

**Review Form: 1<sup>st</sup> International Workshop on  
Services and Infrastructure for the Ubiquitous and Mobile Internet (SIUMI'05)**



**SIUMI 2005**

**WEB MINDS**

Columbus, Ohio,  
USA, June 6<sup>th</sup>, 2005

In conjunction with the 25th Int. Conference on Distributed Computing Systems (**ICDCS'05**)

Paper Number: 9

Paper Title: Probability-based power-aware error resilient coding

Authors: Kim, Oh, Dutt et al.

---

**Reviewer1:**

<b>Familiarity</b> Rate your familiarity with the topic	1	X	3	4	
	Novice	Some knowledge	Familiar	Expert	
<b>Significance</b> Technical relevance and practicality of ideas in the paper	1	X	3		
	Not significant	Somewhat significant	Highly significant		
<b>Novelty</b> How original the problem and/or solution method is	1	X	3		
	Not novel	Somewhat novel	Highly novel		
<b>Quality of Presentation</b> Writing and presentation style/accuracy	1	2	X		
	Poorly written	Could be improved	Well written		
<b>Overall Recommendation</b>	1	X	3	4	5
	Strong reject	Weak reject	Weak accept	Accept	Strong accept

**Contributions**

This paper presents an error-resilient coding scheme which leverages both image content and network information in order to reduce recovery time, as well as energy consumption. The authors discuss the results obtained after implementing their scheme in a H.263 video codec on both an IPAQ and a Zaurus PDA.

**Strengths and weaknesses**

The PBPAIR encoding scheme proposed by the authors looks interesting and seems to succeed in striking the balance among error resiliency, encoding efficiency and energy consumption.

My concern about this work is related to the consideration that it does not completely fit in the intents and topics of SIUMI2005, i.e. I'm not sure the topic of the paper is relevant to SIUMI 2005's spirit.

**Detailed public comments**

## **Reviewer2:**

<b>Familiarity</b> Rate your familiarity with the topic	1	<b>2X</b>		3	4
	Novice	Some knowledge		Familiar	Expert
<b>Significance</b> Technical relevance and practicality of ideas in the paper	1	<b>2X</b>		3	
	Not significant	Somewhat significant		Highly significant	
<b>Novelty</b> How original the problem and/or solution method is	1	<b>2X</b>		3	
	Not novel	Somewhat novel		Highly novel	
<b>Quality of Presentation</b> Writing and presentation style/accuracy	1	2		<b>3X</b>	
	Poorly written	Could be improved		Well written	
<b>Overall Recommendation</b>	1	2	3	<b>4X</b>	5
	Strong reject	Weak reject	Weak accept	Accept	Strong accept

### **Contributions**

The paper proposes a new power-aware error resilient coding scheme for video communications in the mobile handheld environment. With respect to existing coding schemes, the proposed technique is based on user expectation and network conditions and addresses efficiently the energy consumption issue which represents an important challenge in mobile environment. The proposed technique is compared in details with existing error resilient encoding schemes for video communications and achieves interesting performance results.

### **Strengths and weaknesses**

The paper is well written and the overall organization is satisfactory. The performance evaluation of the proposed scheme has been carried out through extensive experiments which also include power measurement for two different handheld devices.

### **Detailed public comments**

In the discussion of the experimental results the authors should also point out the differences, if any, between the results obtained for the two handheld devices.

The Intra\_Th user-defined parameter is kept fixed in each experiment. What happens and how does the proposed scheme react if the user understands that the perceived video quality is lower than that expected (or viceversa) and changes the parameter?

There are some typos that need to be fixed.