



IPRO 312: Widget Applications to Enhance the Tru2Way Consumer Experience

Sponsored by Comcast





Applications on Open Platform





Memory Error!

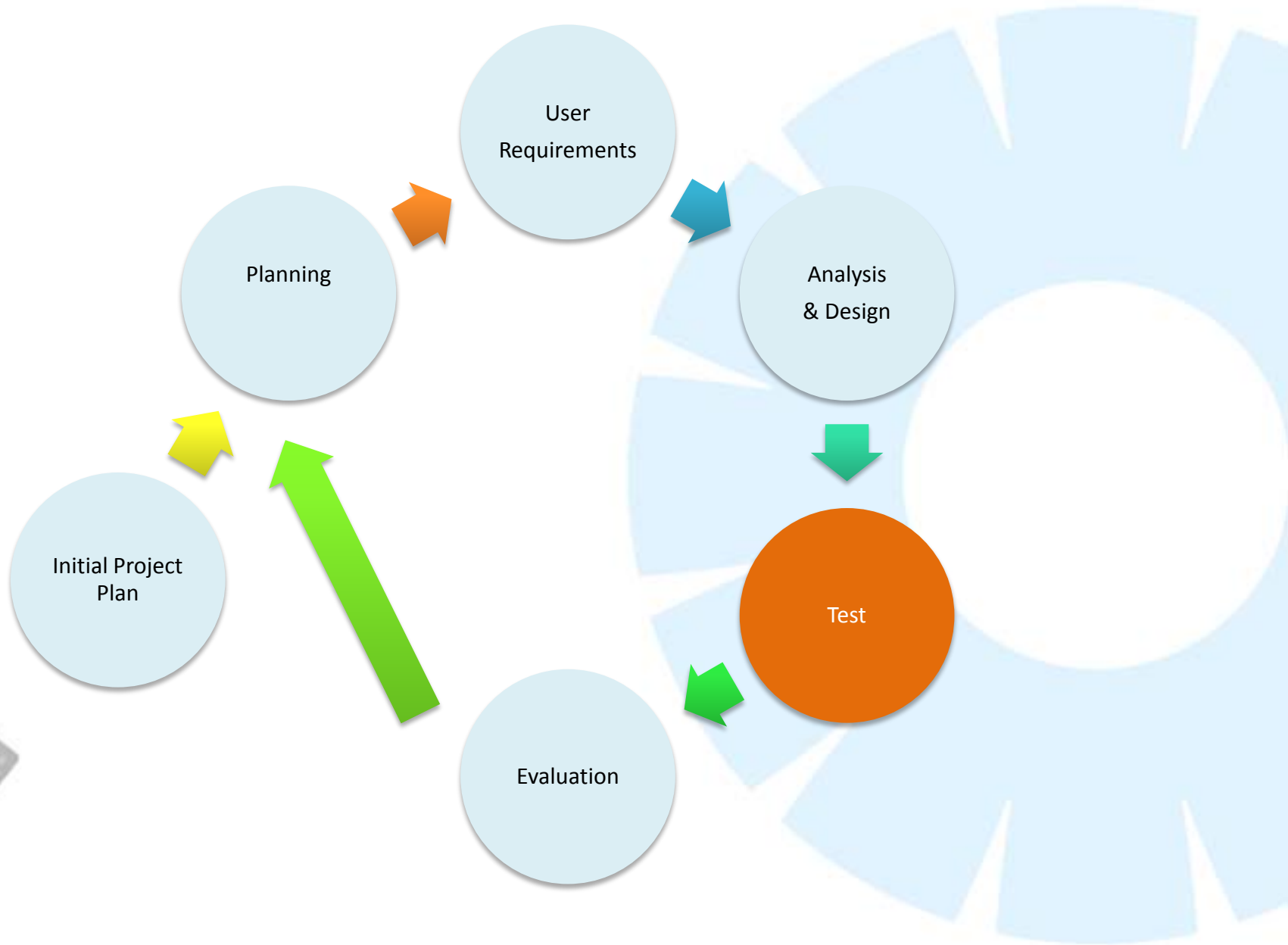
A fatal exception 0E has occurred at 0028:C0011E36 in UXD UMM(01) + 00010E36. The current application will be terminated.

- * Press any key to terminate the current application.
- * Press CTRL+ALT+DEL again to restart your computer. You will lose any unsaved information in all applications.

