

# **EXPERIENCES OF INTERNATIONAL SOFTWARE DEVELOPMENT PROJECT COOPERATION**

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capstone research project



delivering technology-rich distance and collaborative courses that engage students in different team activities, as well as laboratory and in-class exercises, creates new challenges in communication not only between instructors and their students, but also among the instructors and students themselves



our institution, with its international campuses in USA, Eastern Europe and the Middle East, is setting a new level of distance and collaborative education that enables students from different cultures and time zones to work together on real projects

# SENIOR DEVELOPMENT PROJECT





students also improve their presentation skills due to presenting of various reports, deliverables and gate reviews, together with communication skills and collaborative work



teams are structured to consist of both front-end and back-end developers, systems integrators, testers and of team leaders



initial team leaders are suggested by instructors (based on the self-assessments), but it is up to each team to self-organize and assign roles

# ABOUT





current topic of the project is to improve a pre-existing MIDOM (Medical Imaging and Diagnostics on the Move) system for allowing medical diagnostics to be performed in a collaborative, distributed and mobile environment



main idea behind this project is to make it easier for the doctors and medical specialists to share and consult with each other and other medical experts in order to get a precise diagnosis before starting a medical procedure



the fact that the students were working with an existing system posed a new challenge for them, but working with those constraints, they were to evaluate the existing system, determine remaining requirements, and implement those requirements, particularly on a mobile platform

# ABOUT



create a web application for the MIDOM system

easy to use interface

communication made easier on the users

no loss of quality when viewing images

additional location features

additional search features

## **GOALS AND OBJECTIVES**





communication and image sharing functionality is a big part of what medical specialists want out of the system



making the system easier and more clear to use, while ensuring that the functionality of the system stays intact - to address this goal students are designing a simple to use user interface within a web application



it is easier for medical specialists to share high quality images and communicate between each other than it was previously

## PROJECT CONTEXT



project's main goal is to make this existing system easier to use for its users, while maintaining or even improving upon the system's functions



existing system works, but is not as easy to work with as it could be



success for this project is to make a simpler web interface for the system users and make communication easier for the users, while also maintaining image quality when viewing a shared image

## **SUCCESS CRITERIA**

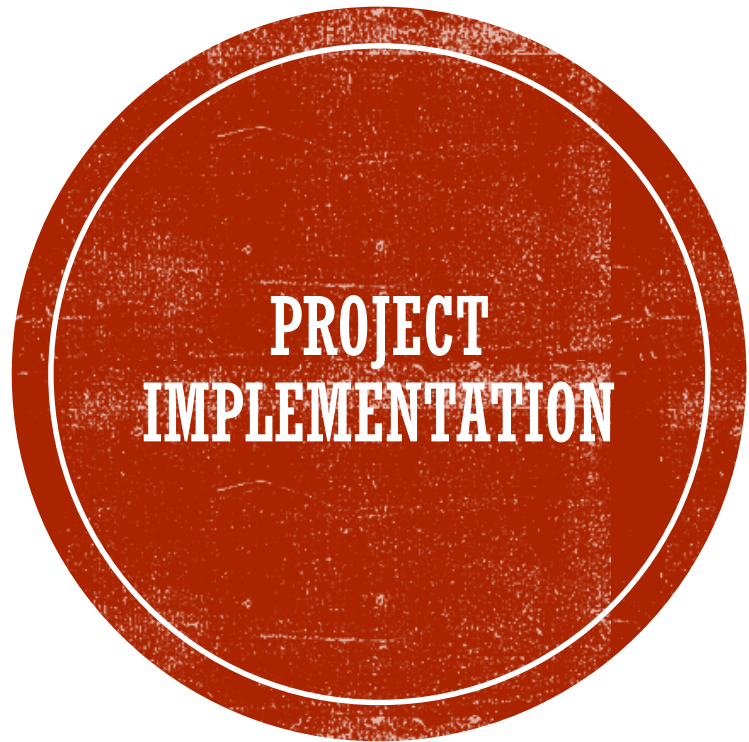




# PROJECT IMPLEMENTATION

- **Project Milestones**
  - sponsor consultation and primary requirements
  - project documentation design
  - software development
  - software testing, QA, bug fixing
  - sponsor presentation





- **Descriptions and time ranges**
  - **Phase 1:** project is first introduced by the sponsor; first draft of requirements; draft is discussed again with sponsors, to review that the proposed features are satisfactory; duration: one month
  - **Phase 2:** student teams complete most of the design and requirements documentation; duration: two months
  - **Phase 3:** actual software development and implementation begins; duration: three months
  - **Phase 4:** teams mostly test, optimize, and fix any problems that might occur; duration: up to three weeks
  - **Phase 5:** project's final version is presented to the sponsor

- evaluation of the finished project is conducted jointly form course instructors and stakeholders
- Technical team:
  - discussing and demystifying any technical issues
  - providing existing documentation. Evaluation of performances of the existing system
  - mentoring regarding the implementation of the solution
  - technical evaluation
  - primary contact during development



- **Medical team:**
  - evaluation of the features
  - evaluation of the project presentation and usability
  - demystifying actual use cases and business processes
  - primary contact during project testing and evaluation





an important role in the course is the experience of real-life business environment



depending on the particular project, the external customer is involved in project definition, requirements gathering, and communication with team members to a varying extent throughout the course



one of the driving forces of the course is for students to experience differences in culture and norms: there will be some bumps as they work on their capstone project as their first international and multidisciplinary effort, but later on, when they encounter the same situation on their future job, they will be bettered positioned to deal with it

# CONCLUSIONS AND FUTURE WORK



**THANK YOU!**

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