Thai Nghiem

Rowan College of Engineering

nghiemthai1@gmail.com

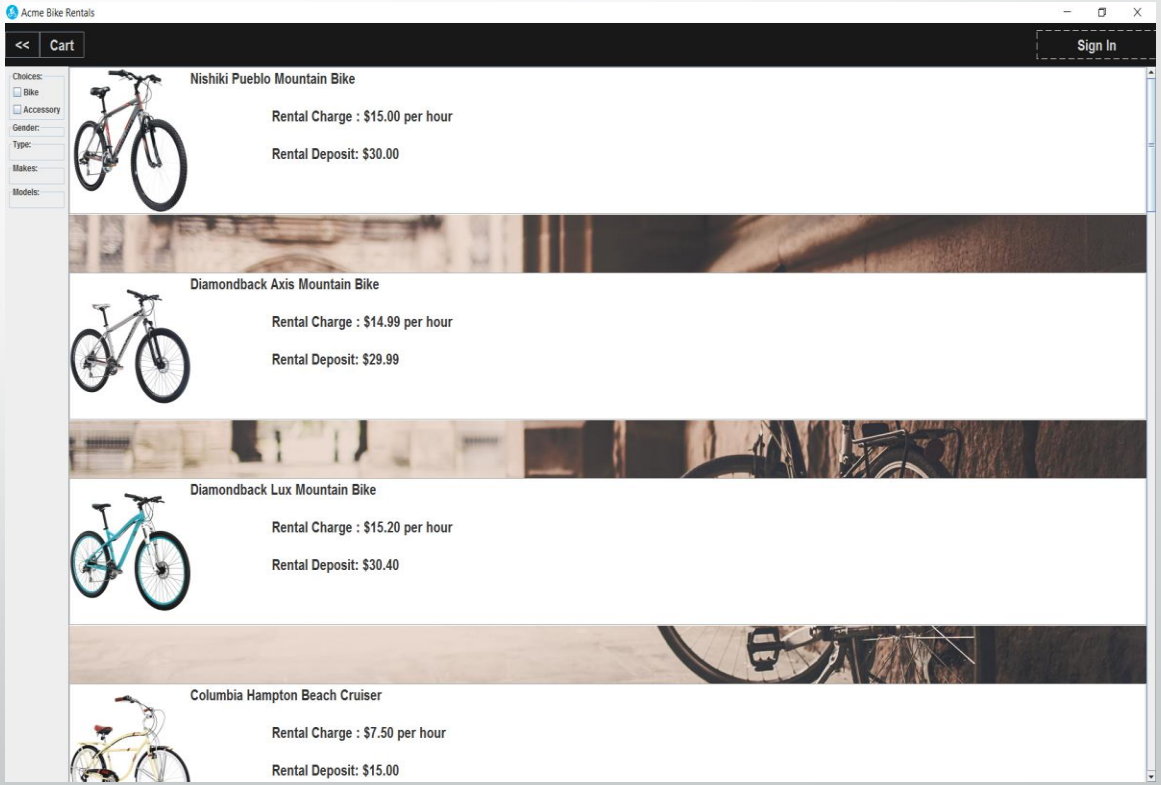
(469)999-5148

Overview

Who am I?

- Major: Electrical and Computer Engineering Minor: Computer Science
- Excellent skills in communication, collaboration and team-work.
- Efficient in analyzing and solving the most complex of problems and familiar with program languages: JAVA, VHDL, C#.
- Passionate in computer programming as well as circuit designing.

