



# Data Science Initiative at SOIS

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# The Presentation Plan

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# The Goals

To create data systems programs in collaboration with international universities

- design a new Master's program around data science
- develop competency in data science
- identify two international universities for collaboration

# A Brief Status Summary

Developed a new Master's program in data science

- admitted two batches of students (18 + 8 students)

Created opportunities for faculty development within SOIS

- used MOOCs *and* hosted hands-on workshops, ...
- collaborated with the Department of Statistics (of MU)

Identified *one* university for (*potential*) collaboration

- Virginia Commonwealth University

February 6 - visit by VCU's associate-dean of School of Business

# A Brief Status Summary

Accepted an international student for internship

- five month internship in data analytics and visualization
- student from EFREI, France

Designed a software architecture for Big Data Analysis in MU

- Manipal Data Architecture
- ensures security and privacy of sensitive data
- enables monetizable services for data sharing and analytics

# Big Data and Data Analytics Program

A new ME (Master of Engineering) program

- admitted two batches (18 + 8 students)

Great support from the faculty of the department of Statistics

Industry support by Philips Healthcare, Bangalore

# Competency Development Efforts

Learning from popular MOOCs - Udacity courses

Active Learning

- Interactive, hands-on workshops conducted by experts

Learning by Doing

- hobby projects (personal) and term projects (with students)

Participatory Learning

- term projects offered by Philips Healthcare

# Workshops

We hosted three intensive, hands-on workshops

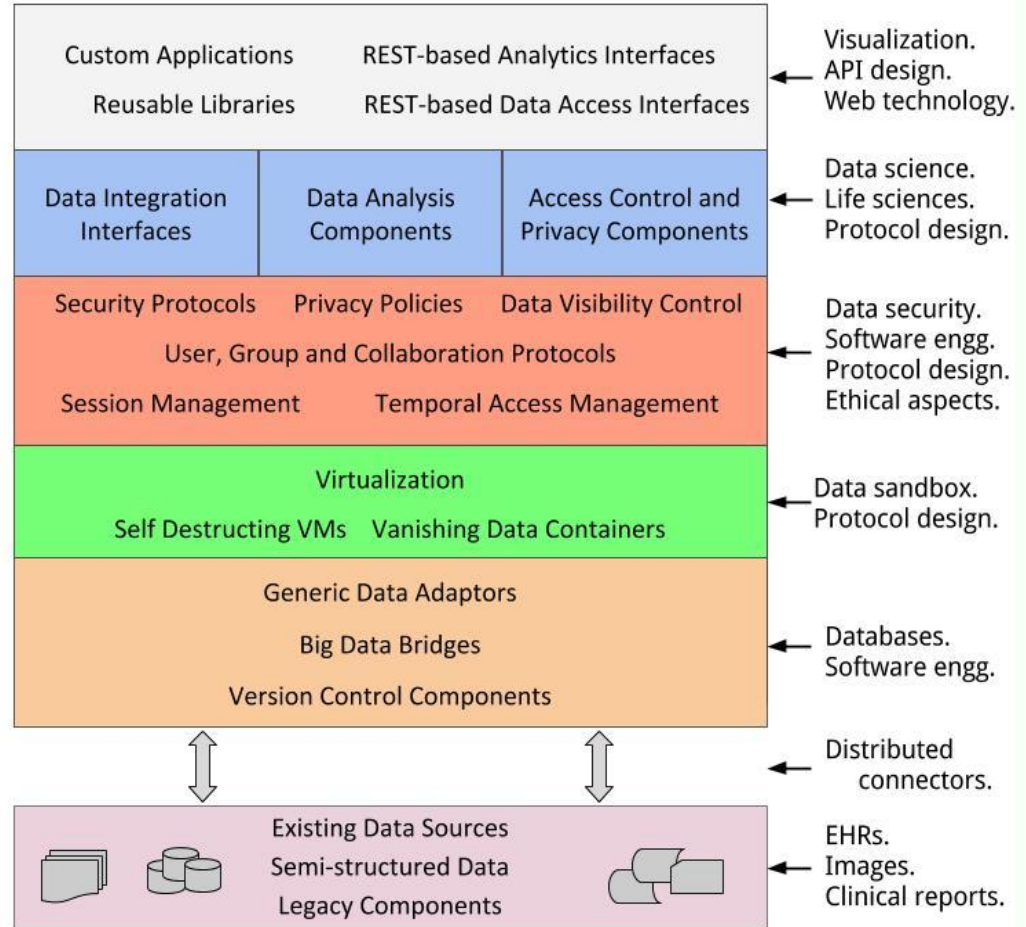
- Two day workshop on *data visualization*
  - 5 faculty, and 30 students of SOIS
  - 21-22, October, 2016. Instructor - Nikhil Kabbin, Gramener, Bangalore
- Three day workshop on *virtualization for big data systems*
  - 7 faculty, and 30 students of SOIS
  - 14-16, December, 2016. Instructor - Saurabh Bharjatiya, Rekal Software, Hyderabad
- Four day Faculty development program on *Big Data and Hadoop*
  - 6 faculty of MIT, Manipal. 5 faculty and 25 students of SOIS
  - 11-14, January, 2017. Instructor - Animesh Yadav, Finland Labs, Delhi



# System Design Effort

## Manipal Data Architecture

- Offers opportunities for novel research collaborations
- Service Oriented Architecture (SOA) enables monetizable data services



# International Student Internship

Mr. Gevithan Shanmugathasan, student from EFREI, France, is pursuing five month internship at SOIS

Topic - Data Analytics and Visualization

Duration - October-2016 to February-2017

# Visit by an International Expert

Dr. Peter Aiken

- ACM Distinguished Speaker
- Associate Professor of Information Systems  
Virginia Commonwealth University (VCU)
- addressed students and faculty of SOIS on  
16-August-2016



# Potential Collaboration with VCU

Prof. Jayaraman Vijayakumar, Associate Dean - Graduate Programs, VCU, will be visiting SOIS

- next month, on 6-February
- we intend to brainstorm and figure out a suitable pattern of collaboration

# Intramural Fund Utilization Status

At present, we have utilized around 2.6 lakhs

- workshops and faculty development programs

In our estimate, we will require about 5 lakhs to support planned activities for the next two months

- national conference (in March)
- a workshop (in February)
- procuring reference books

# Planned Activities - Next Two Months

## Seventh National conference on Information Sciences

- 24 and 25, March, 2017

## Workshop on *Machine Learning*

- Azure platform group, Microsoft India.

# The Plan for 2017-18

## We will form an advisory board

- furthering interdisciplinary research and development
- taking more effective steps for international collaboration

## We will collaborate with premier Indian institutes

- helps in establishing long term research association
- makes it possible to invite/host resident experts/scholars
- creates avenues for external funded research

# The Plan for 2017-18

We will host programs of international reach  
(conference, winter/summer school, seminar)

- data analytics and data visualization
- data and information security and privacy
- formal verification

We will identify one more reputed international university for collaboration in data science programs



# Our Requests for 2017-2018

We sincerely request you to extend the grant period

- extension of the existing funding support

We request you to expand the scope

- data and information security
- medical software systems
- embedded systems design
- software and hardware verification

# Conclusion

Sincere thanks to each one of you, for your generous support, patience and time

we request your comments, advice and continued support