Before...  
- by Government  
- large scale, high cost

After...  
- by individual  
- friendly, ubiquitous

requirement to the system
1. Transfer Water level regularly
2. Video signal when necessary

Existing Method #1

Existing Method #2

Current Method #2

Previously Proposed Methods #1 & #2 by the authors

“Functionally” Layered Coding

Proposed Method

Video signal

Frame subtraction

Vertical differentiation

Horizontal differentiation

Wavelet transform

Subtraction of frames

Existing Method #2

Component

Frame addition

Vertical differentiation

Horizontal differentiation

Wavelet transform

Component

1st priority

2nd priority

Non-priority


"Functionally" Layered Coding

Previous method #2

"recognition"  
\[ \text{MPEG "compression"} \]

MPEG  "compression"
Which band should be included into the 1st layer?

One dimensional feature vector

Multi dimensional feature vector

Multi dimensional feature vector

What is expected in general?

Conventional methods ... recognition only / compression only

Proposed method ... Unification of recognition & compression