BIKE RENTAL SHOP

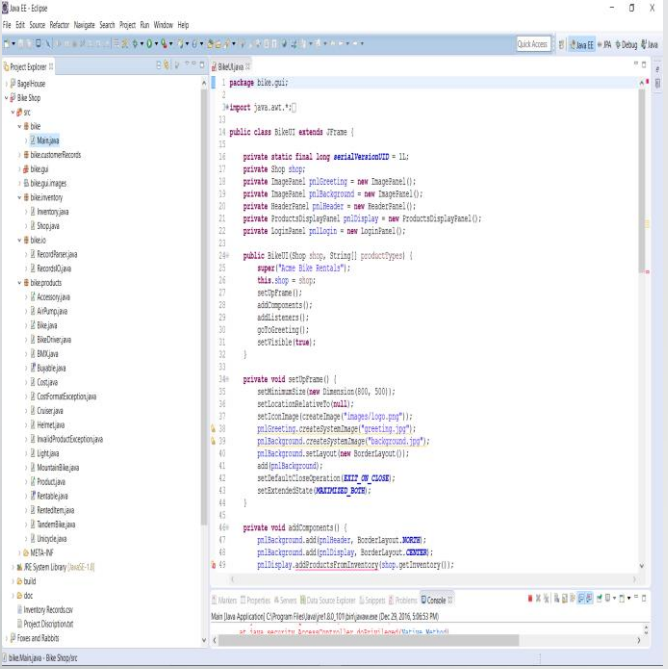


Project Description

- Design and code, from scratch, a Bike Shop application that is robust and user friendly.
- Document and present the product to the whole class (including the instructors).
- Grade received: A

My Role

- Implemented product objects (such as bikes, accessories,…) that can be used by an Inventory class.
- Designed and coded Cart GUI that allows buyer to check out or make changes to his/her cart.
- Documented the project using a UML diagram and a sequence diagram.



Java Eclipse

Button that transfer user to the cart panel

Filter according to user desire

Serialized User's information

Rent function or buy function

Acme Bike Rentals

<< Cart

Hello, Thai

Choices:
- Bike
- Accessory

Gender:

Type:

Makes:

Models:

Nimbus Eclipse 20" Freestyle Unicycle

Rental Charge : $18.00 per hour

Rental Deposit: $36.00

Rent Duration

Days 4 Hours 2

Rent It!

