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**OsiriX**

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Background on Dr. Ratib from Gordon Harris:

* Previously chair of radiology at UCLA
* OHIF implemented as a viewer for OsiriX
* Kheops uses OHIF as a viewer.
* OsiriX has both a commercial and open source component.

Background from Dr. Ratib:

* OsiriX was open source from the beginning. Had some support from Apple at the beginning. But challenges sustaining the OS platform. Some groups have started companies to support the platform including the original developer.
* After 10 years on the Mac platform, decided to go with a web-based viewer. Created a network for people to share images. Focus on data management – Kheops.
* Hard to get a grant to develop software. Started a foundation to collect money from philanthropists.
* OsiriX is now FDA approved and there is a successful commercial version.
* Big believer in open source software. Especially impactful in low resource settings, including Bhutan (isolated country). Nationwide image-sharing network.

There are different pathways to evolve to a sustainability path.

* Commercial companies that charge for support. This can fund development and maintenance. However, the profit can be limited. Need enough money to evolve the platform. Project dies if you don’t update the platform.
* Have to have 2 mechanisms 1) support the community and 2) support platform evolution. Very important to help and support the user community.
* Can go to groups like Google, but they are not going to support financially. They can help with visibility.
* Need to combine multiple sources.

OsiriX has been around since 2004. Another group took over – Horos. So, 14 years of survival.

Horos supports the open source product, but unsure how they are doing this. The provide courses and online documents. OsiriX commercial versions – there are 3-4 of them. Includes a version from Aycan, German company that extended it to support PACs.

Antoine (original developer and founder of Horos) only supports the FDA version. Gets enough money to continue developing the FDA platform.

GH: Does any of the money come back to your group?

OR: No, this is why I created a foundation so I could get some development money.

GH: Do you expect Kheops will be sustained through the foundation?

OR: Kheops is a different story (OsiriX is a viewer). It is a traffic manager sharing databases across different sources. Vision is that it will be a universal platform that people add things to. Will need to develop entities that will gather and curate data. Could either charge for doing the work or for providing data. Want the platform to be viral. Have several projects that have already downloaded and using it for research programs. Added value is how do we make data accessible. Model for managing the data, not the platform itself. Would like to see patients to add to the platform themselves.

AR: Where did the funds come from to become a rigorous software platform? How do academics make this transition?

OR: Antoine (lead developer) is a radiologist and went together with a colleague to create OxiriX-MD. Not providing any services for people to install it, which is surprising. It’s just there for people to download. Narrow business allowed him to survive.

CD: What is the user base of OsiriX-MD?

OR: About 400k registered users total. Would guess 100k paid users. $900 per year.

CD: This is a significant income!

CD: Some people have had problems with the OS core when branches get commercialized.

OR: Yes, OsiriX got into a problem when the OS version was no longer updated. Depends on what kind of license you have. At the time, there was no restriction. Hospital had to sign a contract to use the MD version of the platform. But yes, this is a challenge.

GH: Also had this problem with ClearCanvas. Investors pushed them to abandon the open source, which was difficult for the community. Web-based version was proprietary and cost $100k. Then they ended up getting bought. So, we decided to make an open source web viewer and keep it open. How do you charge for something you are giving away for free?

OR: Similar story here and could not find a way to continue. Especially after losing the two main developers. Not open source anymore. No choice but to start a foundation. Got a big donor that allowed us to fund Kheops.

CD: If two people are able to be so successful, hopeful that software could be split across a few grants with an aim that could fund the software. So is the challenge where to find money or to keep people developing OS when there is such a profit potential?

OR: Yes, that is the challenge. Even with a vibrant OS community, a lot of the contributions are junk. Need a main architect and key developers to keep things in focus. Eventually, they get tired of doing it for free. They want some profit beyond salary.

For Kheops, this is different. Not just a focused piece of software. Now lobbying authorities in Switzerland to fund this, to support data sharing goals. It’s a different paradigm.

GH: Kheops has a great team – enjoying collaborating with them.

CD: Do you think what happened with OsiriX is a good model? Would it have been better to get industrial partners evolve from the beginning?

OR: Need a certain success level before you can negotiate with a partner. Once software viral by itself, need to make a decision. Need a stable version people can rely on before you start thinking about commercialization. \*\*Don’t have a solution for co-existing Open Source and Commercial version\*\* unless the business model is on services, which is tricky.

GH: What about free basic version and more advanced commercial version? Challenge is when they diverge over time.

OR: Like the Apple model.

If Kheops becomes the universal imaging sharing platform, then people may pay for the additional tools. They need it to do business.

GH: Noted at RSNA, a high proportion of commercial companies were using OHIF in their viewers. But we don’t receive anything back from any of these. Our goal is to create something that can spur innovation. But not sure how this helps with sustainability and long term support.

OR: It’s a tricky negotiation. Can’t prevent companies from taking the OS and improve on it with their own team.

JK: Where did FDA compliance come from?

OR: Developer invested himself.

OR: OsiriX may be a hard model to follow. There were a lot of unique attributes. It’s not something you can reproduce.

OR: There is an opportunity to federate software into platforms. Hoping these developments become dependent on this platform. It’s a bet that I’m taking.

JK: How did you make your Foundation successful?

OR: Built on my existing network. Unique philanthropy model in Switzerland. But it’s hard and need to convince people of the long term investment. Need to paint a compelling vision.

OR: See a shift in interest from focused investments to broad investments.

OR: If we could become the promoters of single developers in the area of researchers (OHIF, Kheops) could be a vector/carrier for other peoples’ tools.