ImageBank

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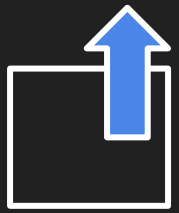
Today's Challenges
Problem Domain

Functionality

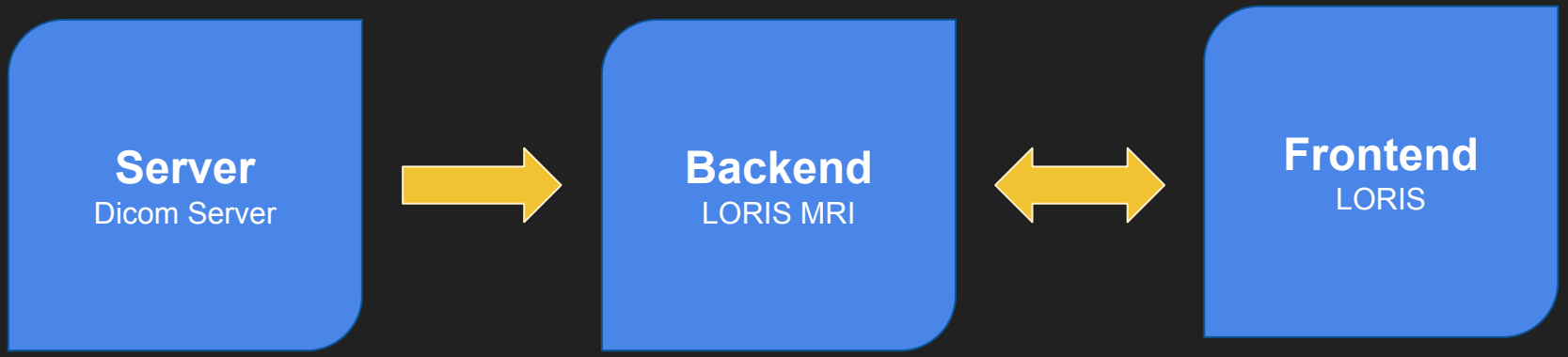


Scalability

Speed

Automation

Design Process



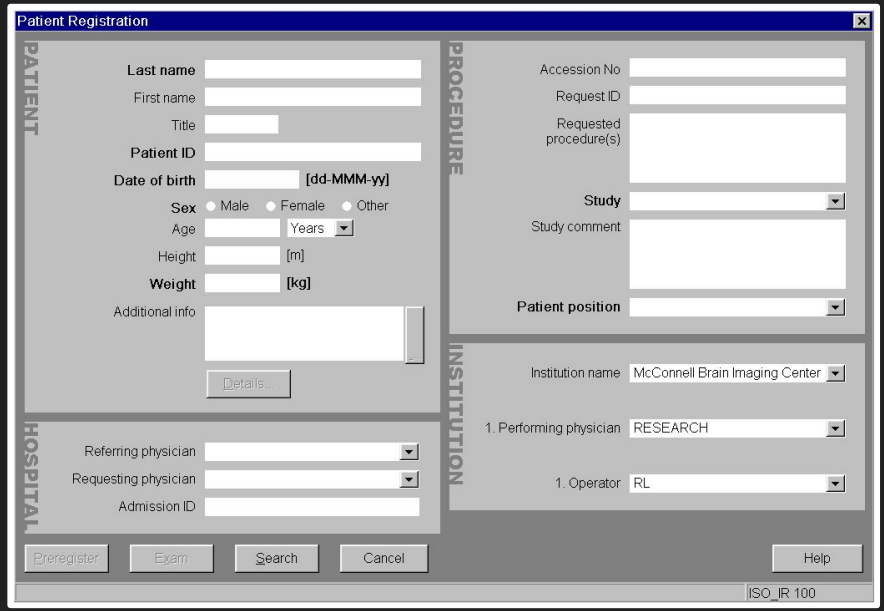
Demo #1

Demo #2

Server
DICOM Server

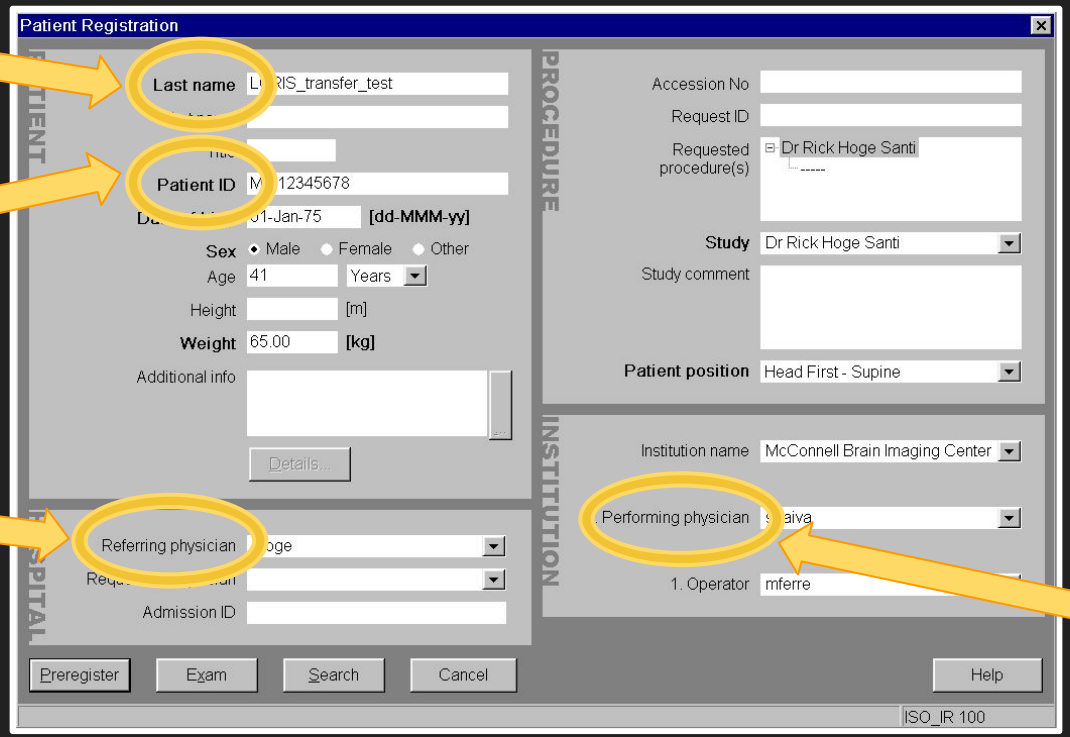
Patient Registration

Siemens 3T Prisma



Patient Registration

Patient Registration



Patient Registration

DCMTK - DICOM Toolkit

Storescp & Transfer Protocol

Parameters:

- `IP = 132.206.178.113` (imaging.bic.mni.mcgill.ca)
- `AETITLE = IMAGING`
- `Port = 50082`

Data Transfer Command

```
/usr/bin/storescp -d --output-directory
/dicom/data/dicom/ +xa +ac
--sort-on-patientname --aetitle IMAGING
--disable-host-lookup --eostudy-timeout 30
--exec-on-eostudy /dicom/bin/dicomtar #p #f
50082
```

Backend

LORIS MRI

Imaging Scripts

BIC	1	MINC Conversion + Log	Stores minc in /dicom/data/minc
LORIS	2	Dicomtar + Log	Stores tar in /data/img/data/tarchive
	3	TarchiveLoader + Log	Stores pic in /data/img/data/tarchive/pic Stores minc in /data/img/data/tarchive/assembly

