Garbage Collector

Greg Lohrman
St. John Fisher College

Alexis Zakala
St. John Fisher College, arz06270@sjfc.edu

Follow this and additional works at: https://fisherpub.sjfc.edu/cs_undergrad

How has open access to Fisher Digital Publications benefited you?

Recommended Citation

Please note that the Recommended Citation provides general citation information and may not be appropriate for your discipline. To receive help in creating a citation based on your discipline, please visit http://libguides.sjfc.edu/citations.

This document is posted at https://fisherpub.sjfc.edu/cs_undergrad/3 and is brought to you for free and open access by Fisher Digital Publications at St. John Fisher College. For more information, please contact fisherpub@sjfc.edu.
Garbage Collector

Document Type
Undergraduate Project

Department
Computer Science

First Supervisor
Nicholas Bucciarelli

Subject Categories
Computer Sciences | Software Engineering

Comments
Final presentation for CSCI480: Senior Project.

This undergraduate project is available at Fisher Digital Publications: https://fisherpub.sjfc.edu/cs_undergrad/3
PROJECT OVERVIEW

- Project Objectives & Description
- System Technical Overview
- Engineering Process Methodology
- Engineering Test Methodology
- Engineering Key Work-Products
  - Requirements Analysis
  - Architecture Development/Models
  - Test Strategy/Test Cases/Expected Results/Corrective Actions
- Project Key Metrics
- Project Schedule/Key Milestones
- System Demonstration
- Academic Key Knowledge Acquired/Applied
- Strategic Value
- Questions
- Lessons Learned
PROJECT OBJECTIVES & DESCRIPTION

• Android-based application

• Pass time game

• Records analytics

• Created in Android Studio

• Simple and clean UI

• So altogether, a mobile, Android, point-and-click game used for pure enjoyment and to pass time.

Project Mentor: Nicholas C. Bucciarelli, Ph.D
SYSTEM TECHNICAL OVERVIEW

• Interaction with garbage can
  • MainViewController, UI button/image
• Upgrades page – load segue way
  • Array for segue way, ListViewController
• Loading function
  • Passes elements via array for segue way
• Increasing user’s score
  • Function that on-click, increases user’s score by X amount
• Subtracting amount from bank
  • When upgrade is purchased, subtract X amount from score
• Back button
  • On a click, will return to the previous page
ENGINEERING PROCESS METHODOLOGY

1. Identify Processes
2. Review, Update, Analyze
3. Design
4. Test & Implement

1. Time-passing Android game, Simple point and click, analytics tracking
2. Android Studio, java, few pages, simple transitions
3. Clean UI, simple images, basic font, similar page layout, targets younger age/those who enjoy addicting games
4. Debugging, syntax, connecting segue ways, testing game for every upgrade and element
ENGINEERING TEST METHODOLOGY

- Meet requirements?
- Accepts correct input?
- Proper functionality?
- Time accordance for functions?
- Cleanly usable?
- Run in it’s environments?
- Achieves it’s goals?
ENGINEERING KEY WORK-PRODUCTS

• Product Reviewing
• Product Analysis
• Product Specification
• Product Verification
PROJECT KEY METRICS

• Effort/Cost Variance – Coursework, free program and development

• Productivity – Useful, time-passing gaming application, utilized all resources successful

• Updating – Facing uncontrolled hardships, complications, overcoming them

• Quality/Customer Satisfaction - Fully-functional, appealing to customers, ease of use, highly used, provides entertainment

• Measuring margins- Project schedule, time management, completion successful
PROJECT SCHEDULE/KEY MILESTONES

• Software Engineering & Mobile Computing courses*

• Proposal – collaborating on an idea

• Planning and Reviewing

• Designing

• Testing/Debugging

• Feedback and Updates

Project Mentor: Nicholas C. Bucciarelli, Ph.D
SYSTEM DEMONSTRATION

• (hyperlink to application)
# iOS VS. ANDROID

<table>
<thead>
<tr>
<th>iOS</th>
<th>Android</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clean UI – Simple easy to do, no image</td>
<td>Difficult UI – Challenging refreshing the UI, displaying images</td>
</tr>
<tr>
<td>problems</td>
<td></td>
</tr>
<tr>
<td>Functions – fairly easy to understand,</td>
<td>Functions – just as simple as the iOS, a lot of threads were required</td>
</tr>
<tr>
<td>less threads needed</td>
<td>to get it to work properly</td>
</tr>
<tr>
<td>Button actions – simple to set up</td>
<td>Button actions – simple to set up does require listeners</td>
</tr>
<tr>
<td>Customizations – objects were simpler</td>
<td>Customizations – objects are more complex having more functions due to</td>
</tr>
<tr>
<td></td>
<td>the way android works.</td>
</tr>
</tbody>
</table>
ACADEMIC KEY KNOWLEDGE ACQUIRED/APPLIED

• CSCI 160 & 161 – Java Programming

• CSCI 400 – Mobile Computing
  • Designing and constructing a mobile application
  • iOS/ xCode → Android/Android Studio
  • Process of creating a full application

• CSCI 475 – Software Engineering
  • Business process
  • System & Software requirements
  • Requirements traceability

Project Mentor: Nicholas C. Bucciarelli, Ph.D
STRATEGIC VALUE

• Keeping a plan

• Schedule guidance

• Collaborating

• Realistic project

• Expectations
QUESTIONS
LESSONS LEARNED

• Applied techniques/skills obtained in Software Engineering
• Putting everything together from a variety of classes
  • Business process
  • project management
• Developing in an android environment
• Working together & trusting our partners
• Designing clean UI

Project Mentor: Nicholas C. Bucciarelli, Ph.D