Press any key to continue _

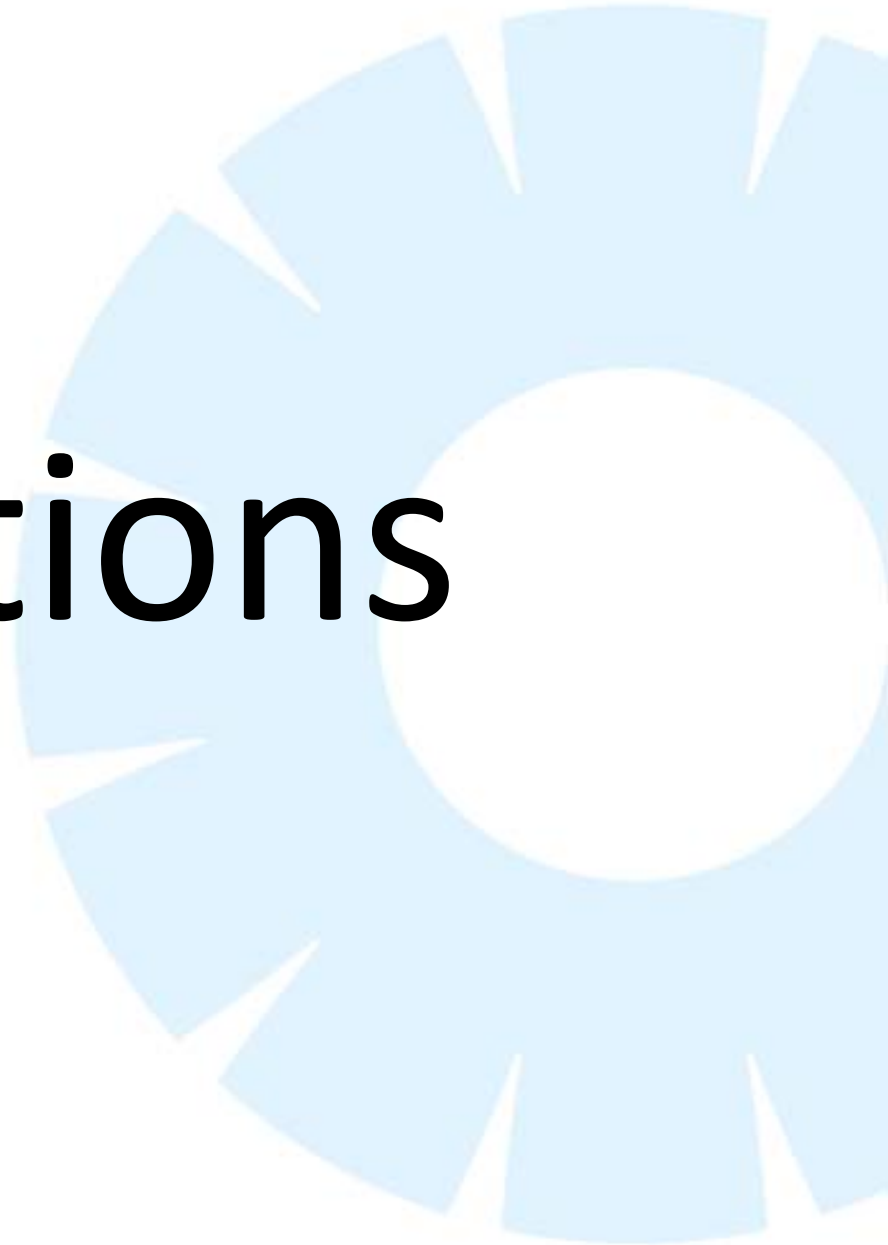


Software Development Cycle



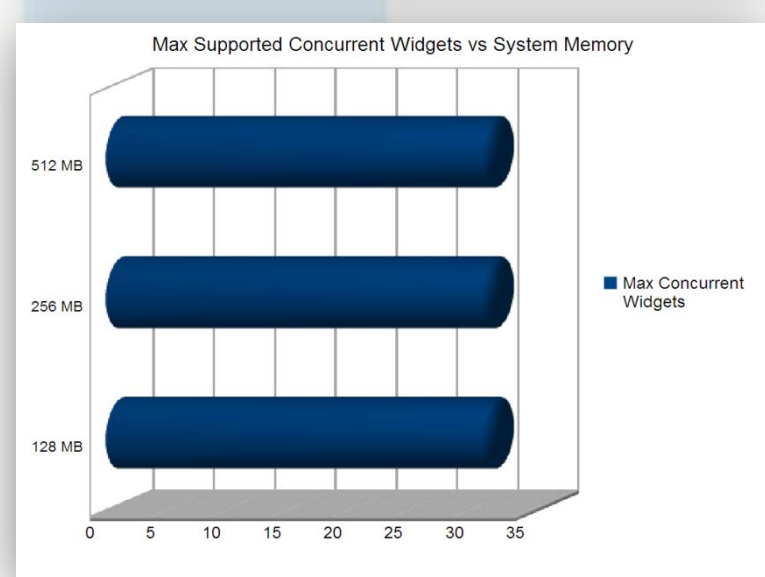
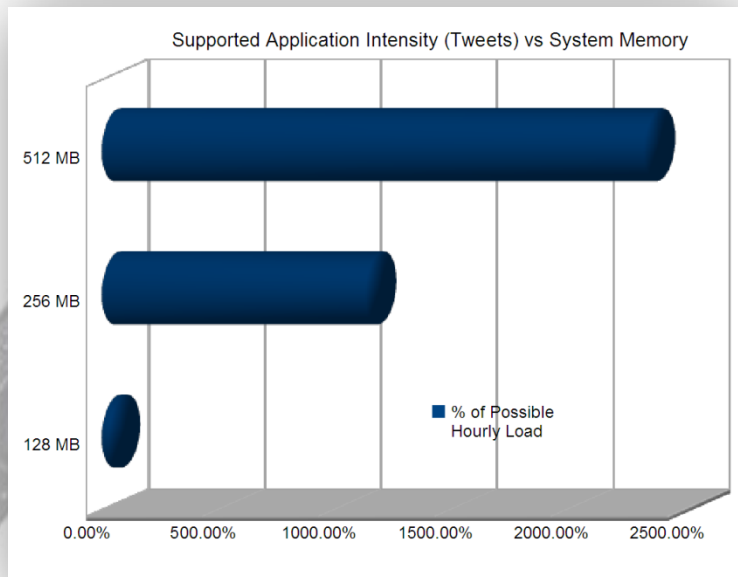
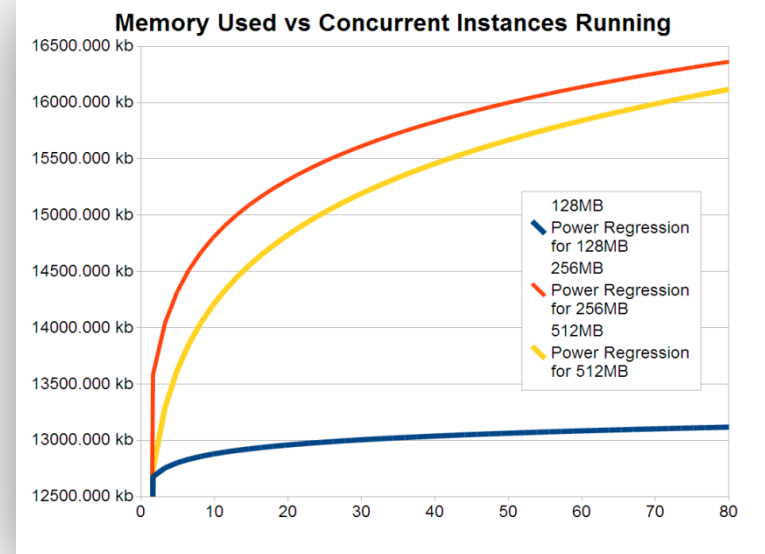
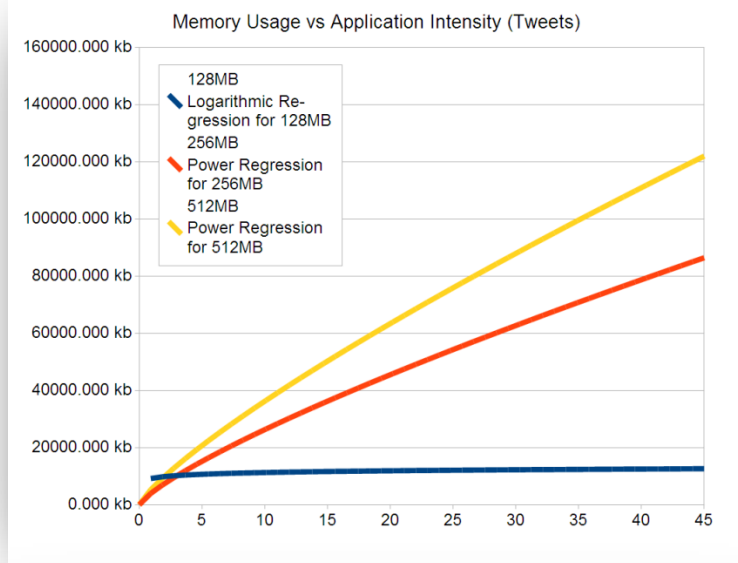