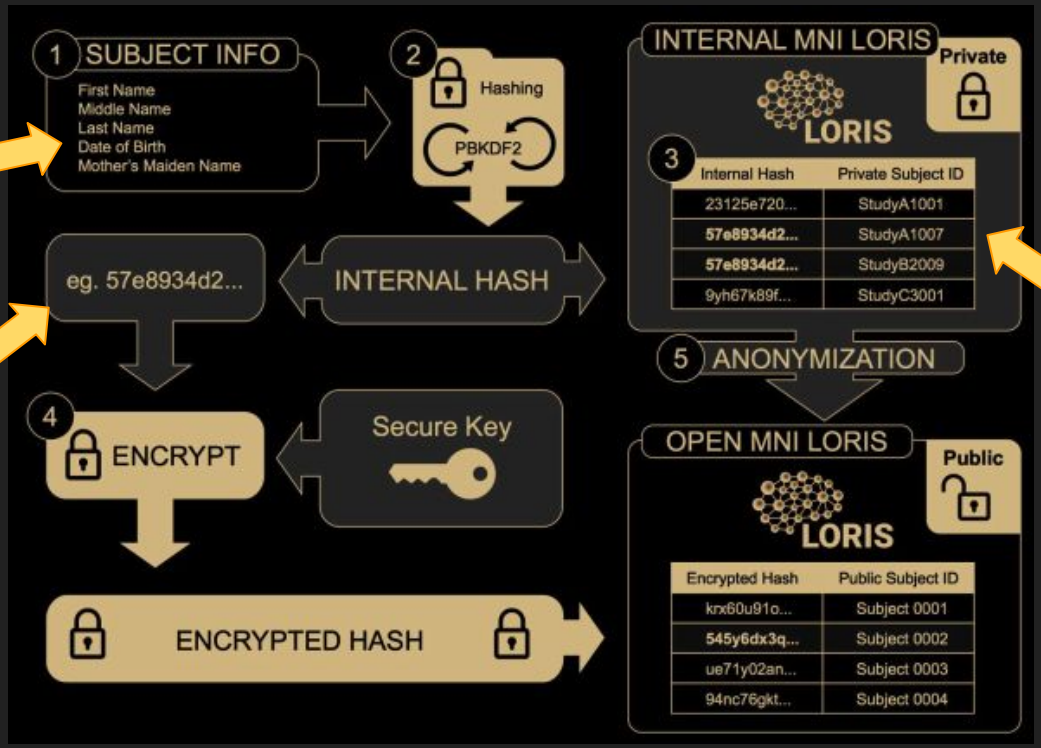
LORIS MRI Imaging Pipeline

Dicom Archive

PatientID	PatientName	DateAcquired	ReferringPhysicianName	PerformingPhysicianName
BICDCC9989_963206_V01	LORIS_STAGING_TEST1	2016-05-11	NULL	NULL
BICDCC9994_207083_V01	LORIS_STAGING_TEST_2	2016-03-31	rhoge	spaiva
BICDCC9995_926982_V01	LORIS_STAGING_TEST_3	2016-05-04	rhoge	spaiva
10082016	BICDCC9983_219988_V01	2016-08-08	rhoge	spaiva

Tarchive Table

Hash Function & Candidate Module



Candidate

Hash

Hash Table

Hash Process

Hash Function & Candidate Module

CandID	hash_value
158500	365f9af63be2cd70f...
187360	ae5668487f7b354c3...
378835	c27f6da3954f9a287...
499334	6225931f25b9056f9...
651416	b9f8abaf2ffce9cca...
659980	818ae431452408326...
893234	cc048c56d53b7abc4...

