



## Tasks for the LISE<sup>++</sup> development assistance group

Facility for Rare Isotope Beams, Michigan State University, East Lansing, MI 48824 USA

2024

MICHIGAN STATE  
UNIVERSITY



U.S. DEPARTMENT OF  
**ENERGY**

Office of  
Science

# Week 2 (01/08/2024)

## Daniel

- SpecTk:
- New menu “Command” → tabs, refresh, reconnect (disconnect, and connect to last one)
- Purge a SpecTk file
- No archive files in the installation package
- **LISE size statistics**
- Continue work (study) on the Beam Dump utility

current week tasks

## Sasha

- FRIBlogo: resize, work on bugs
- PACE4 – pace4.pro -- profile, speed
- SpecTcl – linux –profiling?
- LISE video –
  - a. files from Brad
  - b. re-upload the VIDEO
- openGL

## Oleg's note

- Prepare LISE site logs to Daniel, and specify the task
- SpecTcl – linux –profiling? Tong, Elaine, Mallory
- Isomers to add from D. KAMEDA et al. PHYSICAL REVIEW C 86, 054319 (2012)

Last week report

- Did the following work on SpecTk 1.4.2
- Added the append option
- Began work on printing Roi Results to a text file
- Began work on the button to unstuck select tools (need a refresher on the process)
- Learned to make keybinds, but I am not sure if they work through remote connect
- Made some general improvements to how things work
  - No longer save when reordering
  - fixed an error where if tabs were disabled new through an error
  - began work on a trigger event for when the open window is closed so that disable tabs re-disable

- Research on signal handling for speed slider improvement in animation. Working on force restarting with running and to/from variables from timeline block.

Monday  
meeting  
participants

Daniel, Sasha

# Week 3 (01/15/2024)

Daniel

- SpecTk : complete 1.4.3 version
- Focus on LISE size statistics
- Continue work (study) on the Beam Dump utility

Sasha

- FRIBlogo: resize, work on bugs
- PACE4 – pace4.pro -- profile, speed
- SpecTcl – linux –profiling?
- LISE video –
  - a. files from Brad
  - b. re-upload the VIDEO
- openGL

Oleg's note

- Play with new Daniel's statistic files
- SpecTcl – linux –profiling? Tong, Elaine, Mallory
- Isomers to add from D. KAMEDA et al. PHYSICAL REVIEW C 86, 054319 (2012)

current week tasks

Last week report

- Finished 1.4.2
- Added the ROI print function to SpecTk it outputs all ROIs to the ROI results csv
- Added the unstick button under tools
- Investigated a possible memory leak with the client code (didn't find anything)
- Fixed a error with the New config button and not all lists being cleared
- Began work on the ability to remove appended configs
- Finished the site log analysis

- C++ optimization videos through new course resources
- New assignment introduction

Monday  
meeting  
participants

Daniel



# Week 4 (01/22/2024)

## Daniel

- SpecTk : complete 1.4.3 version
- Focus on LISE size statistics
- Continue work (study) on the Beam Dump utility

## Sasha

- FRIBlogo:
  - eliminate black window,
  - Create presentation → step by step how you created that : QtDesign, ...Qt Creator, Release)
  - Make full-window mode (double left button, escape -quit this mode)
  - Speed adjustment
  - Meet with Alex
- PACE4 – pace4.pro -- profile, speed
- SpecTcl – linux –profiling → make research
- LISE video – re-upload the VIDEO
- openGL

## Oleg's note

- Check new Sasha's video
- Discuss PACE4
- Play with new Daniel's statistic files
- SpecTcl – linux –profiling? Tong, Elaine, Mallory
- Isomers to add from D. KAMEDA et al. PHYSICAL REVIEW C 86, 054319 (2012)

current week tasks

Last week report

- Finished 1.4.0-1.4.3a documentation
- Finished up the remove button
- Finished the reconnect button
- Changed how append works so that saves are made to the initial file not the last
- Made some other general improvements
- Worked on double variable handling again(Still don't know how to do it)
- Continued work on the LISE site statistics(hopefully done next week)

- Awaiting creative department suggestions through email.
- Resolved error with presentation audio - First test shows clipped playback or no sound on one file.
- Video completed and can be found in drive.