Definitions





Metrics







Widget/App

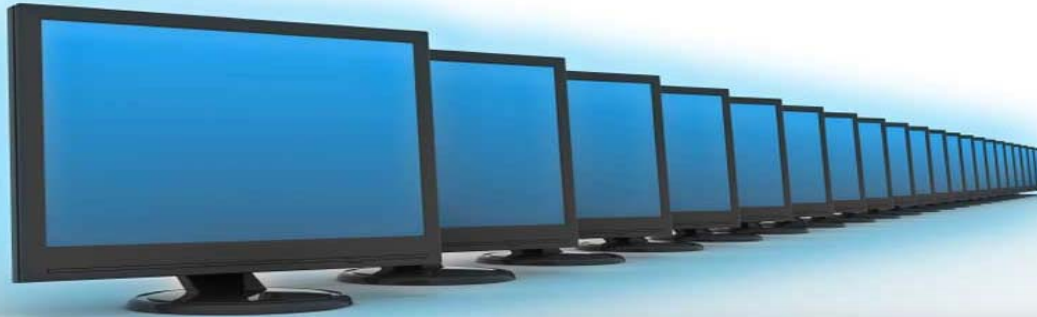


source: yahoo



Tru2Way

<tru2way>



Before

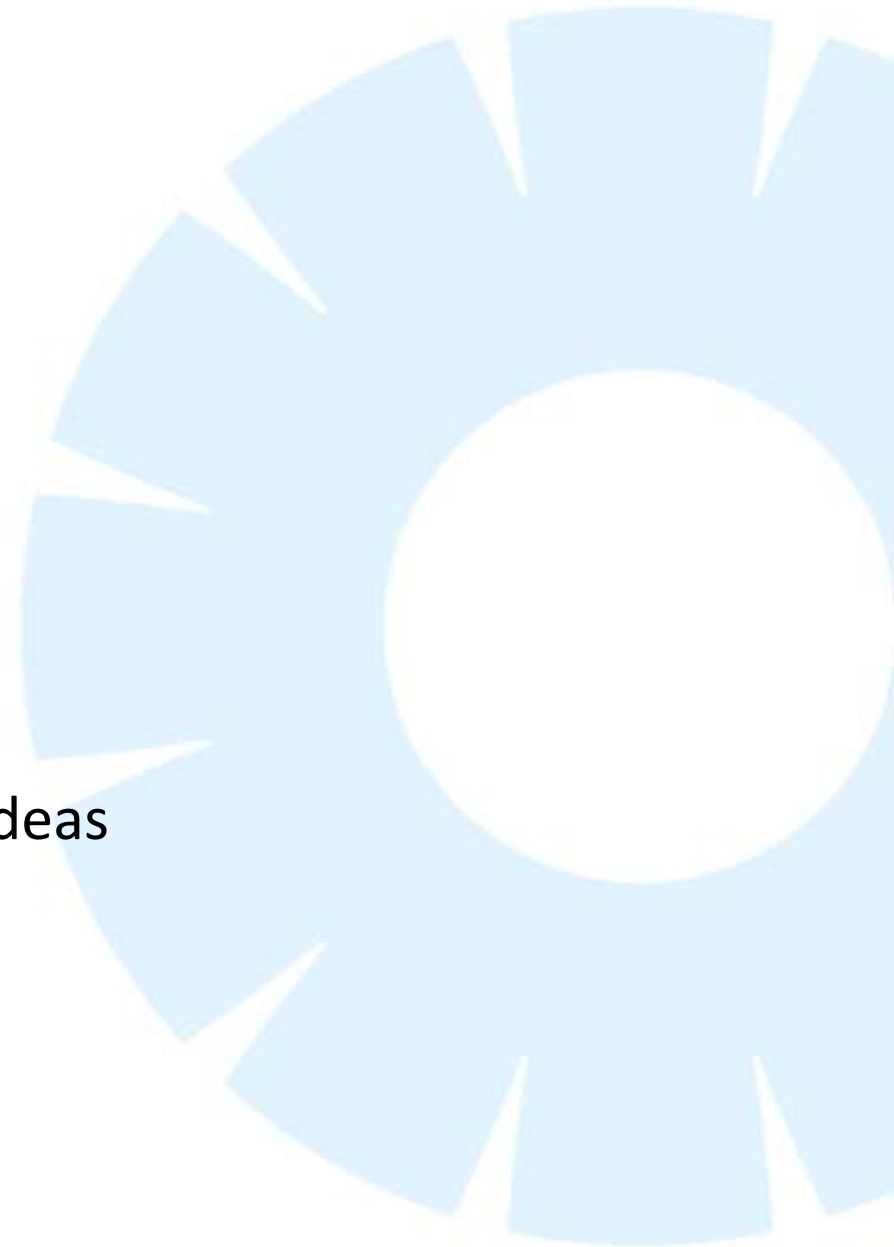


After
<tru2way>



Project Goals

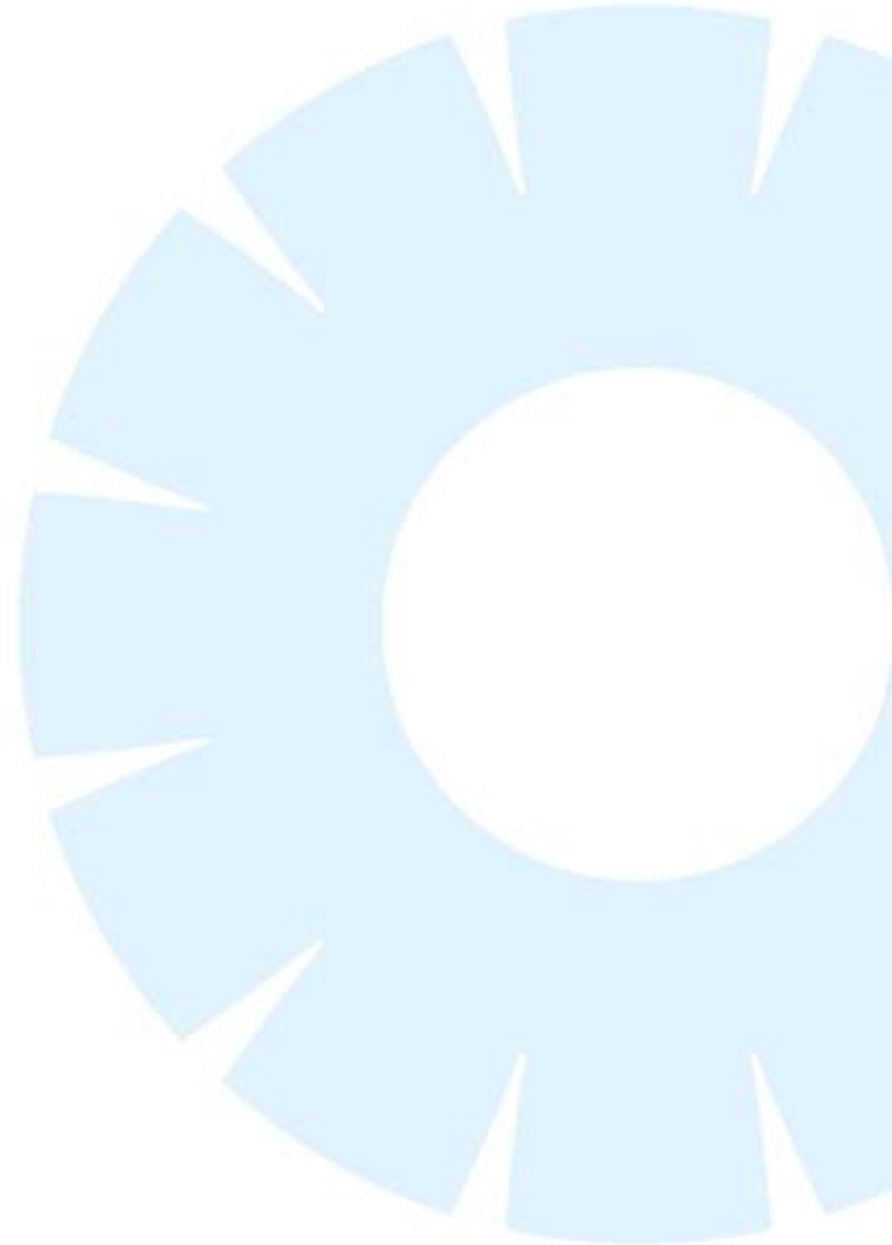
- Primary Goals
 - Identify Metrics to collect
 - Develop Test Widget
 - Test Plan
 - Collect test data
- Secondary Goals
 - New Widget Application Ideas
 - Consumer Usability





Identify test metrics

- Bandwidth
- Memory
- Multitasking





Develop Test Widget

RI Emulator Application

File Help

twitter™

Username Password login

INFO RI.UI.OpenGL.common - opengl_init_environment -- called with win -203, width 640, height 480
INFO RI.UI - window_init returning Window ID: -203

Welcome to RI Emulator!