Giro Indicator

Rental Charge : $1.24 per hour

Rental Deposit: $2.49

Buy It Now: $31.23

Buy Rent

Bell Reflex

Rental Charge : $3.25 per hour

Rental Deposit: $6.50

Buy It Now: $81.25

Buy Rent

Giro Feather

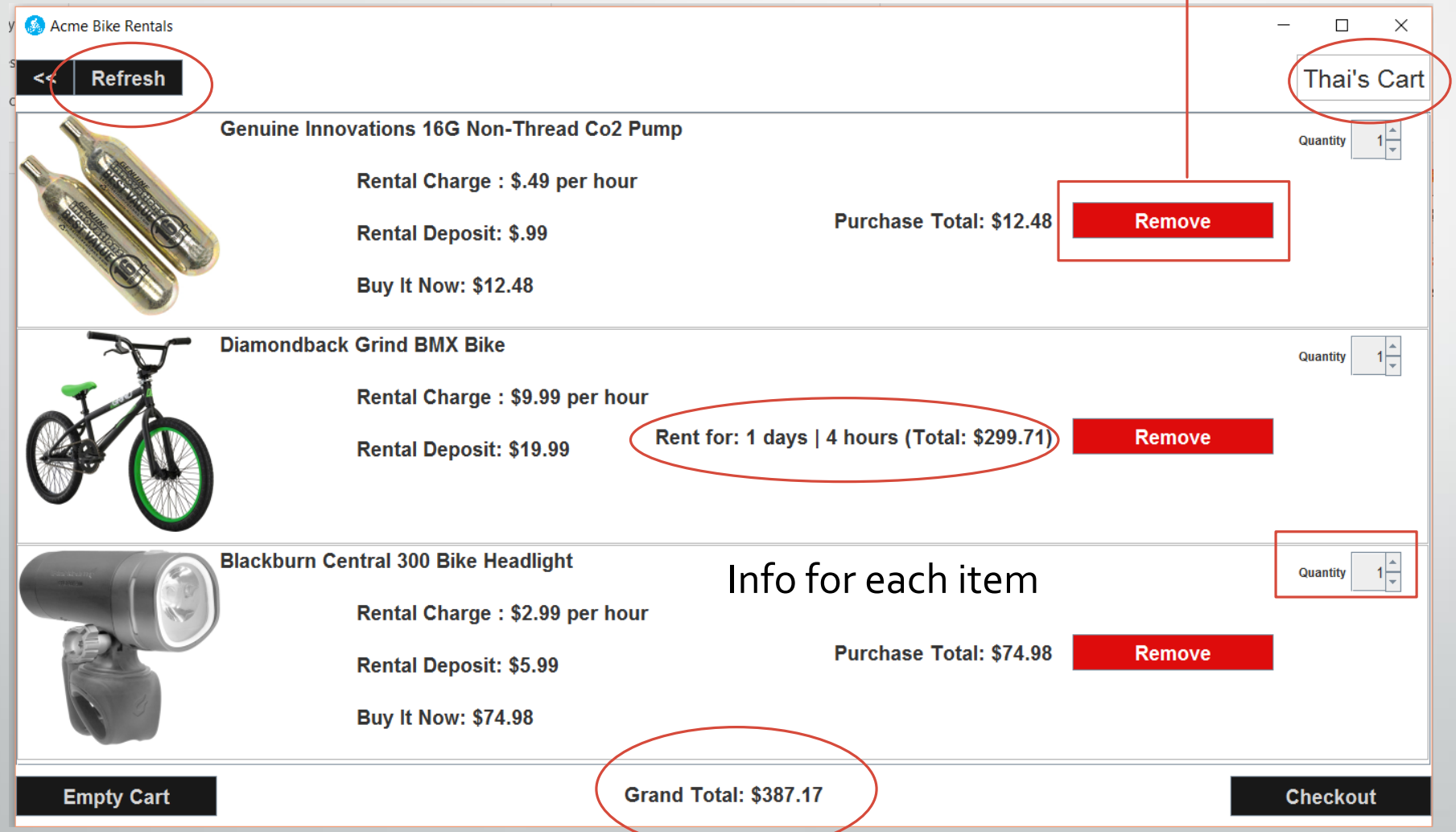
Rental Charge : $4.75 per hour

"Cart" GUI

Update cart after making changes

Remove Item from Cart

User's information (such as email, address, credit card, etc.)



Increase the quantity as desired

Calculated total Cost

Sumo-Robotics Competition

- An event hosted by Rowan IEEE annually
- There are 2 types of Sumo Competition:
  - Sumo-Robotics "Kit" Competition.
  - Sumo-Robotics "Scratch" Competition.
- Each team (usually of 4) must push the opponent's robot off the ring.

1) Sumo-Robot Kit Competition

- Rules: The teams competing in the kit competition must use the provided “Zumo” robot and it must be built without external hardware modifications.

My Role

- Contributed in planning the strategy and testified it before the game.
- Helped in programing the robot using Arduino.

We won the First Place in the 2016 Kit Competition

Figure 1: My teammates and I presenting the robot to the judges.

Strategy: Spin 360 degrees to look for opponent. Once the enemy's found, charge with full speed.

Figure 2: Our robot and 300$ collected by winning the competition.

2) Sumo-Robot Scratch Competition

- Rules: The robots competing in the scratch competition may be designed and built in any way as long as the final result conforms to the rules.

My Role

- Participated in programming the robot and designing the robot's shield.
- Contributed ideas and effective ways to solve problems faced during the competition (i.e. overweighing and mal-function)

