INTRODUCTION

In this report we will recommend that RJI, KBIA and the Missouri School of Journalism not invest in Chyron's AXIS graphics system. The capstone team came to these conclusions after completing training on the software, implementing the software in RJI's live broadcasts, performing usability testing and researching the needs of smaller newsrooms.

There are advantages to AXIS, which will be pointed out in this report, but after weighing the
pros and cons and accounting for pricing, our team has concluded that there are less expensive software options that would yield the same (if not a better) result for the shows taped in RJI’s studio.

EXECUTIVE SUMMARY

Our case study approach clearly defined the scope of our project. We built just about everything, from initial presentations to usability testing workflows and even basic templates using AXIS itself, with the goal of evaluating the usefulness of AXIS in a small-newsroom environment.

The prime strength of AXIS is its cloud editing functionality, which allows users to create, modify, store and export graphics templates for video from any computer with an Internet connection. In the testing we put ourselves and other volunteers through, we found AXIS does deliver easily modified graphics templates for a variety of news situations. The results are not as specialized or customizable as those from other software solutions. This isn't necessarily a point against AXIS, as in some scenarios an ease of access and use is more important than pixel-perfect control over the final product.

AXIS requested we test a software plugin that links AXIS output directly to Adobe Premiere Pro. We found it works as advertised. AXIS production can be saved directly to the Premiere timeline in a couple of clicks, and edited natively within Premiere as any other bit of footage would be.

But AXIS usability, frankly, leaves some things to be desired. Menus and interfaces could be much more intuitive, and the software as a whole would benefit from increased documentation to make it more accessible to those users with limited editing experience. There is a very steep learning curve.

Intuitiveness and accessibility aside, AXIS does create usable material for newsrooms on any scale. But for the kinds of static graphics it creates, and given the local nature of small newsrooms, other programs may very well be more usable for staff there. It would come down to how experienced they are with alternatives like Adobe Photoshop. Save for some ease of reuse, it would do just as good a job as AXIS. This is especially true given AXIS’ pricing. News graphics, maps and charts each carry monthly fees of more than $100, animation of any kind is an additional $200 and Chyron charges $8 per gigabyte of cloud storage space.

Our team completed a lot of groundwork and research, but our practical application of AXIS was limited to usability testing. A subsequent team could feasibly use our knowledge to implement the software during the course of a semester in an RJI newsroom and generate additional — and more specific — feedback.

Additionally, AXIS is graduating to version two in the near future. The feedback in this report could very well make its way into the software — and some of it already has — which a subsequent team could evaluate for improvements. However, any team working on this project would do well to avoid the communications shortcomings and confusions that plagued our work. Getting required information and software from AXIS was the most difficult part of this project. If a new team takes over, we recommend they get explicit instructions from Chyron, as well as dedicated, appropriate contacts on the client side through which to funnel all communications.

SUMMARY OF FINDINGS
Global Journalist

One of our goals for the project was to examine how AXIS Graphics could be used in RJI shows. We presented the software to the staff of Global Journalist and held a question and answer session afterwards to learn what graphics capabilities the show needs. In addition to indicating which features of the AXIS would be useful for the show, this Q&A provided us an opportunity to find potential new features that could be added to future editions of the AXIS.

Of the current feature set within AXIS Graphics, Global Journalist was interested in using the News, Charts, and Maps templates for their show.

The show’s staff also expressed interest in some sort of video chat template, which is not currently offered by AXIS Graphics. The show currently hosts guests via telephone, while displaying a static image on screen as graphical support. A video chat template could make the show more engaging by providing a video feed of the guest.

Usability Testing

As further mentioned in our Methods of Research section, we conducted usability testing of the AXIS Graphics software to find potential problems with the software. The software is meant to be easy to use for the majority of a newsroom’s staff including those without graphic design experience. Our usability tests were designed to find and highlight areas that could potentially trip up less experienced users from being able to easily operate the program.

Most test subjects felt that they would be able to use the software after gaining some experience with it or being trained on it. Test subjects found their experience with the software to be less than intuitive and had issues with the software's navigation and terminology.

Training an Expert - Travis

Even after hours of walkthroughs with Chyron employees and extensive training in the construction and management of content in AXIS, our resident expert is still not an expert. Travis learned the ins and outs of the AXIS CMS, the basics of stitching templates together for later editing, and how to export completed graphics for use in non-linear editors. As far as physically being able to do the work goes, Travis can do it. As far as being an expert is concerned Travis still has work to do though. Part of this was because the software is not actually intuitive and part is because there was a lack of communication on Chyron’s end.