The image shows a screenshot of the RI Emulator Application window. The window has a title bar with the text 'RI Emulator Application' and a menu bar with 'File' and 'Help'. The main content area displays a Twitter login interface. It features the Twitter logo at the top left, followed by two empty text input fields. Below these is a large white text input field for the username. To the right of the input fields is a keyboard overlay with a grid of letters and a 'login' button. The keyboard has a grid of letters from 'a' to 'z', a red backspace key, and an orange 'nxt' key. Below the keyboard are labels for 'Username' and 'Password'. To the right of the keyboard is a remote control overlay with various buttons like 'MENU', 'INFO', 'SELECT', 'ON DEMAND', 'MUTE', 'LIST', 'LIVE', and a numeric keypad. The bottom of the window shows a status bar with log messages and a welcome message.



Test Plan

Phase I

- Test robustness of sample widget

Phase II

- Stress test, sample widget
- Determining breaking points

Phase III

- Concurrency/Multitasking test

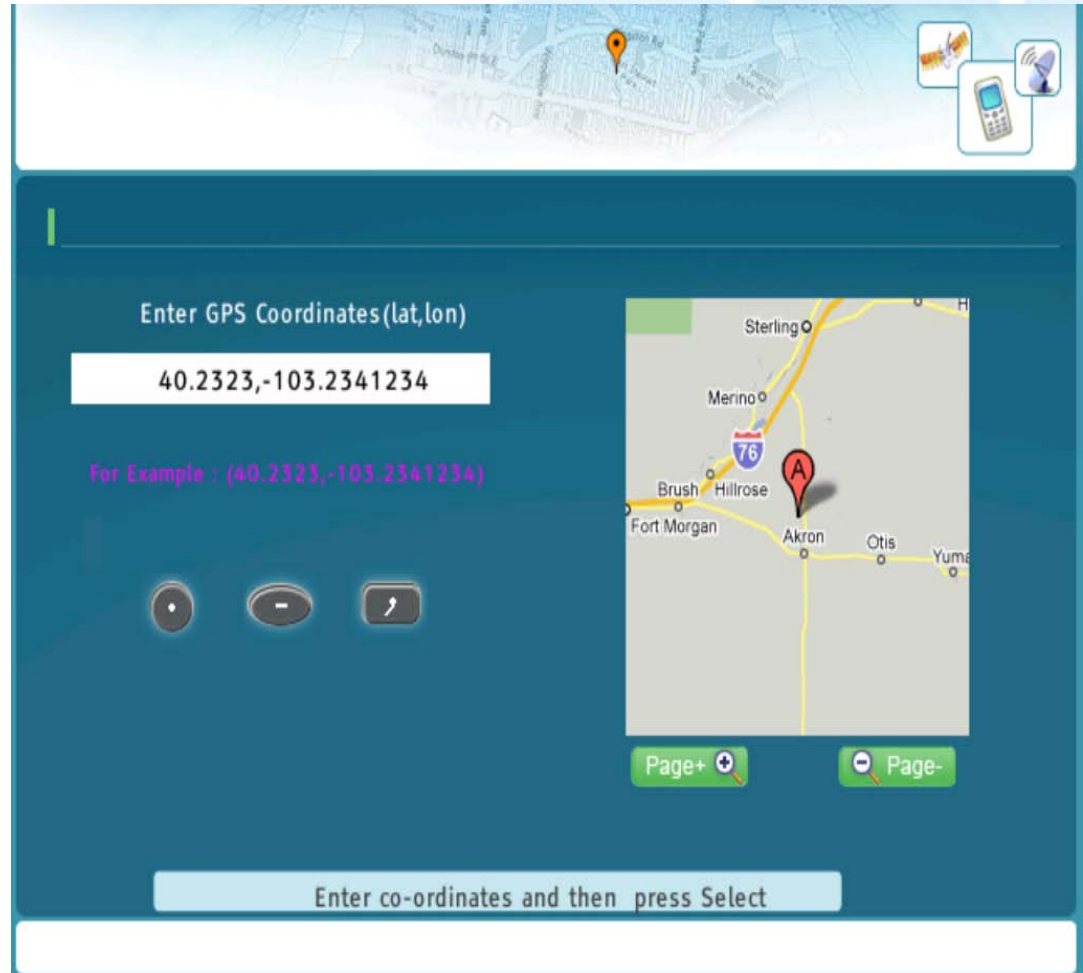
Phase IV

- Combination of all tests



Develop new widget ideas

Use sample Google map application as a reference to develop a package tracking application