Monday  
meeting  
participants

Daniel, Sasha

# Week 5 (01/29/2024)

## Daniel

- SpecTk : release version1.5
- (note) Display++
- Graph grid in ROW mode
- Come on Tuesday in the lab
- Check CTRL business
  
- Keep working on LISE statistics
  
- Kameda's isomers,
- Create an isomers brunch in GitHub
  
- Continue work (study) on the Beam Dump utility

## Sasha

- FRIBlogo:
  - eliminate black window,
  - Create presentation → step by step how you created that : QtDesign, ...Qt Creator, Release)
  - Make full-window mode (double left button, escape -quit this mode)
  - Speed adjustment
  - Meet with Alex
  
- PACE4 – pace4.pro -- profile, speed --- prepare a presentation with results
- SpecTcl – linux –profiling → make research
- OpenGL

## Oleg's note

- Tuesday meeting
  
- SpecTcl – linux –profiling? Tong, Elaine, Mallory
  
- Isomers to add from D. KAMEDA et al. PHYSICAL REVIEW C 86, 054319 (2012)

current week tasks

Last week report

- Fixed the axis Client bug in SpecTk 1.4.3c
- Continued work on the LISE site stats
- Continued to look for a fix for the error that occurs when appending two variables with the same name(I don't think it is possible)
- Started working a purge function

- Staff presentation video reviewed and uploaded.
  
- Beginning of profiling in progress for PACE4.
  
- Introduction to additional tasks for logo. Meeting scheduled.

Monday  
meeting  
participants

Daniel, Sasha



# Week 6 (02/05/2024)

## Daniel

- Keep working on LISE statistics
- Share the LISE statistics file
- Work on “dead” graphs
- Prevent empty ROIs
- Graph grid in ROW mode
- Check CTRL business
- SpecTk : release version 1.5
- Continue work (study) on the Beam Dump utility

## Sasha

- FRIBlogo: Create presentation → step by step how you created that : QtDesign, ...Qt Creator, Release)
- PACE4 – prepare a presentation with results
- LISE++ for Android
- SpecTcl – linux –profiling → make research
- OpenGL

## Oleg's note

- Take the isomer database which named as “isomer.db”
- Assist with LISE statistics

current week tasks

Last week report

- Continued work on the Lise Site Stats
  - Removed Microsoft and Google
  - Finished up the Pivot tables
- Updated the IsomerDB
- Did a little work on SpecTk 1.4.5

- Meeting with creative department complete, further meetings scheduled.
- New drafts for animations in progress.
- New tutorial presentation for QT Design Studio in progress.

Monday  
meeting  
participants

Daniel



# Week 7 (02/12/2024)

## Daniel

- Think about issue with integer counters: why Xamine shows, but SpecTk not
- Check how SpecTk handles messages
- Work on “dead” graphs
- Graph grid in ROW mode
- Check CTRL business
- SpecTk : release version 1.5
- Continue work (study) on the Beam Dump utility

## Sasha

- FRIBlogo: Create presentation → step by step how you created that : QtDesign, ...Qt Creator, Release)
- ~~PACE4 profiling for Win10~~
- PACE4 – prepare a presentation with results
- LISE++ for Android
- openGL

## Oleg's note

- LISE statistics
- Task: update of PACE – no swapping file

current week tasks

Last week report

- Finished the Lise Site stats
- Finished "SafeMode" checks to see if there are empty roi variables close to done with purge
- still trying to find what is causing the stuck displays
- \* Applicants for research position reviewed

- Animation program research and meeting scheduled next Tuesday.
- PACE profiling in lab pending with presentation completion following.
- Applicants for research position reviewed.

Monday  
meeting  
participants

Daniel, Sasha



# Week 8 (02/19/2024)

## Daniel

- Think about issue with integer counters: why Xamine shows, but SpecTk not
- Check how SpecTk handles messages
- Work on “dead” graphs
- Graph grid in ROW mode
- Check CTRL business
- Continue work (study) on the Beam Dump utility

## Sasha

- FRIBlogo: Create presentation → step by step how you created that : QtDesign, ...Qt Creator, Release)
- PACE4 profiling for Win10
- PACE4 – prepare a presentation with results
- LISE++ for Android
- openGL

## Oleg's note

- LISE statistics
- Task: update of PACE – no swapping file

current week tasks

Last week report

- Made the download only file (forgot what in site states means)
- Made the SpecTk 1.5.0 documentation (<https://docs.google.com/presentation/d/1tDIXHD SwdPNZh7fd0Mo5kSoBJIsYATTENbcuG9p7tk/edit?usp=sharing>)
- Continued to work on fixing stuck displays
- Played around with capital page names
- Tried to fix keybinds
- LISE site downloads completed

