

# The Future of IVR Systems in the Mobile Environment

Jim Larson  
Larson Technical Services  
Beaverton OR 97006  
(503) 645-3598

# VoiceXML—Workhorse of IVR Applications

- Works on a variety of devices



# VoiceXML—Workhorse of IVR Applications

- Coming soon...



# VoiceXML—Workhorse of IVR Applications

- Pros
  - Replaced static user guides & instructions
  - Automated much of the work of human agents in call centers
- Cons
  - Limited to scripted prompts and responses
  - Many customers consider IVR interactions slow and tedious

# Alternatives to VoiceXML Applications

- Internet
  - FAQ pages, blogs
  - Web-based interactive application
  - Web-based text chat
  - Social media
- Smart phone applications
  - User-directed apps using graphical and touch input
  - Multimodal apps
  - Intelligent virtual agents

# VoiceXML Applications

- Will not disappear!
- Still many customers who don't have smart phones
- Enterprise application not installed on the smart phone

# New life for VoiceXML applications

- Type and read chat
- Speak and listen chat
- Speak and listen chat with an avatar
- Visual IVR

# Text Chat

- Widely used on desktops, laptops, and mobile devices
- User may
  - Type and read
  - Speak and read
  - Speak and listen



# Type and Read Chat

```
<field name="PIN" type="digits">
```

```
<prompt>
```

```
To order please enter your PIN  
for identification
```

```
</prompt>
```

```
</field>
```

```
<menu>
```

```
<prompt> Customer Self Service <prompt>
```

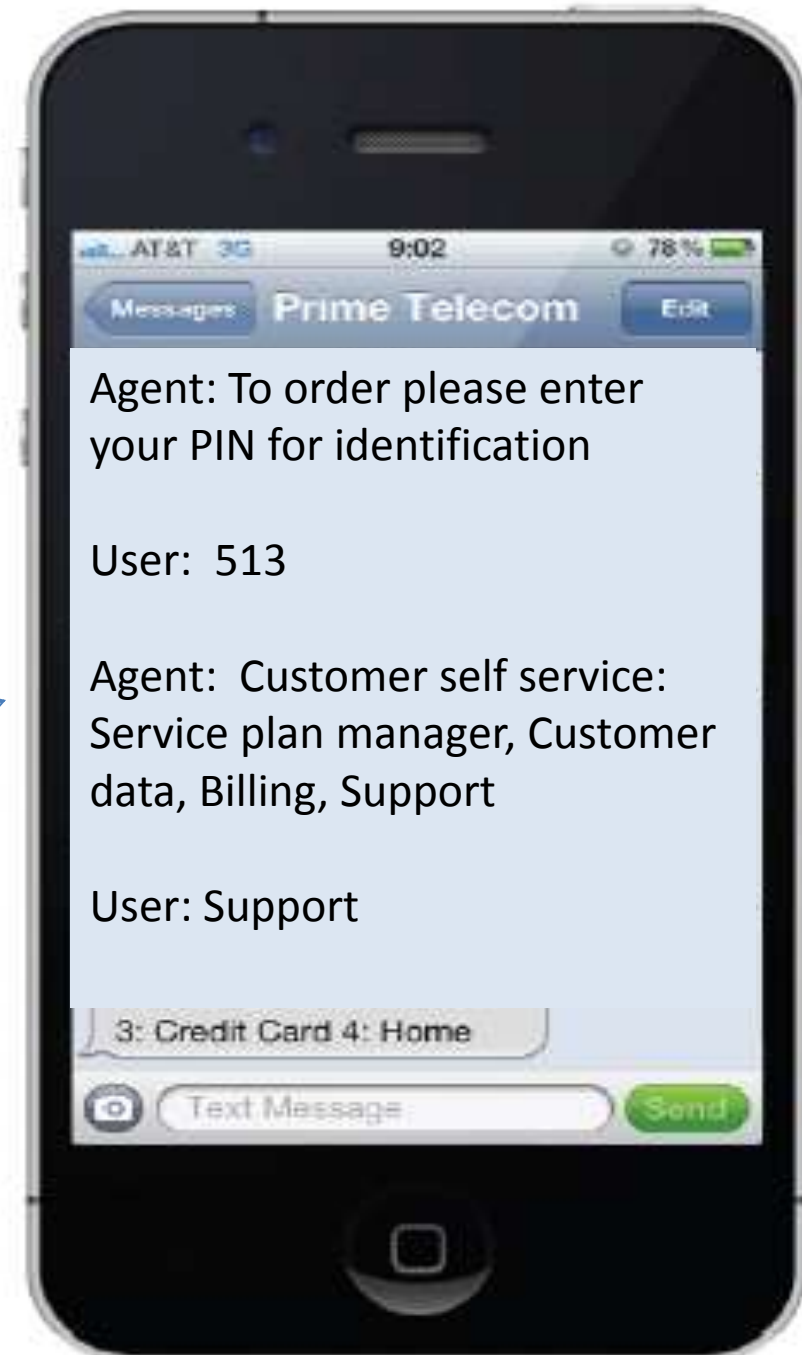
```
<choice next = "SPM"> Service plan  
manager</choice>
```

```
<choice next = "CD"> Customer Data</choice>
```

```
<choice next = "Billing"> Billing</choice>
```

```
<choice next = "Support"> Support</choice>
```

```
</menu>
```