Team Structure

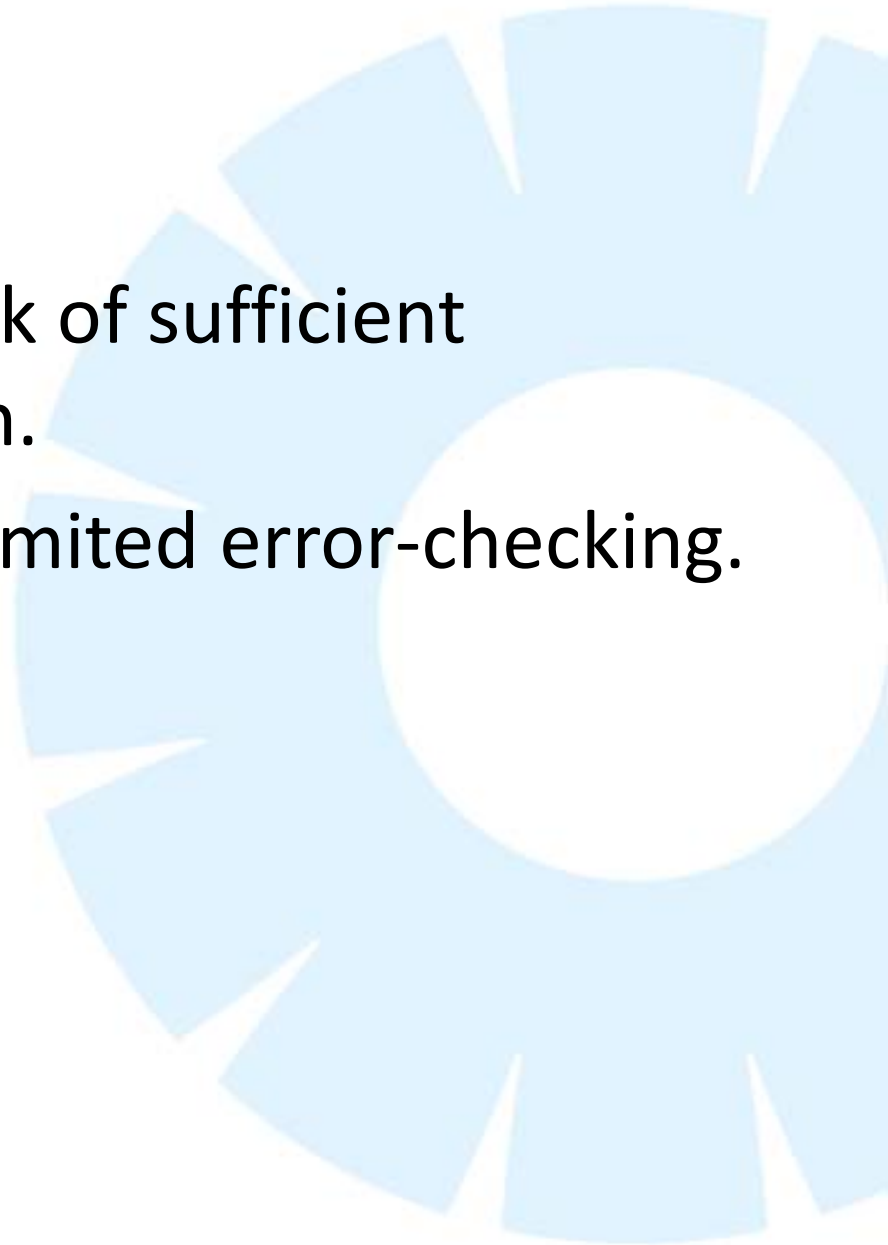
- Programming
- Usability & Testing





Obstacles

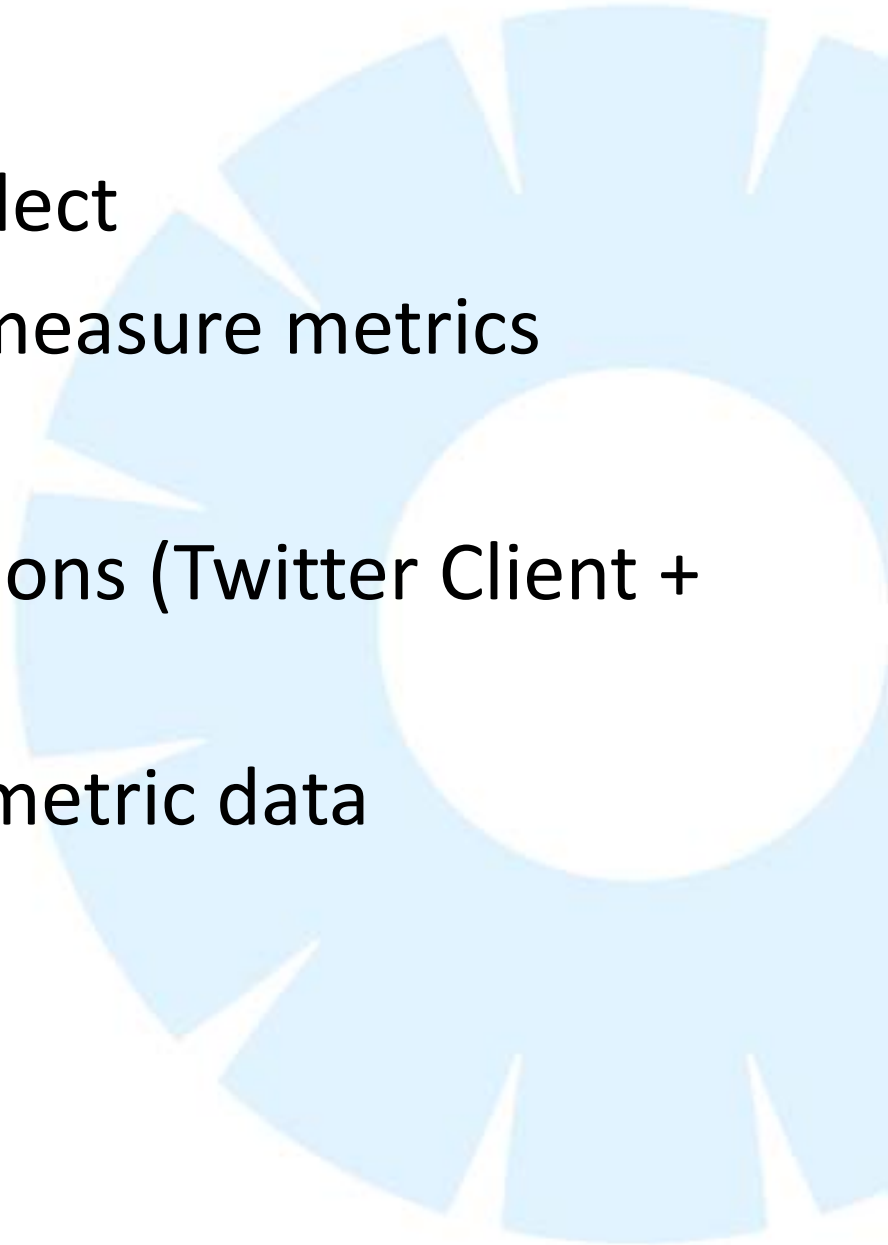
- Usability concerns — lack of sufficient technical documentation.
- Emulator restrictions—limited error-checking.