Monday  
meeting  
participants

Daniel





# Week 9 (02/26/2024)

## Daniel

- Think about issue with integer counters: why Xamine shows, but SpecTk not
- Check how SpecTk handles messages
- Work on “dead” graphs
- Graph grid in ROW mode
- Continue work (study) on the Beam Dump utility

## Sasha

- FRIBlogo:
  - Update font,
  - Avoid terminal black window
  - Icon
- PACE4 – prepare a **presentation** with results
- LISE++ for Android
- Do care about details in Effort log
- **openGL**

## Oleg's note

- Update the Assistance page for Daniel's and Sasha's results, send links
- Add Linh and Arjun to the Assistance page
- Re-organize the assistance page
- Task: update of PACE – no swapping file

current week tasks

Last week report

- Fixed the stuck displays(for the most part will show in meeting)
- Played around with having for loops continue despite errors
- Fixed the clear selected and page bug
- Began work on the Write Roi Dialog
- Correct Disconnect/Connect command

- Presentation assistance : FRIB logo animation
- Final edits made on powerpoint tutorials – completed
  - QtDesign
  - Profilers

Monday  
meeting  
participants

Daniel, Sasha, Linh



# Week 10 (03/04/2024)

Daniel

Sasha

Oleg's note

current week tasks

- Continue to work on previous tasks
- Continue work (study) on the Beam Dump utility

- Continue to work on previous tasks
- openGL

- Add Linh and Arjun to the Assistance page
- Re-organize the assistance page
- Task: update of PACE – no swapping file

Last week report

- Found out how to ignore errors in Tcl
- Began Looking into the Xamine Integer counter
- Worked on grid graphs button
- Worked on save dialog for ROIs

Monday  
meeting  
participants

Daniel, Sasha, Linh

# Week 11 (03/11/2024)

## Daniel

- Xamine stuff (finish SpecTk upgrade)
- **work on the Beam Dump utility**
- Study excel-table
- Implement stuff to LISE
- Prepare questions

- Continued working on two bugs (Xamine-count and Xamine-Kenny)
- Finished up the Grid function
  - Added off/on ability
  - 1D or 2D display detection
  - Button added
- Logo making
- Fixed the clear error
- Played around with the catch function (mostly last week but I would like to discuss)

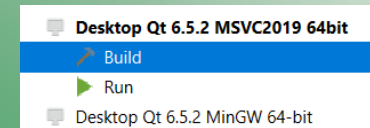
## Sasha

- Logo – is not high priority
- LISE for Android
- Plotting some 3D objects . (lines, and so on) using OpenGL 3D in Qt --- studying Qt examples, chatGPT

- Presentation for PACE reviewed - postponed until new version
- Awaiting logo font and image specifications
- Android SDK installation for QT configuration

## Arjun

- Install Qt – framework 6.5.2
- Qt.io
- Qt widgets example
- How to make dialogs with Designer
- Pay attention for layouts



## Oleg's note

- Add Linh and Arjun to the Assistance page
- Re-organize the assistance page
- Foster's source
- Task: update of PACE – no swapping file

Monday meeting participants

Daniel, Sasha, Arjun

# Week 12-13 (03/25/2024)

## Daniel

- Xamine stuff (finish SpecTk upgrade)
- Multiplicity Xamine vs. SpecTk
- **work on the Beam Dump utility**
- Study excel-table
- Implement stuff to LISE
- Prepare questions
- gitlab

- Looked over the beam dump excel
- Continued work with the beam dump
- Some questions:
  - How do I add the isotope widget to the beam dump tool (is it just copy and pasting)
  - Specify what parameters we want (number of charge states, isotope, ect.)
  - How do I calculate the charge state probabilities
  - A bit of help understanding the monte carlo structure. How data is configured in RFD(s\_RayFileData).
- Worked on 1.5.1 documentation:  
<https://docs.google.com/presentation/d/12J8p4sbH5wrpuGGuTzrcTzPNWwcpbTEty48f6dmcsc/edit?usp=sharing>
- Worked on fixing the Kenny bug in SpecTk
- Played around with the monte carlo and beam dump stuff in Qt

## Sasha

- Logo – is not high priority
- LISE for Android
- Documentation for FRIB logo
- Plotting some 3D objects . (lines, and so on) using OpenGL 3D in Qt --- studying Qt exapmles, ChatGPT
- OpenGL pdf book

- Outside commitments this week.
- Android Studio Emulator configuration awaiting review and support.
- Performance checking and comparison - possibly need to try new system, version, or physical tablet.
- Android Studio Emulator configuration with QT.
- QT Android Build ~1 hour as of now.
- Performance checking and comparison. Presentation on difference pending.