*We won the **Third Place** in the 2016 Scratch Competition*

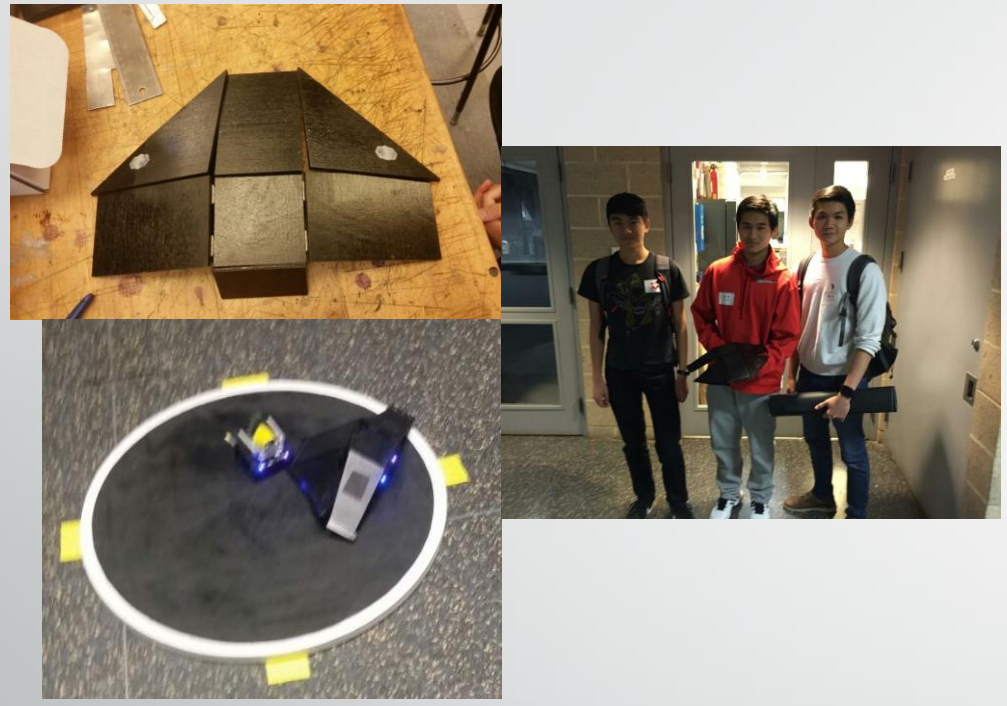


Figure 1: The "Bat Mobile" we used in the **2015** Scratch Competition.

Strategy: Find the edge of the ring, stays still as a dome so that the opponent will climb on and fall out of the ring.

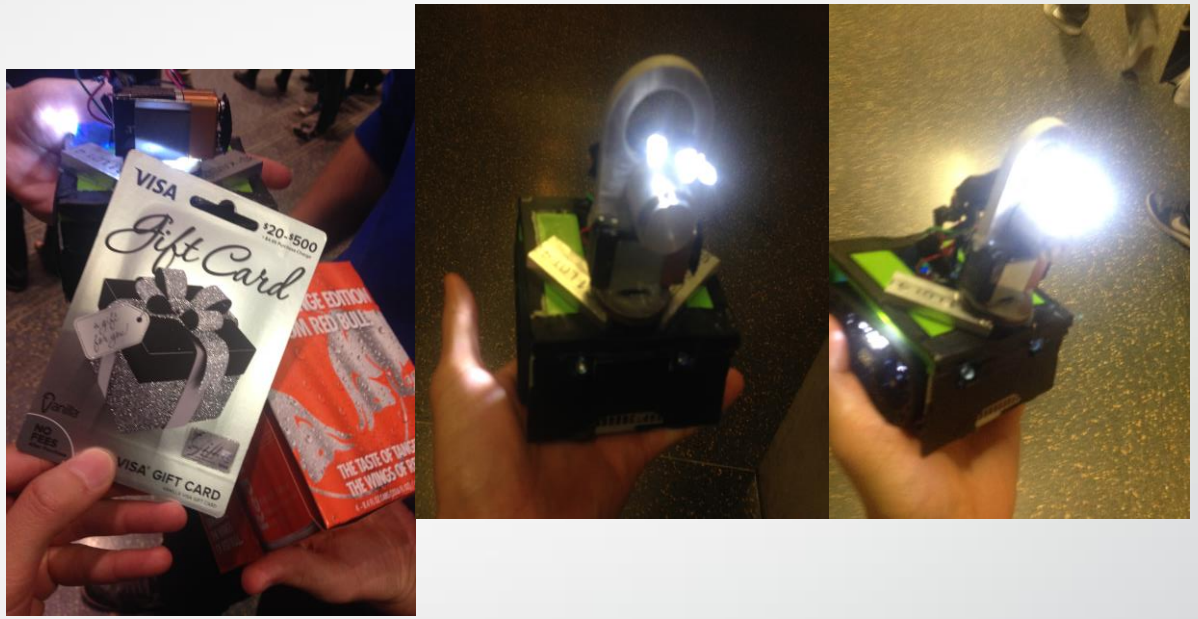


Figure 2: 150$ collected for winning the competition and the robot we used in the **2016** Scratch Competition.

Strategy: Armed with white LEDs to disturb enemy's sensors; spin around and charge the enemy with full speed.