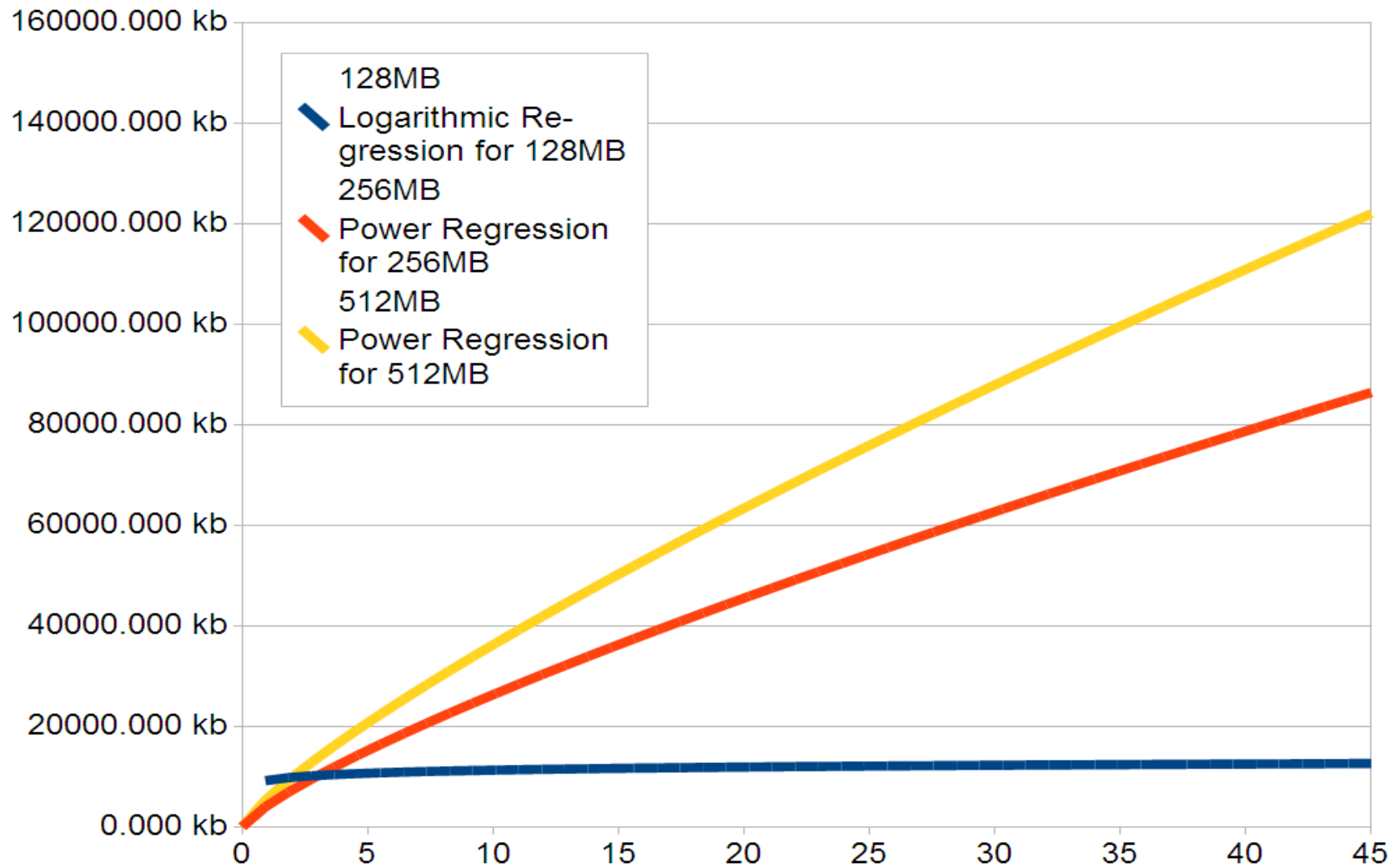
Achievements

- Identified Metrics to Collect
- Developed Test Plan to measure metrics
- Procured adequate SDK
- Developed Test Applications (Twitter Client + App Manager)
- Ran tests and collected metric data



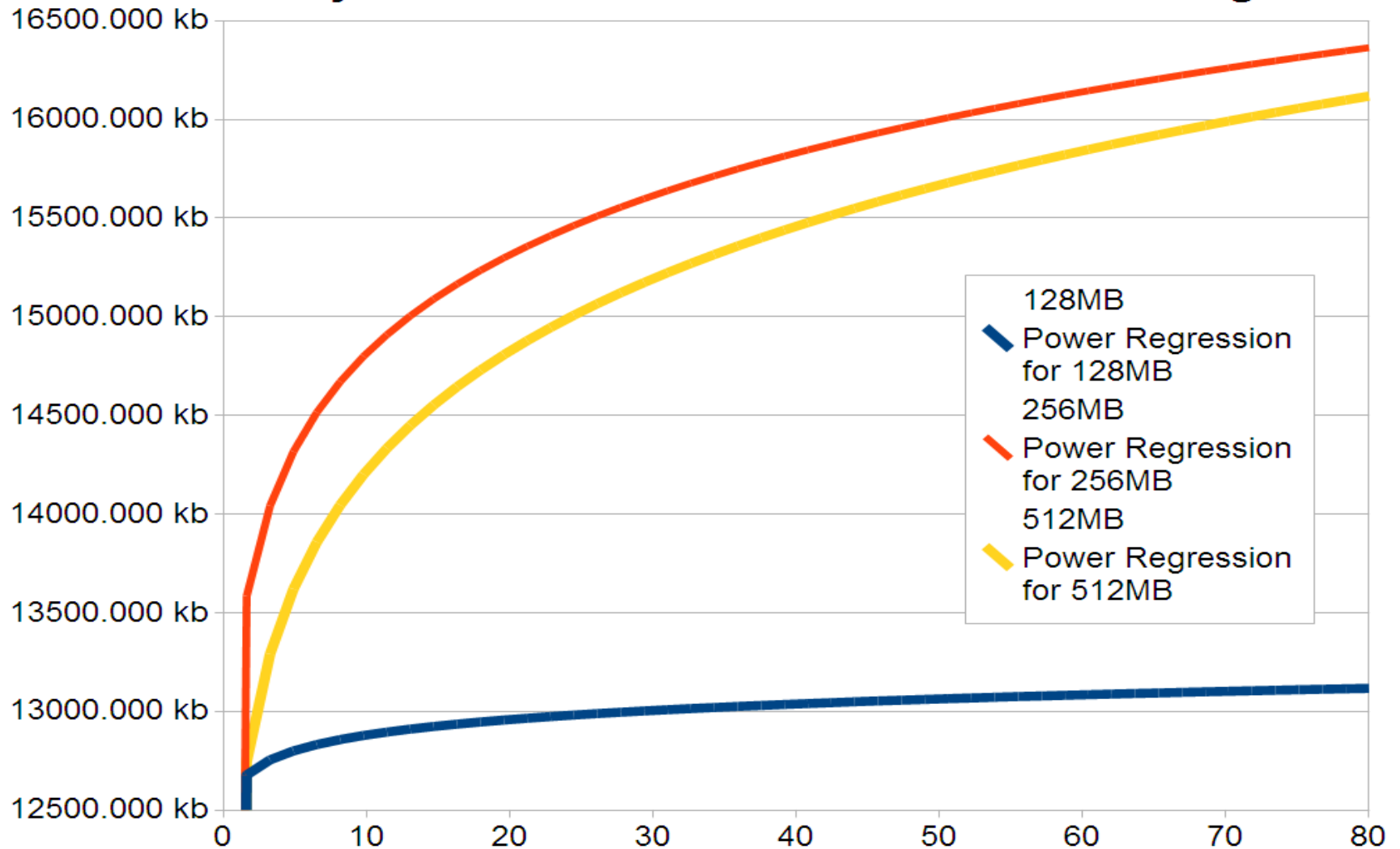


Memory Usage vs Application Intensity (Tweets)



