TVML Technology
&
Applications

Masaki HAYASHI

NHK (Japan Broadcasting Corporation)
Science and Technical Research Laboratories

NHK Science & Technical Research Laboratories

Background

- **Production of TV programs is only for experts**
  - **requires many equipment**
  - **requires a studio, announcers etc.**
- **Many production tools in PC, Internet,..**
  - **Web page, DTP, DTM, ...**
- **Handy way to make TV program just like making home page**

⟶ It should be possible to create TV programs on a PC

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Research & Development of TVML

■ **Proposal of TVML**

   TVML (TV program Making Language)
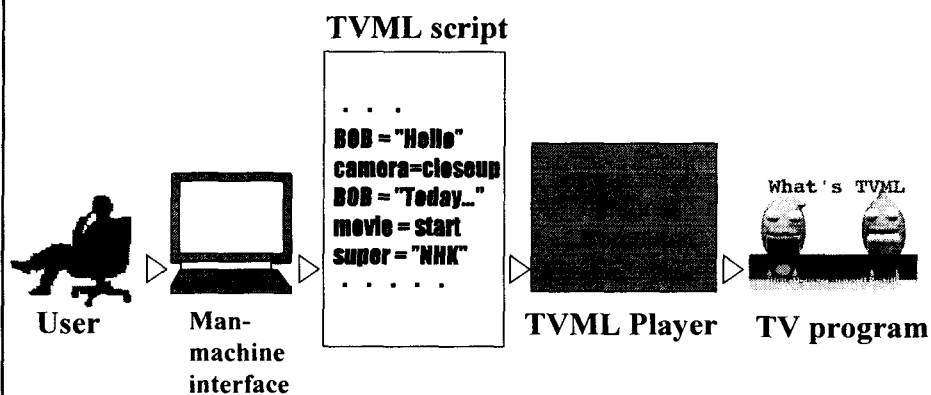
   →A language to describe full TV program

■ **Development of TVML Player**

   TVML Player interprets a TVML script

   and generates a TV program in realtime

How can computer generate TV program

TVML script

```
. . .
BOB = "Hello"
camera=closeup
BOB = "Today..."
movie = start
super = "NHK"
. . . . .
```

What's TVML

| User | Man-machine interface | | TVML Player | TV program |

Basis of a language specification of TVML

(1) Based on a real TV script

(2) Uses as high an abstraction level
as possible

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Language specification for TVML

Point: Perform an event written in one line,
And when the event is finished then
proceed to the next event.

Example :

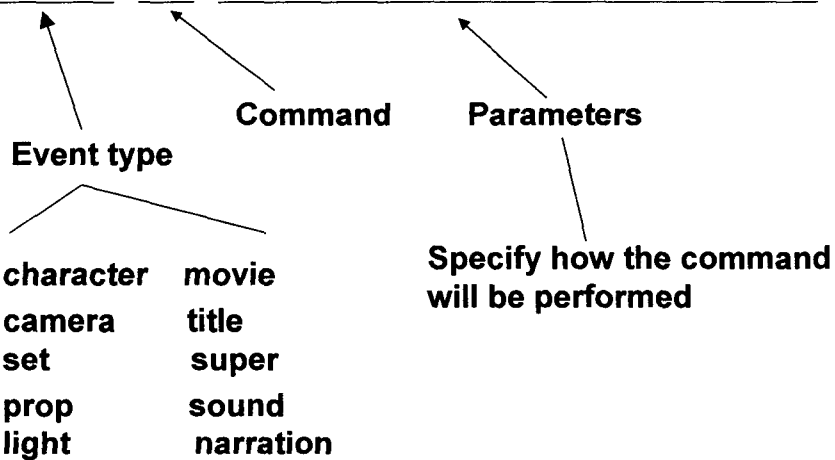camera: closeup (what = BOB)
super: on (type = text, text = "Broadcaster BOB")
character: talk (name = BOB, text = "Let's watch it.")
movie: playfile (filename = tvml.mov, from = 30,)

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Event format

character: talk (name = BOB, text = "Hello everybody.")

Command   **Parameters**

Event type

character   movie
camera   title
set   super
prop   sound
light   narration

Specify how the command will be performed

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TVML Player

- Interpreter of TVML script (e.g. HTML and Web browser)
- PC based software
- Freeware

See DEMO

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1) TV production tool

For Professional:
→Simplifies the process of program production
to save time & cost

For Amatuer:
→Enables users to create their own personal programs on a PC

2) New content creation method based on object-based representation

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TVML as a TV production tool #1

1) TVML Author

A user interface for TVML program production

- User-friendly
- For people who do not know TVML specification
- For professional to amateur

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TVML as a TV production tool #2

2) Multi-language support

Any language supported by Microsoft Windows available

-Automatic adaptation to the language of OS
-It requires TTS that supports Microsoft SAPI

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TVML is for...

1) TV production tool

2) Tool for other multimedia applications

To use TVML as a presentation engine
for various applications

Examples:
- Interactive applications
- Automatic TV program generation
- Full personalized TV

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TVML for other multimedia applications

1) Interactive applications

TVML Player in external control mode

Scripts, commands — control | status — Playing or idling

Interactive application

User

TVML for other multimedia applications

2) Automatic TV program generation

Interview web page

HTML script

Dialog text

A: Hello
B: Hi, my name is,...
A: Today I ...

Converter

TVML script

TVML Player (external control mode)

Talk show

Camera- switching generator

- close-up, two-shot, etc.
- based on statistical properties

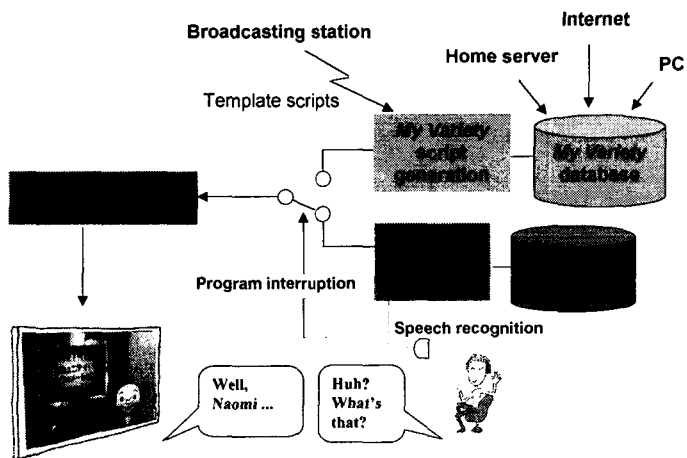## TVML for other multimedia applications

3) Full personalized TV

TV4U (TV for You)

Features:
- Individual tailoring of TV programs
- Ability to intract with TV presenters

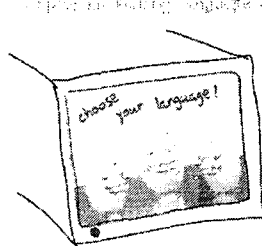## TVML for other multimedia applications

TV4U System

Conclusion

- Introduction of TVML
- Production tool
    → TVML Author, Multi-language
- Presentation engine for multimedia
    → Interective TV, Automatic TV generation, TV4U

Future Activities

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TVML Home Page

http://www.strl.nhk.or.jp/TVML/

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