METHODS

Goals

Our first step was to determine the capabilities of the AXIS software. We had to know what we could do with the software to best target our subsequent testing. We wanted to see if AXIS was feasible or sensible for RJI newsrooms, and then determine how easy it would be to use in other small newsrooms (fewer than 50 staff members). Based on our results and feedback gathered
from test subjects, we would be able to recommend improvements, changes and additions to
the software for Chyron’s benefit, and advise RJI representatives and faculty on whether the
software is a smart purchase for the School of Journalism.

Chyron’s goal was to get feedback on the interaction between AXIS and Adobe Premiere Pro.
They neglected to provide us with the necessary software and plugins until a month before the
end of the semester, but when we were finally able to use them, all steps in the process worked
flawlessly and didn’t require additional testing.

Team Training

To guide informed discussion on AXIS and to administer any kind of testing, we had to first
know what we were talking about. In the first few weeks of our access to the software, we
explored the options available to us to get a feel for what the software was used for and what it
was capable of. A fair amount of this testing was simply clicking around to determine controls
and layout. The goal at this point was to poke around and see how AXIS went together.

One of the primary benefits of AXIS is it's entirely cloud-based. We were able to run the
software for our purposes on any Internet-connected computer with a browser that could display
Flash. There were therefore no hardware limitations to speak of, no operating system variances
or browser versions we had to control. This made both our preliminary and our formal testing
easier to do.

Input from RJI Shows/ Group Interview

We built our research around a case study that satisfied both a local interest and yielded some
useful information for Chyron. Until AXIS, Chyron had focused primarily on the large-scale
media industry and on in-house solutions for broadcast graphics. AXIS was the company’s foray
into cloud-based graphics production. With AXIS, all the heavy lifting takes place on Chyron’s
end; anyone with an Internet connection can theoretically create professional-quality graphics.
The barriers to entry into the professional graphics market are thus lowered, and we looked at
whether they were low enough for newsrooms as small and untrained as the ones here at RJI to
get use out of the software.

It's also worth noting the small scale of these newsrooms implies a small budget. Another
question we had to answer was if AXIS turned out usable and feasible for RJI shows, did it
make sense from a financial standpoint to switch over to its services? Did AXIS’ price plan even
make that a possibility?

We pitched the software to Global Journalist to get some live feedback. The show has an
existing set of graphics that could be at least partially replaced by AXIS templates and services,
and is staffed by small teams of reporters and editors with varying degrees of experience with
video editing and graphics creation. This broad cross-section of capability was valuable to us,
because we gained preliminary feedback that let us craft testing that assessed both the relative
technical usefulness of AXIS and its ease of use as a piece of standalone software.

Training an Expert - Travis

Travis got the majority of formalized training with AXIS. He communicated with Chyron about
using each service we had access to, and provided materials for template creation that we
would later use in our testing. His production capacity made him the most involved person at RJI, so he was instrumental in helping us determine what to test for and why it would be important.

**Usability Testing**

Our team tested individual volunteers with different ranges of experience with video editing software. We did this to see how people interacted with the web-based workflow and get feedback on possible changes Chyron could make.

We designed our testing around issues noted earlier, during individual exploration. If our subjects had the same issues our feedback to Chyron would be confirmed. We set out to see if subjects could prove these things:

- After signing into AXIS it is not apparent where a user needs to go in order to edit the already made templates.
- While editing a template’s fields, it is not always clear what a user must click in order to achieve the desired output.
- After using the software freely we had come to the conclusion that AXIS would be easier to use (for an untrained individual) if there was a step-by-step guide to reference.

Each point (above) has a task created so that our subjects would either have similar issues or no issue at all. The usability tasks are copied from their original document below:
Task 1:
Starting from AXIS’s main login page find the “OnThePhone” template for the “Views_of_the_News” show.
Open this template to complete task 1.

Task 2:
Fill in the “OnThePhone” template’s fields with the information below.

HEADLINE: ON THE PHONE
GUEST NAME: STANNY GERKE
GUEST TITLE: ELVIS IMPERSONATOR
GUEST LOCAT: LAS VEGAS, NEV.

Now find the “Elvis_Impersonator gif” on the desktop and load it onto your template in the area with the number 2.

