



## Gain a Strong Portfolio: iCarnegie Students Build Real-World Software Projects

The iCarnegie curriculum is designed to give you strong experience in applying modern software development skills and management techniques, enabling you to add immediate value to the workplace. We accomplish those goals by exposing you to assignments that involve creating real-world software applications, which also means you build your portfolio at the same time. As you move through the sequence of iCarnegie Computer Programming and Software Systems Development courses, you will design, build, and test a range of software projects of advancing skill levels.

### Interactive Websites and Simulations

Students taking the first iCarnegie course, Introduction to Information Systems, start their iCarnegie experience by building the logic that runs web-based systems. Projects include creating a **music playlist website** and a simulated environment of an **artificial lake**, which involves programming the behaviors of organisms that live in the lake, including fish, crocodiles, and algae.

### Retail Point-of-Sale Systems

In the third iCarnegie course, you will build a **point-of-sale checkout kiosk application**, similar to what is running the cash register of many retail stores. By now, iCarnegie students are diving into the areas of software architecture, design patterns, and commercial-grade software testing in order to develop data-rich applications.

### Online Auction Systems

As you reach the mid-level courses, you will gain the skills necessary to tackle the design and creation of an **ebay-like online auction system** that includes capabilities for listing items, bidding, enabling user interactions, and determining the final outcomes for auctioned items. This puts to use your new skills in web development, object-oriented design, user-centered design, and data structures and algorithms.

### E-Commerce Applications

In the ambitious database course and the software engineering course, you will create an **Amazon.com-like e-commerce bookstore** and an **online musical instrument store** that must catalog items, enable search functionality, allow for order taking, check inventory, monitor order status, and complete the purchase. These exercises further develop your skills in advanced computer

programming, database system development, reusable code, architecture, implementation, testing, and modern software engineering practices.

### Chat Systems and Bulletin Boards

You will learn to create **online chat systems**, like those you find on Yahoo!, AOL, or MTV.com. You will also **design interfaces** for a time-and-date clock, similar to the one used in Microsoft Office applications.

### Real-Time Calendars

Developing a **distributed calendar system** that allows multiple users to propose meetings, invite attendees, and modify schedules is not a trivial task. iCarnegie courses teach you how to build multi-user, collaborative, real-time systems like calendars that reside on a network.

### What Kind of Career Can You Have?

As you advance through the iCarnegie courses, you will be well-prepared and confident to compete for top positions in a range of career choices such as:

- Website Application and Software Development
- Java Programming & Development
- User Interface Design
- C++ Programming
- Senior Programming
- Database Design & Programming
- Network Application Programming
- Performance Analysis
- Technical Advising
- Software Engineering
- Software Project Management

### What are iCarnegie Students Saying?

"The curriculum is extremely effective because it augments academic topics with real-world programming experiences." *Mr. Stephen Lesko, Pennsylvania, USA*

"It included a variety of IT subjects which, as it turned out, later helped me gain employment with a large and reputable company." *Ms. Natasha Soranna, South Australia*

"It gives the student a feel of the real project... you don't face any difficulty when you are in live projects." *Ms. Maya Varadan, India*



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