Equalizer Project

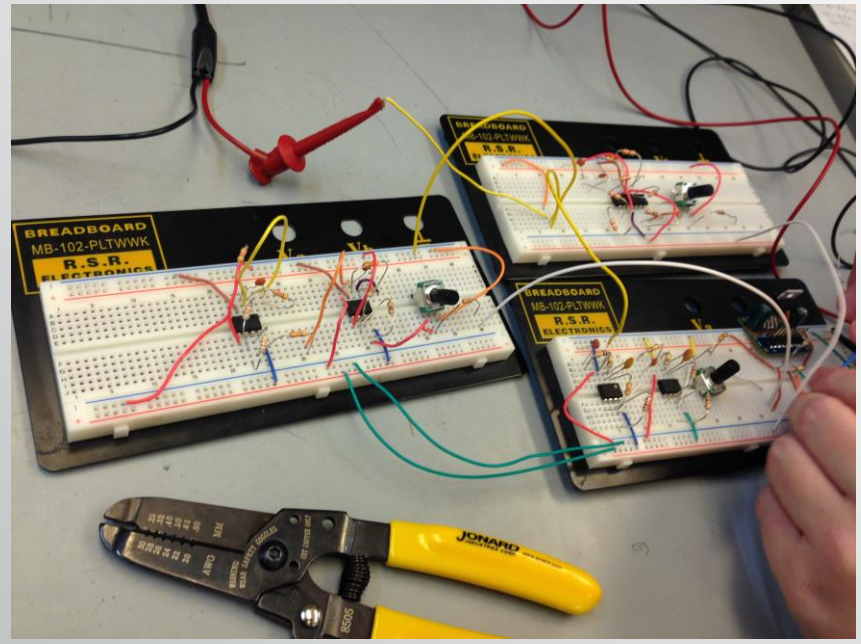
- Combine (from scratch) a second-order low-pass filter (LPF), a second-order high-pass filter (HPF), and a second-order bandpass filter (BPF) to create an equalizer (equalizers are hardware filters that adjust the amplitude of specific frequencies). This equalizer is used to modify an input music signal.
- Grade received: A

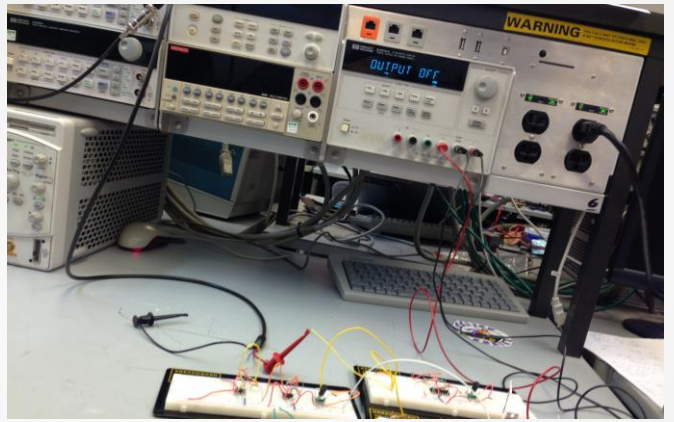
Agilent (Keysight)
Function Generator

Keithley Power input

Second-order
High Pass
filter

Second-order
Low Pass filter





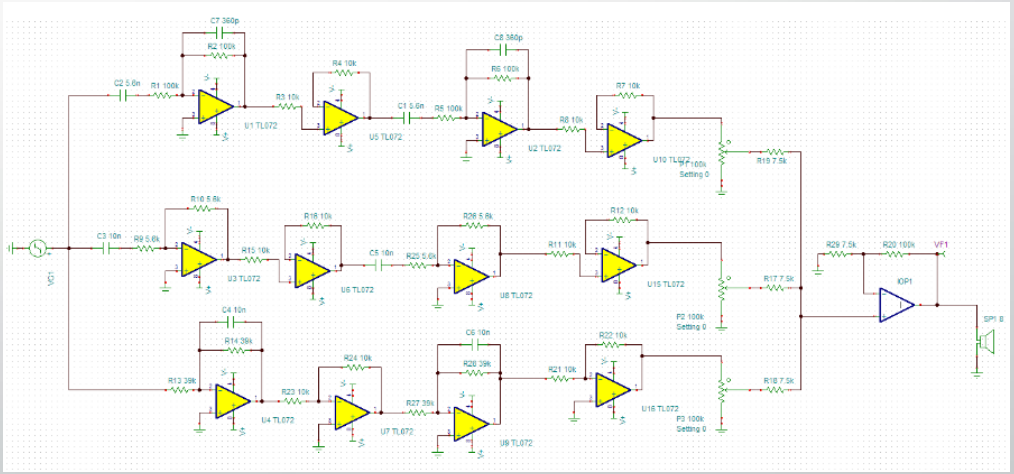


Figure 1: The Equalizer structure.

Second-order
Band Pass filter

Figure 2: Simulation for the Equalizer in TINA-TI.

Video Representation

- Please click on the below YouTube link to see how the Equalizer works.

https://youtu.be/J_s1tbV-znA

Question?

Any question please send to the email address below.

nghiemthai1@gmail.com

Thank you for your time!