Lastly, assemble the graphic to complete task 2.
Task 3:
The third task is creating a map.
Click the create tab and choose “MAPS” from the list.
Select Street Level for the view and fill in the information below:
Label Text: Missouri School of Journalism
Street Address: 499 South 9th St.
City: Columbia
State/Region/Prov.: MO
ZIP/Postal: 65201

When you’re done filling in the fields click “Add.”
Select the location you’ve just added to AXIS and then go to your “Map Options.”
From the options choose:
Distance = ½ mile
Include = Topography, Elevation, Ponds & Streams
Borders = State
Roads = All Highways & All Roads

Submit these fields.
Now adjust the final product to look like this:

Assemble the graphic to complete task 3.

During the tasks at least two of the three student group members were present. All volunteers were asked to voice frustrations and complete a pre-test survey and a post-test survey. All volunteers were also encouraged to ask questions out loud if they had difficulty, but were also informed that it was not likely they would receive an answer.

During testing the group members took note of how much time it took to complete each task,
whether or not a volunteer completed the task, and what each volunteer did with the cursor on
the screen. Keeping track of these things would give is multiple signs of what seemed to be
intuitive and what made no sense to individuals.

Note: Volunteers were given a short tutorial on the company and what AXIS could create. Volunteers were not given tutorials on how to use the web-based software because they were expected to be the untrained staffer at a small newsroom. The goal was to determine if a layperson would be able to step in and export graphics for a live-show situation if AXIS-trained personnel weren’t available.

RESULTS

Team Training

Overall, AXIS is quite functional, but sometimes confusing. There are immediate benefits to the constant access that AXIS provides. We were able to do work from anywhere, and it’s very easy to move files and other assets from one workstation to another, because they all existed in a central location.

There are some more or less cosmetic peculiarities with AXIS. One of the more obnoxious is the program’s insistence on labeling the button that would be called “load” or “import” on any number of more sensible systems “instant ingest.” We had no idea what it was when we started our testing, and loading images and other material into the system was therefore harder than it needed to be.

From a pure usability standpoint, AXIS is pretty capable — when it works. Even from its first layers, the interface isn’t the most intuitive. Playing the role of the new-to-AXIS editors we were, the many options right off the top nav made it hard to know how to proceed. Options in the same menu labeled ‘news’ and ‘templates’ made it hard to know where to go to create basic over-the-shoulder graphics. When we attempted to render maps, the system often hung up and stopped taking input, making it difficult to know if it was working or not. The aforementioned “Instant Ingest” adds unnecessary time (at least at first) to any graphic workflows.

There are some basic walkthroughs and some more advanced tutorials available on the AXIS website, but the software is otherwise lacking a general-use help manual that defines features and terminology and provides step-by-step instructions for basic tasks.

Input from RJI shows/Group Interview

The feedback we received from Global Journalist was useful in two ways. It gave us the feedback for features and usable products for the show that we could create through AXIS, and gave us some important insight into how we as a team with existing knowledge of the software were interacting with others.

The Global Journalist team expressed interest in some form of template for video chats. The show is looking to include something like G-chatting in its broadcast, to either replace or supplement its existing phone-conversation model. It would make for a great template for Chyron to add to AXIS software. It need not add straight video functionality to AXIS, but instead
act as a framework layer that can be edited on the fly for relevancy before it’s added to an NLE timeline.

One of the student producers explicitly said he’d like the use of charts that AXIS offers. Granting this functionality is as easy as enabling the option through AXIS, and users could easily edit values and save multiple templates for recurring use. Global Journalist already makes heavy use of maps, so the same sort of easily-modified AXIS map template would mesh with the show’s existing content and add a layer of visual interest with animated maps, as well.

This presentation was our first chance to pitch AXIS to a local newsroom as part of a case study. For all its useful feedback, it was also a learning experience. The sense we got during the presentation was that we hadn’t done enough to establish what it was AXIS was going to bring to Global Journalist, and so nobody was immediately convinced that making a switch was worth it.

The team warmed considerably as the presentation got into Q&A, however. This illustrated the need to give solid, visual and specific examples of how AXIS will fit a given show’s graphics schema. We were great at talking about the mechanics and procedure of AXIS, but we didn’t do enough initially to emphasize how it could be an improvement over existing systems.

Training an Expert - Travis

Travis’ training was done over the course of the first eight weeks of the semester with more than 12 hours of phone support. Each time Travis was trained on a new capability in AXIS he dealt with a new Chyron employee. This meant that some information was repeated and other information wasn’t always communicated to Travis.