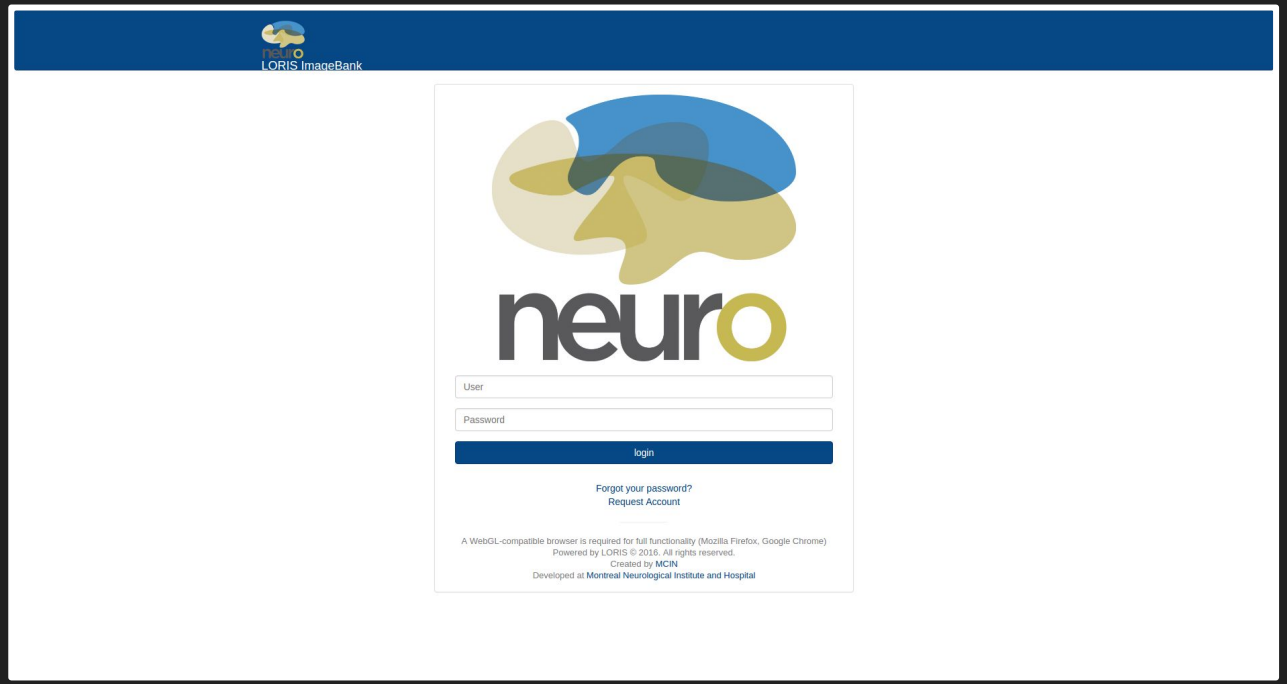
Hash Table

Demo #1

Frontend

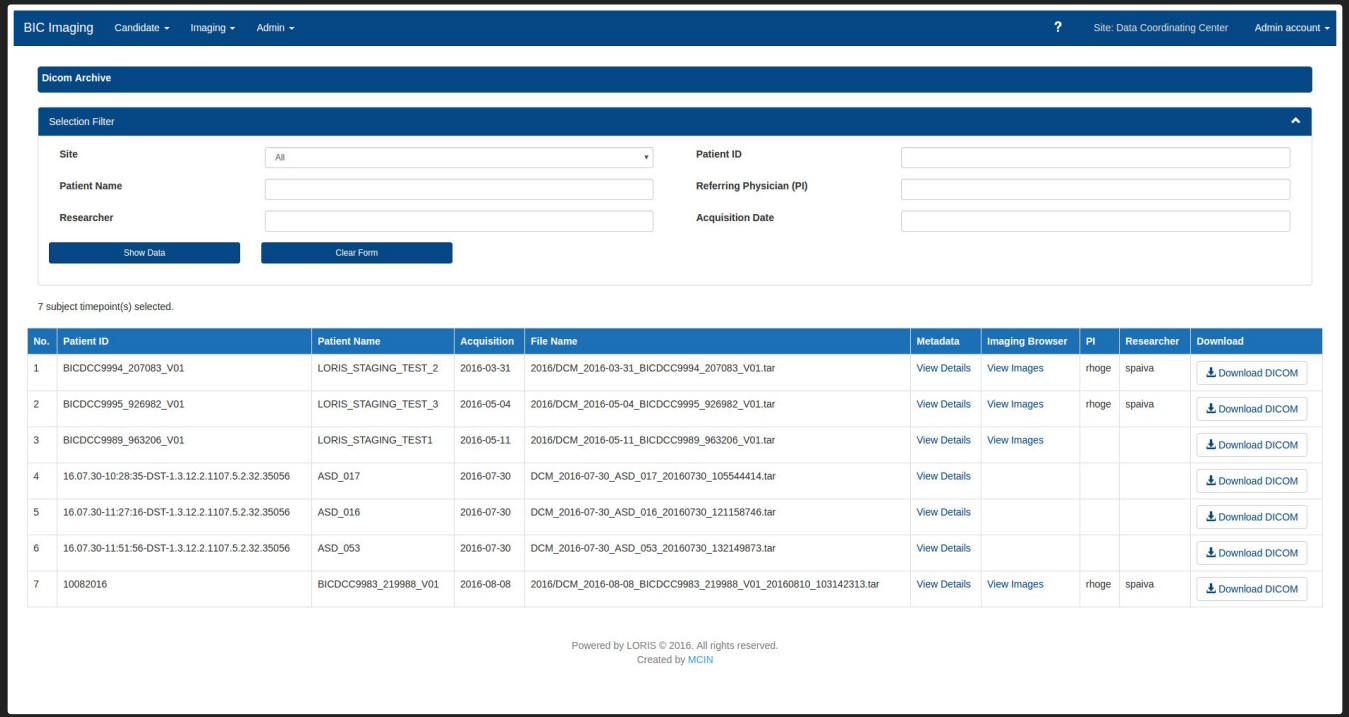
LORIS

LORIS ImageBank



imaging.bic.mni.mcgill.ca

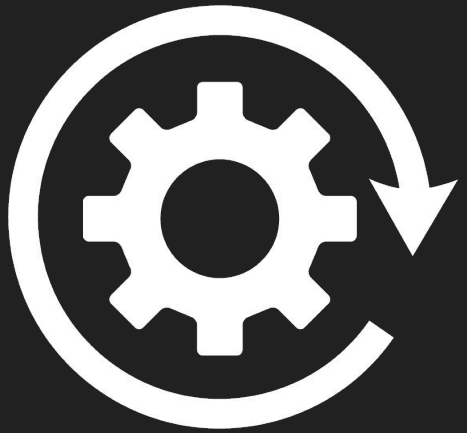
Dicom Archive



New Dicom Archive Module

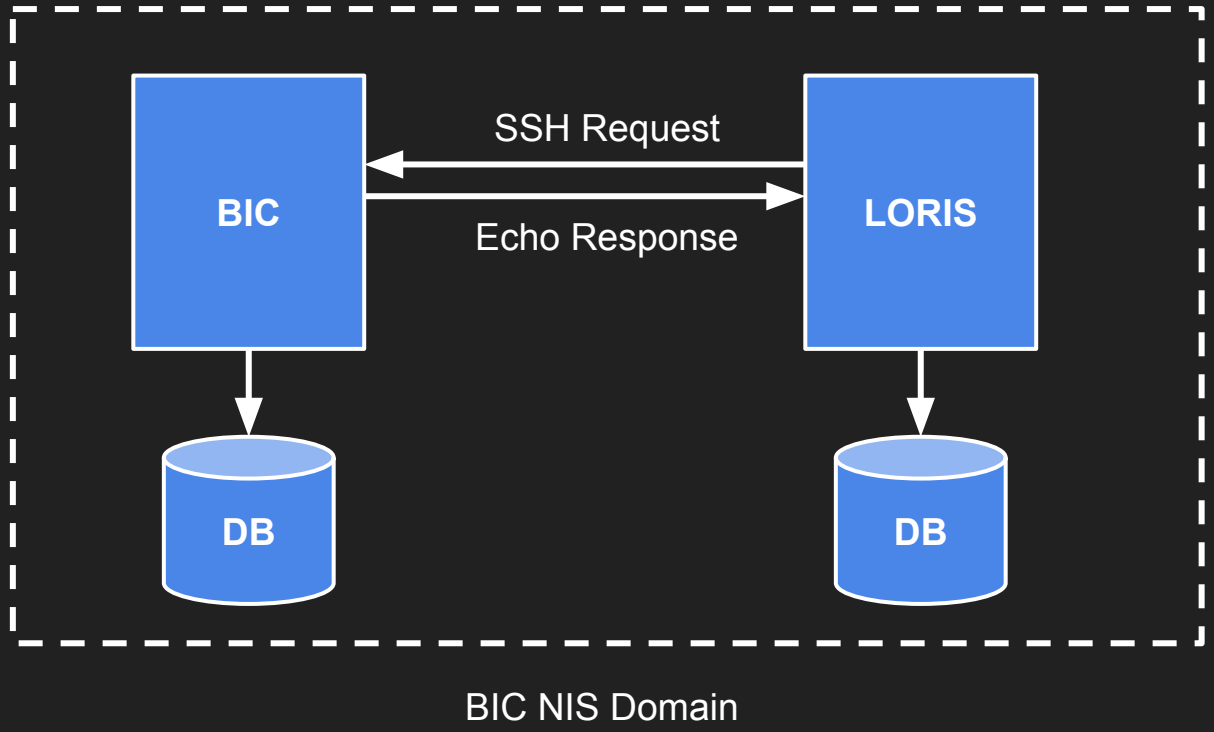
Demo #2

Currently In Progress

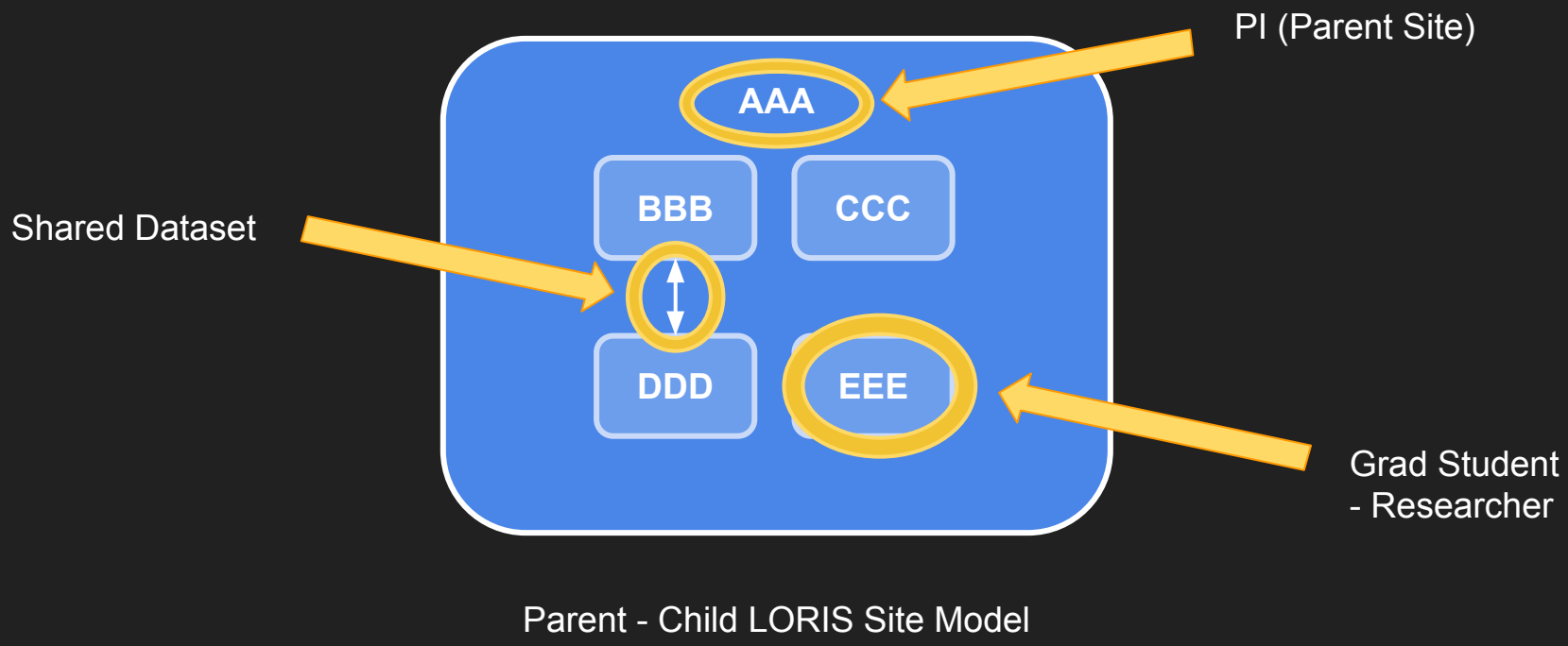


- BIC Unix Login Integration
- LORIS Super Site
  - Group Permissions
- Improvements in UX and UI
  - Dicom-Archive
  - Candidate Registration
  - Permissions
- Tutorials

BIC Unix Login Integration



LORIS Super Site



Parent - Child LORIS Site Model

Conclusion

- Development of a great product for BIC users :)
- Automated, fast, and scalable data repository
- LORIS Functionalities (Visualizations, QA, Statistics, etc)
- Set of new exciting features coming soon
- Public Release: soon

Special Thank You

- **Sylvain Milot** (SysAdmin)
- **Mouna Safi-Harab** (Imaging Scripts)
- **Jordan Stirling** (Hash Function)
- **Pierre Rioux** (SSH Authentication)
- **Rick Hoge** (Functionality)
- **LORIS Team** (Help & Support)

Q & A

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