# Cyber Human Ecosystem of Engaged Security Education (CHEESE)

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## Motivations
- Raise public awareness of cybersecurity
- Gain broader understanding of high-profile security vulnerabilities
- Reduce barriers to learning / “learn-by-doing”
- Better dissemination of research results, research reproducibility

## Our Approach
- Open source platform
  - Based on Try-CybSI and Labs Workbench platforms
- Open source curriculum
  - Modeled on Carpentries framework
- Community building
  - Educators, practitioners, students
- Evaluation
  - Formal studies (effect on learning)
  - Usability analysis

## Intended Audience
1. **Instructors**
   - Supplement classroom instruction
   - Follow lesson plan
2. **Students**
   - Get hands-on training
   - Self-paced learning
3. **General public / developers**
   - Find information on security vulnerabilities
   - Incorporate validation methods in own code

## Architecture
- **User namespace**
  - Jupyter
  - Postgres
  - SQL Injection
- **System namespace**
  - Monitoring
  - Logging
  - Arpspoof/SSL Strip
- **Workbench**
  - UI
  - API
  - etcd
- **System**
  - Kubernetes 1.1x (RBAC, Weave overlay network)
  - Ubuntu 18.04 VMs
  - OpenStack: Elastic Compute and Storage

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**CHEESEHub**: [https://www.hub.cheesehub.org](https://www.hub.cheesehub.org);

**Source**: [https://github.com/cheese-hub](https://github.com/cheese-hub);

**Documentation**: [https://docs.cheesehub.org](https://docs.cheesehub.org);

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