a company and 40 NDT level 3 to create the easy to program and sufficient for candidate models of equipment. It was a venture for us (we newer do something like this before, but we have no idea why it is impossible). In a short time, it was created a client sever ideology of software. The graphical part is on client side on JavaScript (not require installation and special rights), the physical model is deposed on server sever. The first virtual tool was a primitive ET flaw detector and flat part (like o rolled plate) as an inspection sample. Its take only 2 moth. We were encouraged by success and continue work. In short time the simulation software for UT was ready. Then was a question what to do with other methods where electronic equipment not applicable. After discussions and consultations wee agreed that the most important part for X-ray skills - to evaluate films and calculate the exposition parameters. Shortly we write the training tool, where it is possible to setup the exposition parameters and receive an X-ray film with density and geometrical blur corresponding with exposition parameters and a worktable for film analyses. With the same way fi crate training software for TT method. The software for PT, and MT was tricky tasks it was very uneven what it is necessary to do. But we found a way and it was done. Now we have virtual work for visual and luminescence inspection of parts with MT and PT. The COVID times passed, but level of candidates, searching for certification is still very poor. So we make a decision to share our works with all NDT society. This virtual tools and general NDT materials (animated presentations, films and training tools) without requirements of national and ISO standards are free to use worldwide. The link to this recourse <https://ndt.centri-kachestvo.ru/> or through the search engine “NDT “Alphabet”. We can recommend this tools and material to all candidates, who start training before they come for on-site training to any center, or students in university. All those materials are totally free and not require SMS an registration. We hope it will help an NDT society in attraction of new members and in development of yang NDT inspectors.