As far as production went, Travis and the team created templates for Intersection because those templates were the simplest to build. Travis would have liked to also create graphics for Global Journalist but this took more time and practice. In the end those were things that the team just didn’t have.

Usability Testing

Usability testing was carried out last in our research because by this point the team had formulated ideas about the software and come up with possible recommendations. So, going into the usability testing we designed the test with this assumptions in mind. At the end of testing, our previous assumptions were confirmed. Here are the results:
The table (above) clearly illustrates two points: (1) no volunteer tester passed the first task and (2) no one failed the last two.

Recall the first usability task:

Task 1:

Starting from AXIS’s main login page find the “OnThePhone” template for the “Views_of_the_News” show.

Open this template to complete task 1.

This task’s instruction was purposefully vague because our team did not feel that the software was intuitive. To illustrate this point we had our subjects do something that is very simple: find the place to go in AXIS if a user needed to quickly type text into a pre-made template. Our team was careful to give each tester five minutes to read the instructions and then try to navigate themselves to the “OnThePhone” template. Once the time hit five minutes we stopped them and showed them what they should have clicked. Each person was vocally surprised at the location of the template they were trying to find.

The second two tasks gave more instructions as far as what the tester needed to click, but the second task still didn’t reveal the specific language that Chryon chooses to use in AXIS. Recall the second task:
Task 2:
Fill in the “OnThePhone” template’s fields with the information below.

HEADLINE: ON THE PHONE:
GUEST NAME: STANNY GERKE
GUEST TITLE: ELVIS IMPERSONATOR
GUEST LOCAT: LAS VEGAS, NEV.

Now find the “Elvis_Impersonator.gif” on the desktop and load it onto your template in the area with the number 2.

Lastly, assemble the graphic to complete task 2.

Notice how the tasks asks the tester to find the .gif file from the desktop and does not tell them which button they’ll need to click in order to successfully load the image in AXIS. Our team did this on purpose because Chyron’s language for this action is, “Instant Ingest.” The majority of the testers clicked on roughly every other option on the screen before hitting the correct button. The only person who already knew what to click stated in his pre-test survey that he had used an older version of Chyron more than one year prior.

We also found in this task that nearly half of our testers tried to click the zone image instead of the editable fields to the left of AXIS’s browser. The fields on the left allowed users to type in names and titles whereas clicking on the playout yielded no result. We will not go in depth on this issue though. Our reasoning: Chyron changed this finding post-usability testing, and the explanation on why they should make this particular change is no longer necessary.

The last usability task was by far the most thorough in its instruction. Our team did this on purpose to show how the software might not be intuitive without training, but with written and specific guidance even the most difficult task can be finished in a timely manner. This task also takes testers through the “maps” section of AXIS’ workflow. This was a section that our team deemed the most difficult during our personal training. Each tester passed this task and all but one of the testers completed this task faster than the second task.

ANALYSIS/RECOMMENDATIONS

General Recommendations

These recommendations are uniquely timed such that Chyron may be able to implement them in the imminent next version of AXIS, if it so chooses. As our research and analysis is framed in the context of the smaller newsroom, Chyron has the opportunity to refine and improve its software to be more accessible and usable to this demographic:
A good first step would be the creation of step-by-step manuals that walk the user through basic graphics production tasks. Our usability testing showed users have a very easy time of navigating and using AXIS effectively when they’re given sequential, specific instructions. Chyron could leave its software unchanged and users would still see increased productivity. However, some changes to the interface would streamline the process even more.

“Instant Ingest” should be removed from AXIS in favor of something more semantic, like “upload” or “import.” Menus and file hierarchies should be semantically titled so a user know what to look for to complete a given task.

**Input from RJI shows/ Group Interview**

Feedback from Global Journalist indicated interest in templates for use with modern social media platforms. It would be simple for Chyron to add these sorts of templates, and, for better or for worse, wouldn’t require any additional changes to the appearance or functionality of AXIS. If they’re already in the pipeline, they could stand to be advertised more to provide incentive for potential clients with an interest in social media solutions.

As it stands, AXIS is likely too expensive for small-scale newsrooms. The software costs around $340 per a month without storage space or additional animation capability. An RJI newsroom could obtain a full copy of the latest version of Adobe’s Creative Suite software for a one-time cost of $350. It could do everything AXIS does and more, with the only real con being a lack of mobile access. To be a feasible solution for RJI, especially given its somewhat limited capabilities, AXIS would have to be deeply discounted.

