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Garbage Collector

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Garbage Collector

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Undergraduate Project

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Computer Science

First Supervisor
Nicholas Bucciarelli

Subject Categories
Computer Sciences | Software Engineering

Comments
Final presentation for CSCI480: Senior Project.

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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.
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

Project Mentor: Nicholas C. Bucciarelli, Ph.D
ENGINEERING TEST METHODOLOGY

• Meet requirements?
• Accepts correct input?
• Proper functionality?
• Time accordance for functions?
• Cleanly usable?
• Run in its environments?
• Achieves its 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 problems</td>
<td>Difficult UI – Challenging refreshing the UI, displaying images</td>
</tr>
<tr>
<td>Functions – fairly easy to understand, less threads needed</td>
<td>Functions – just as simple as the iOS, a lot of threads were required 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 the way android works.</td>
</tr>
</tbody>
</table>

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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

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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