

# Pictures at SERE 2014

Day 1 (June 30)



Welcome to SERS 2014  
The Eighth SERS International Conference on  
Software Security and Reliability  
June 16-18, 2014  
San Francisco, California, USA  
All Day Long  
San Francisco, California

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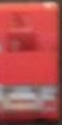
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Prof. Dong Tap



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Prof. Wen-Gang  
Tseng  
Member of the Board  
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## Contributions

- Involving in various smart card OS design
- Design and implementation of open Java Card OS along with applications from scratch
- New layered architecture, high mobility, optimized Java Card Virtual Machine and support for native code deployment
- A completely new communication module design with Enhanced Protocol Support features
- The proposed Java Card Virtual Machine design reduces the CAP file converter footprint at 30% smaller UC file size
- Also faster UC components deployment to latest JCOP family OSs





Dr. Mohammad  
Ghannam





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## Bugs Found in *PicFlick*

- 993 of 12776 test cases resulted in application crashes on iOS, and 5 suspected bugs were found.

Index	Error Scenarios	Failed #	Reasons of the failures
1	If the picture is too large, then the drag of the picture may crash.	121	Due to the limited resource for the smartphone application, the drag of big pictures will use up all the allocated CPU and memory resources.
2	If users send pictures to digital frames and printers at the same time, the application will crash.	800	The implementation of the task scheduling between sending list and pending list is wrong.
3	Fail to delete tasks from pending list.	40	The implementation of the delete operation of the pending list is wrong.
4	Fail to tap the sending list button in the Queue view.	12	After selecting devices to send photos, the sending list button is disabled by mistake.
5	Fail to find printers which appear in the Tools view.	14	The implementation of the connection between PicFlick and the drivers of printers is wrong.

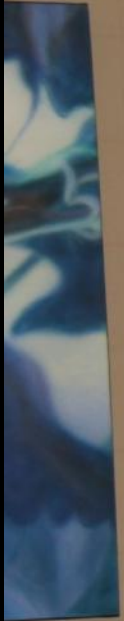
- 925 of 12776 test cases resulted in application crashes on Android, but only bug 1 and bug 2 were reported.



Mr. P. Hand  
[Illegible text]



2014 SFRG 2014  
Mr. Haipeng Cai  
University of Notre Dame















































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# FRANC. A Ranking Framework for the Prioritization of Software Maintenance

Dhyanesh Chaudhari, Mohammad Zul  
Weldemariam  
School of Computing  
Queen's University  
Kingston, Ontario, Canada  
Contact: mzulker@cs.que



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# Example: bubble sorting

- Test 1: (v=[4, 0, 1  
Path 1: (5F, 7F)

```
1 #define MAXLEN 6
2 void bubble(int v[MAXLEN], int n)
3 {
4     int i, j, k;
5     if (n >= MAXLEN)
6         return;
7     for (i = n; i > 1; --i)
8         for (j = 1; j < i; ++j)
9             /* compare */
10            if (v[j] > v[j+1]) {
11                /* exchange */
12                k = v[j];
13                v[j] = v[j+1];
14                v[j+1] = k;
15            }
16 }
```

1. (5T)  
2. (5F, 7T)



(a) Iterat









# Confinement Label and Distribution

## - Distribution rule

$\forall$  data (code) unit  $U$ , and node  $N$

$U$  can be distributed to  $N \leftrightarrow C(N) \geq C(U)$  and  
 $R(N) \geq R(U)$  and  
 $\exists ! s.t. G(N) \in GI(U)$

Confinement unit for source code  
Global scope function  
Global scope class

$C(U)$ : Confidentiality level of  $U$   
 $R(U)$ : Integrity level of  $U$   
 $GI(U)$ : Group of  $U$   
 $GI(N)$ : The rfb group in  $GI(U)$

SENSE Lab



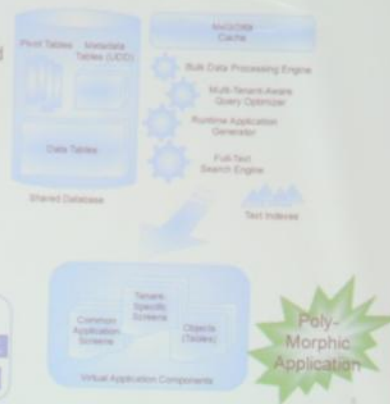


IEEE MRE 2014  
Mr. Asad Raza  
Majan University College



## SaaS Example: Salesforce.com [3]

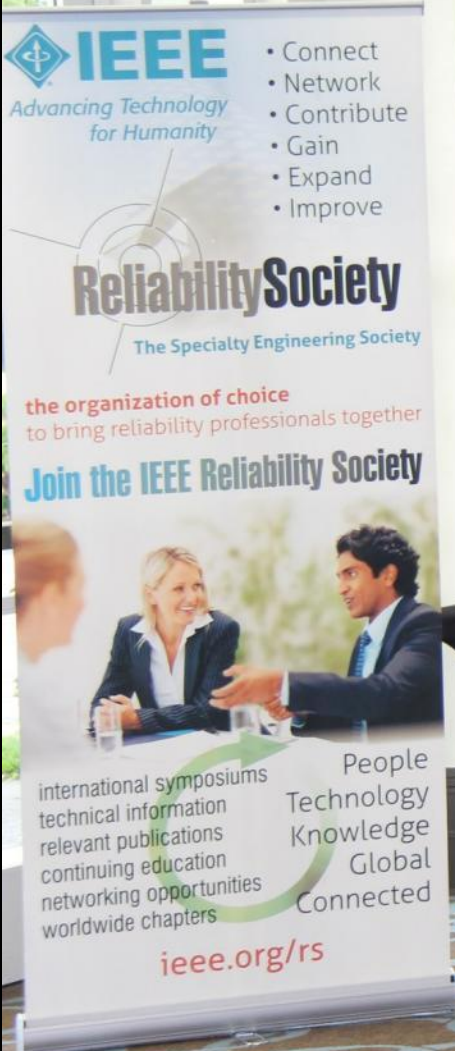
- Software within Software
- Same SaaS infrastructure for all tenant applications
- Separating metadata from data, and heavy indexing to improve performance.
- Runtime application generator dynamically builds applications in response to specific user requests







IEEE NERE 2014  
Mr. Ruizhi Gao  
University of Texas at Dallas




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Dr. Katerina Gavrea  
Popoianova  
West Virginia University



## Experimentation

### Case studies:

- Ecinema (simple web applicatin) and Global Platform (industrial – 1500+ generated tests).

GLOBALPLATFORM

### Research Questions:

- RQ1: How effective is SeTGaM?
- RQ2: How efficient is SeTGaM?





Mrs. Nurhan Çelik



08/07/2014  
Mr. Charitha  
Hettiarachchi  
North Dakota State University



Thank you!



























