**Training an Expert - Travis**

The biggest issue our future-expert, Travis, had was being out of Chyron’s loop. The Chyron team asked us for fonts, color scheme, etc which led the team and Travis to believe that templates would be built for the Kbia/RJI shows by Chyron. The result was our team waiting for multiple weeks on templates that would never be delivered.

The second biggest issue was a poor use of time in terms of training from Chyron and no written documentation to accompany those trainings. Each time he was trained on a new feature or called in for help he spoke with a different employee. This yielded repeat answers and some important information falling between the cracks. This is also part of the reason why our team wasn’t aware of an Adobe-to-AXIS plugin until the tenth week of the semester. As stated before, training seemed to be a poor use of time rather than a useful tool in our research.

In his exit interview one of the biggest issues he saw was a lack of time to sufficiently learn the software. To this day he’ll still tell the team, “...I just didn’t have time.” Travis did have time to sufficiently create and implement templates for one show though: Intersection (Templates on display in Appendix A).

That being said, Intersection was not one of the shows that our team included in the “group interview” method of research. This is simply due to the non-complex nature of Intersection’s graphics. The only AXIS features used in for this show were lower thirds, splash pages, and a template we created called “OnThePhone.” This template was used when guests on the show could not come into studio and served as a placeholder during their commentary on the show. Travis also mentioned in his exit interview that he was the most excited about creating graphics
for Global Journalist. This never took place because creating graphics to use with the green screen required a more expert understanding of designing templates for AXIS.

**Usability Testing**

Our testing showed when confronted with basic graphic assembly tasks, users defaulted to actions picked up from Photoshop and similar software. If AXIS implemented support for drag-and-drop composition and the repositioning of composition elements within a canvas, users would have an easier time completing graphics. Our feedback suggests the closer AXIS can bring its functionality to parity with more commonly used software such as Photoshop or Illustrator, the more users will be willing and able to do with it.

**ISSUES**

It’s safe to say general communication with our contacts at Chyron was frustratingly slow. Whether we needed access to software, physical materials or AXIS pricing information, getting the information from Chyron came with a couple weeks’ delay built in. This was a significant impediment during usability testing, for instance, as we couldn’t proceed until we had access to the appropriate programs.

In addition, we weren’t given complete access to AXIS’ capabilities, which hampered what we could actually test for. For example: in our presentation to Global Journalist, we learned the newsroom was interested in AXIS charts. Without the ability to get into charts, we couldn’t generate any pertinent information useful for judging AXIS’ effectiveness in an RJI environment.

The account we used to test AXIS with volunteers had additional editing options enabled from the Chyron end, which wouldn’t normally be viewable by a client. They added a layer of unneeded confusion to our testing that, although it didn’t invalidate our results, certainly clouded them more than was necessary.

Travis sent out for templates for use with Intersection. The process was plagued with minutiae — requiring fonts, color references and the like. It took weeks to get them back, for reasons known only to editors Chyron.

One of Chyron’s primary requests was that we test AXIS’ integration with Adobe Premiere Pro 6. To gain access to the software in the first place, we needed a beta key, which took several weeks to obtain after when we first asked for it. Once we did activate the software, we were looped into all feedback that all beta testers were sending to Adobe — by the end of testing we had a sequestered folder with more than a thousand emails.

Chyron promised us an plugin that linked the two pieces of software, which took a couple of weeks to obtain and implement. In addition, we were given trial access to Premiere, which expired a month after we started. Several of our usability testers were therefore unable to complete the relevant portion of testing, which slightly weakened our data.

**CONCLUSION**

Over the course of this project, we investigated the operating environment and limitations of small newsrooms. We explored their options for video production, and tested AXIS as a single-
program solution for graphics.

We found AXIS to be innovative in areas — notably in its accessibility from any machine with Flash and an Internet connection — but found there isn’t much it can do that can’t be done just as well or better by a program like Photoshop. A comparatively clunky interface and very limited help and support compounded its shortcomings.

AXIS may be versatile, but it doesn’t scale down well. Given the requirements and limitations of RJI newsrooms, and AXIS’ average performance in meeting them, we conclude AXIS graphics is not the most efficient or the most useful investment for RJI.

appendix A: PRODUCTION
Katie Currid

MU TA at the Missourian for 'My Life, My Town'