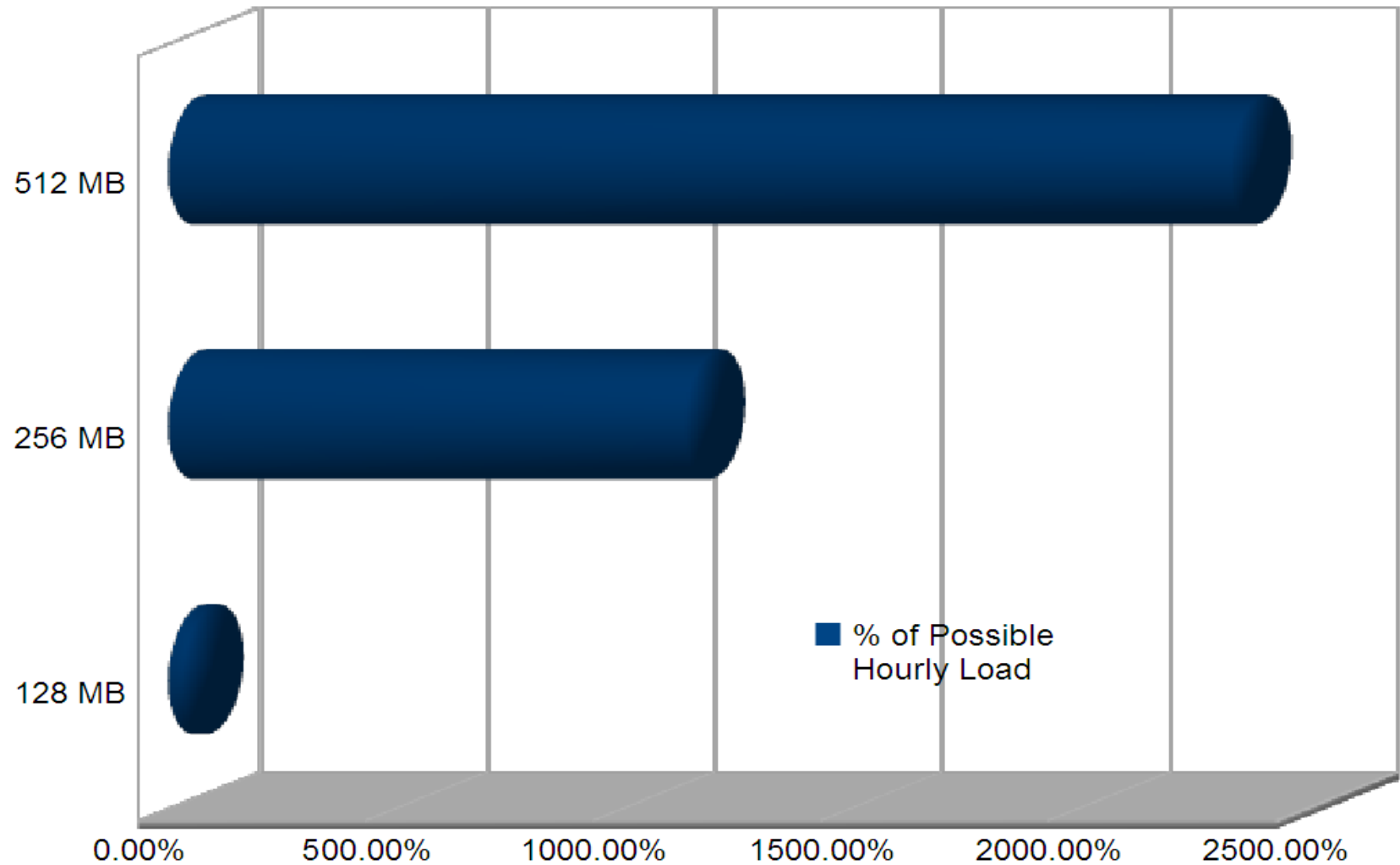


Memory Used vs Concurrent Instances Running



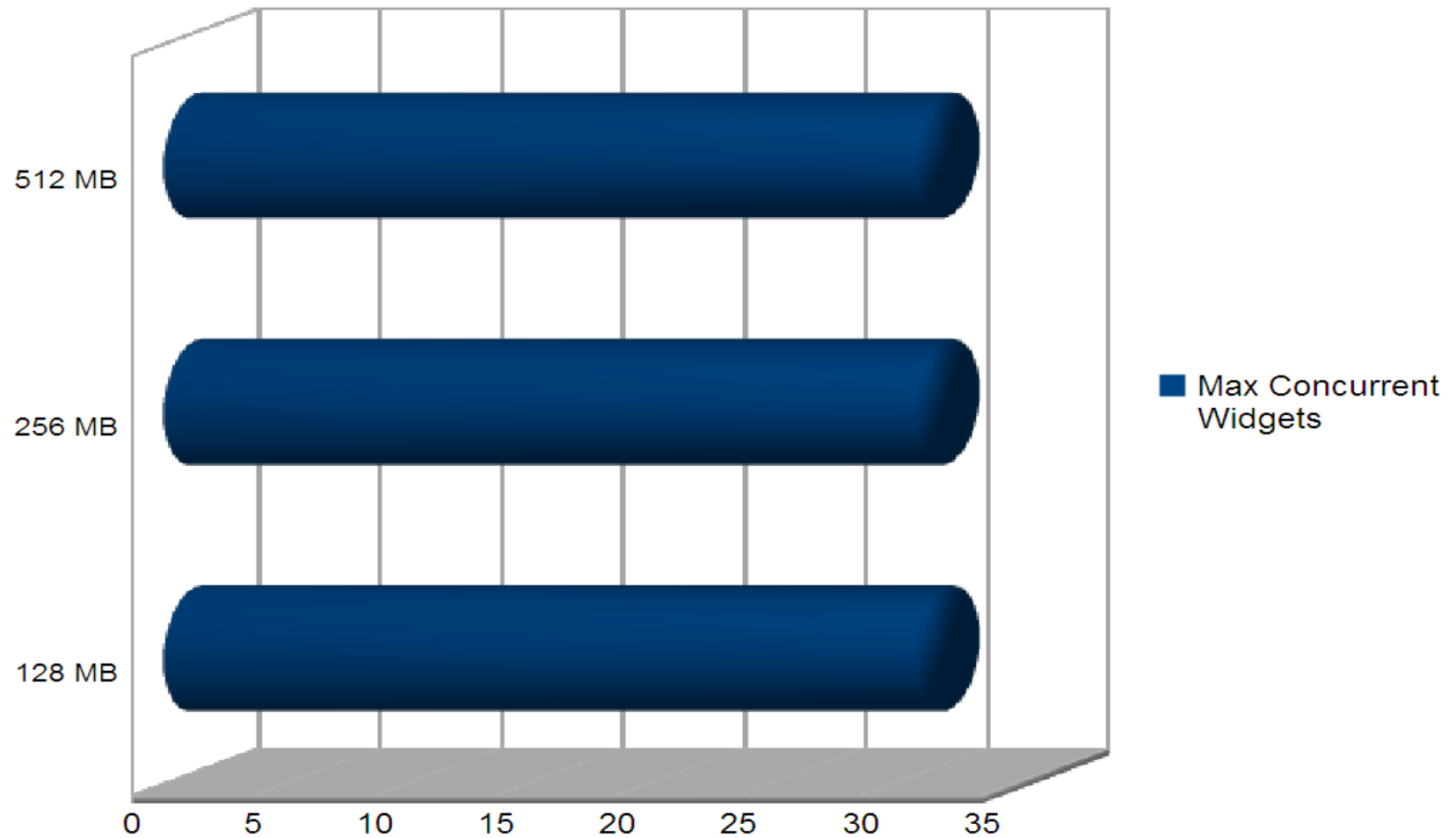


Supported Application Intensity (Tweets) vs System Memory



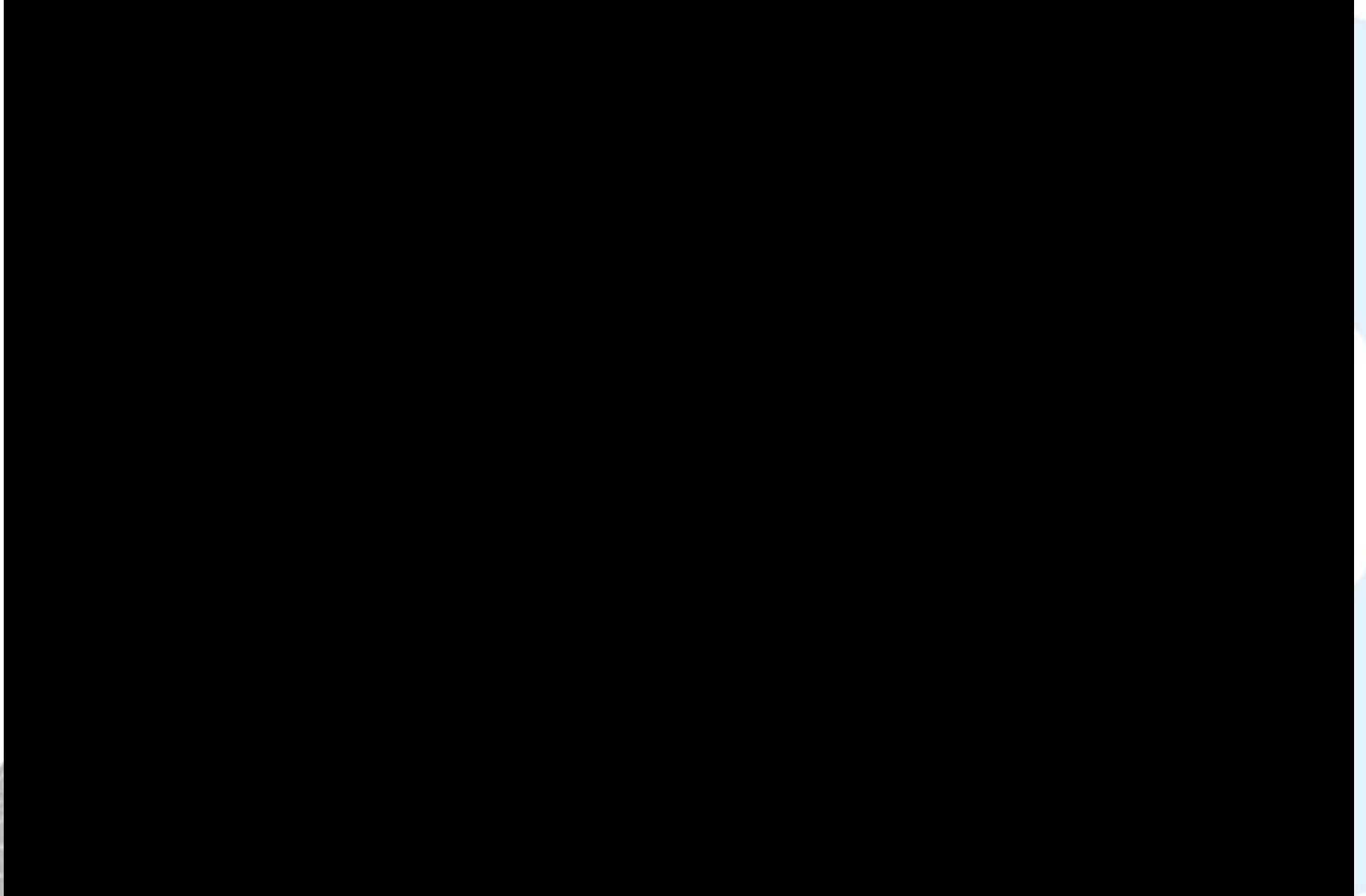


Max Supported Concurrent Widgets vs System Memory