## Arjun

- Qt widgets example
- How to make dialogs with Designer
- Pay attention for layouts
- Create your own simple widget
- Get PACE4 source → introduction to parallelization --- small example

- Downloaded and familiarized myself with Qt.
- Finished familiarizing myself with Qt and learned how to make a dialogue box with Qt designer.

## Oleg's note

- Last Thursday meetings presence
- Linh
- SSH key for gitlab
- Put meetings in Effort Logs
- Daniel @ 5 pm: In person, AI, help with beam dump
- Drag-drop of buttons in Qt
- Using Quick in LISE (Linh?)
- Moving to version 6.6.3
- Qt on LINUX, SpecTcl
- Migration from github to MSU gitlab - Sasha, Arjun
- Add Arjun and Linh names to FRIB computers
- LISE for Excel – library (Daniel?)
- → Oleg prepare PACE project
- PACE tasks: (Arjun?)
- no swapping file
- parallelization

Monday  
meeting  
participants

Daniel, Sasha,  
Arjun



# Week 14 (04/01/2024)

Daniel

Sasha

Arjun

Linh

Oleg's note

current week tasks

- Multiplicity Xamine vs. SpecTk
- **work on the Beam Dump utility**
- Study excel-table
- Implement stuff to LISE
- Prepare questions
- gitlab

- Logo – is not high priority
- LISE for Android
- Documentation for FRIB logo
- Plotting some 3D objects . (lines, and so on) using OpenGL 3D in Qt --- studying Qt examples, ChatGPT
- OpenGL pdf book

- Create your own simple Qt widget
- Study : introduction to parallelization ---understand, small example : long term process

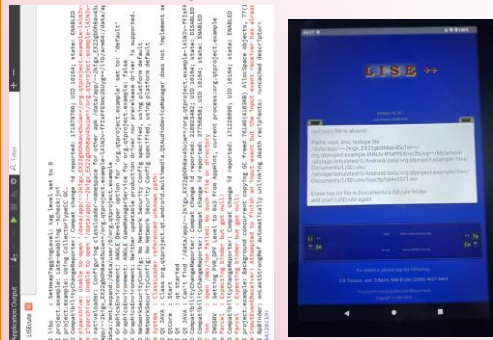
- Install Qt – framework 6.6.2
- Qt.io
- Qt widgets example
- How to make dialogs with Designer
- Pay attention for layouts
- Drag-drop functions – Example : QtPushButtons in widget table. Drag-drop inside this table  
2. copy (ctrl+mouse → release )

- Last Thursday meetings presence
- SSH key for gitlab
- Drag-drop of buttons in Qt (Linh)
- Using Quick in LISE (Linh?)
- Moving to version 6.6.3
- Qt on LINUX, SpecTcl
- Migration from github to MSU gitlab?
- Add Arjun and Linh names to global meetings
- LISE for Excel – library (Daniel?)
- → Oleg prepare PACE project
- PACE tasks: (Arjun?)
- no swapping file
- parallelization

Last week report

- Continued Work on the LISE Beam Dump Utility
- Finished most of the basic Calculations
- Began working on displaying the charge calculations
- Continued learning on how the code works mostly focusing on monte carlo, but also a bit on GLOBAL
- Questions for Monday:
  - GLOBAL and CHARGE give different charge probabilities.
  - Initial distance isn't in the excel along with 6 degree delta calculations
  - Can LISE read data from GLOBAL and CHARGE.

- QT Design Studio tutorial reviewed and added on to. Completely finished.
- Android Studio emulator gradle jdk and jre versions troubleshooting and QT project configuration now complete.



- Attended meetings.
- Started making my own simple widget on Qt.
- Learnt more about Qt and played around with it.

- Welcome week

Monday meeting participants

Daniel, Sasha, Arjun, Linh