

OBJECTIVE

To develop a clean and functional web application for the Mechanical Engineering Department that allows students and faculty to reserve and manage equipment resources.

BACKGROUND

There previously was no way to efficiently schedule machine shop times for specific machines, outside of the email-based system currently in use.

REQUIREMENTS

- Basic View of Calendar
- Login and Authentication Page
- Machine Management
- Role-Based Access
- Calendar Database Setup
- Billing Management

VALIDATION

As we approached our final product we had two focus groups (various faculty / student focus group) in which they voiced opinions on how the website should change. One major change was to how users scheduled time. Rather than having multiple windows we condensed the process to be more user friendly. [See Figure 1.2]

TEAM MERGE



M E r g e
CAPSTONE DESIGN TEAM

DELANEY FITZGERALD
BLAKELY FRECHETTE
GABRIEL HASENOEHRL
IRVEN PEREZ

FINAL PRODUCT

Our final product is a functional hosted website, in which its main features allow users to schedule times for equipment [See Figure 1.1], save scheduled information to our database, authenticate scheduled times with billing codes, and allows administrators to manage and add machines to this scheduler.

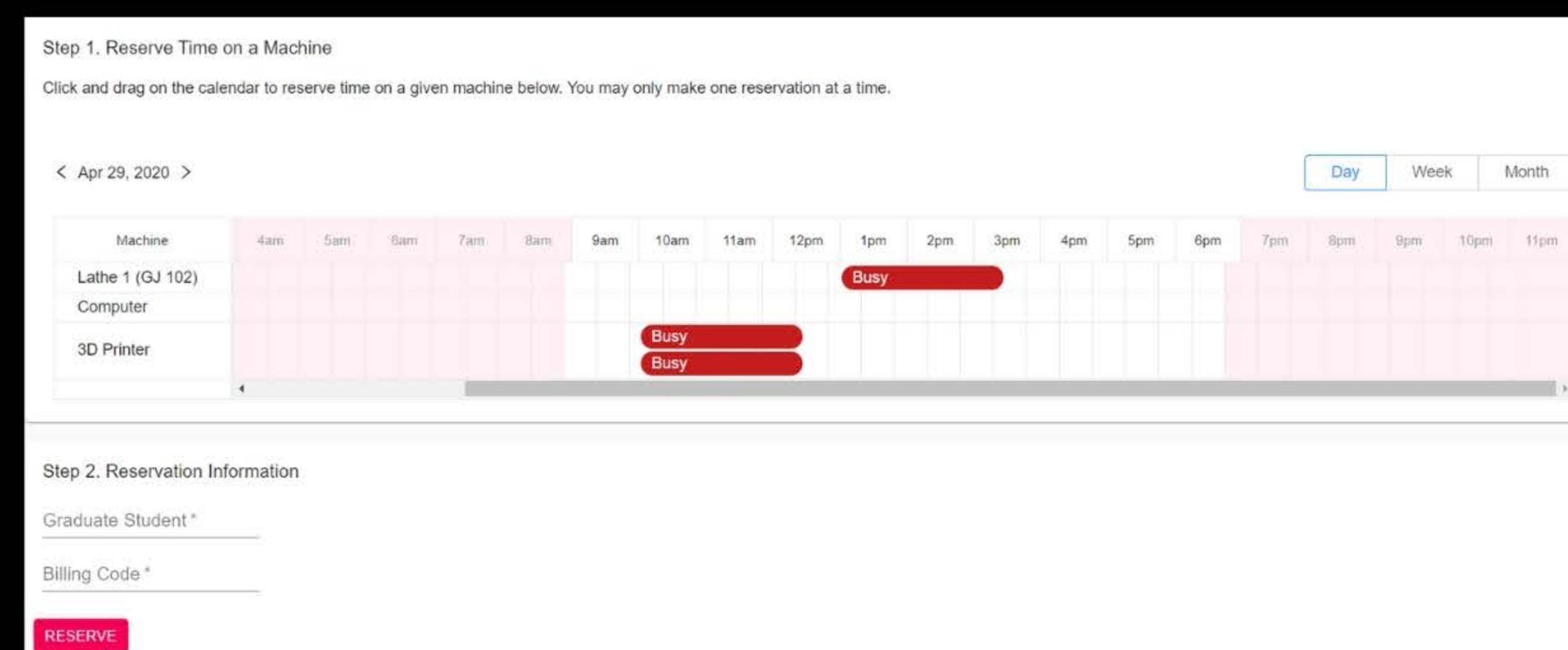


Figure 1.1

Desktop	Chrome	Safari	Firefox	Edge	Opera
View Reservations	✓	✓	✓	✓	✓
Make Reservations	✓	—	✓	✓	✓
Mobile	Chrome	Safari	Firefox	Edge	Opera
View Reservations	✓	✓	✓	✓	✓
Make Reservations	X	X	X	X	X

Figure 1.2

EMPLOYED TECHNOLOGIES



PROJECT DESIGN

FRONTEND - REACT

A JavaScript library - it is loosely referred to as a framework - for building user interfaces.



FRONTEND - MATERIAL-UI

A JavaScript library - it is loosely referred to as a framework - for building user interfaces.



BACKEND - MONGODB

MongoDB is a scalable and flexible document database with querying and indexing.



RECOMMENDATIONS

[Beta Deployment]

Transfer to Azure

- Better Authentication / Security
- Long Term Support
- Facilitates University of Idaho's login credentials

Testing

- More Focus Groups
- More Browser Support

ACKNOWLEDGEMENTS

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University of Idaho
Mechanical Engineering

Client:

Dr. Maughan

Lead Professor:

Professor Bolden

IT Advisor:

Victor House