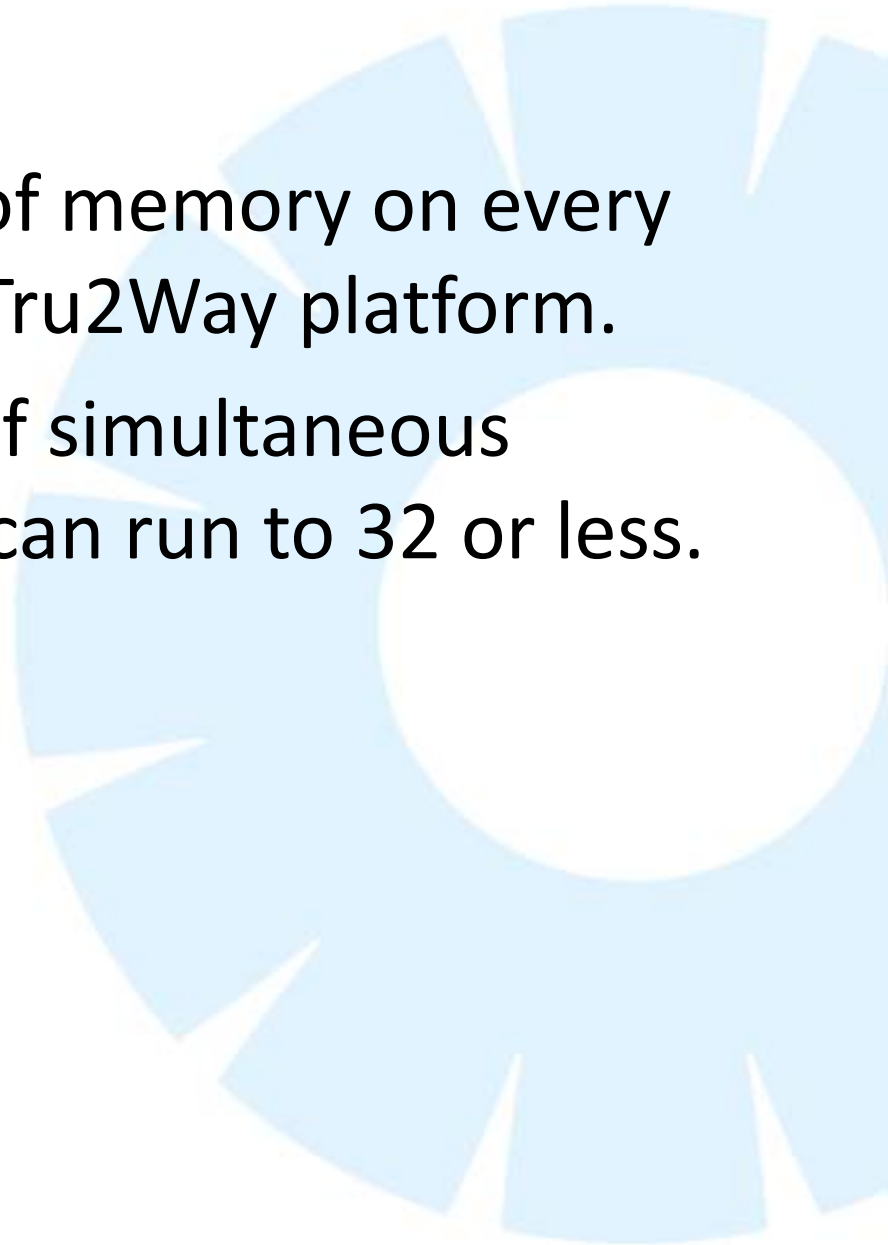
Video of Twitter Application





Recommendations / Conclusion

- Include at least 256MB of memory on every device that will run the Tru2Way platform.
- Limit the total number of simultaneous applications that a user can run to 32 or less.





Questions...