# Speak and Listen Chat

```
<field name="PIN" type="digits">  
  <prompt>  
    To order please enter your PIN  
    for identification  
  </prompt>  
</field>
```

To order please  
enter your PIN  
for  
identification

894

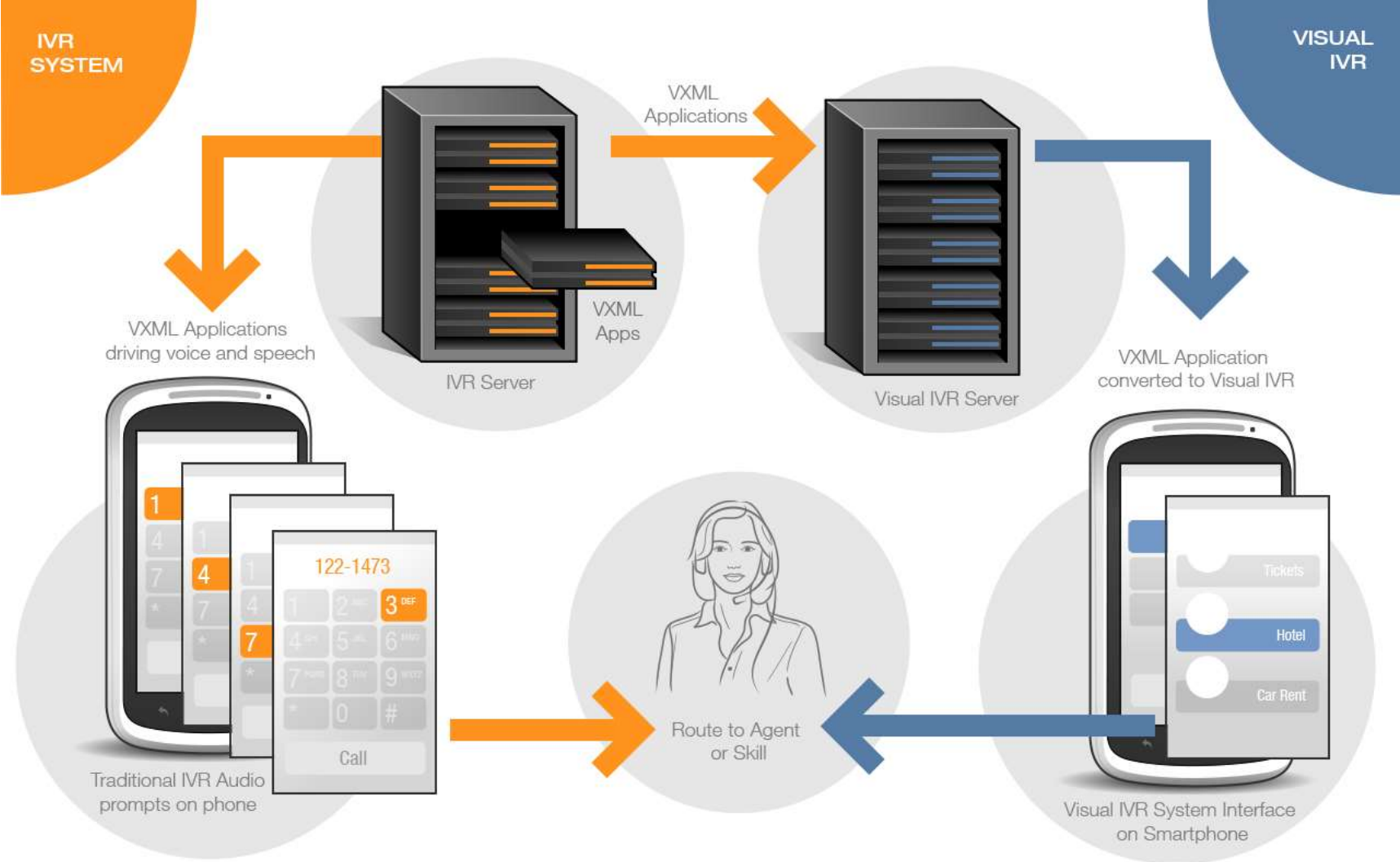
Customer self service: Service plan  
manager, Customer data, Billing, Support

```
<menu>  
  <prompt> Customer Self Service <prompt>  
  <choice next = "SPM"> Service plan  
    manager</choice>  
  <choice next = "CD"> Customer Data</choice>  
  <choice next = "Billing"> Billing</choice>  
  <choice next = "Support"> Support</choice>  
</menu>
```

Support



# Jacada



# Speak and Listen Chat with Avatar

```
<field name="PIN" type="digits">
```

```
<prompt>
```

```
To order please enter your PIN  
for identification
```

```
</prompt>
```

```
</field>
```



To order please  
enter your PIN  
for  
identification

Customer self service:  
Service plan manager,  
Customer data, Billing,  
Support

735

```
<menu>
```

```
<prompt> Customer Self Service <prompt>
```

```
<choice next = "SPM"> Service plan  
manager</choice>
```

```
<choice next = "CD"> Customer Data</choice>
```

```
<choice next = "Billing"> Billing</choice>
```

```
<choice next = "Support"> Support</choice>
```

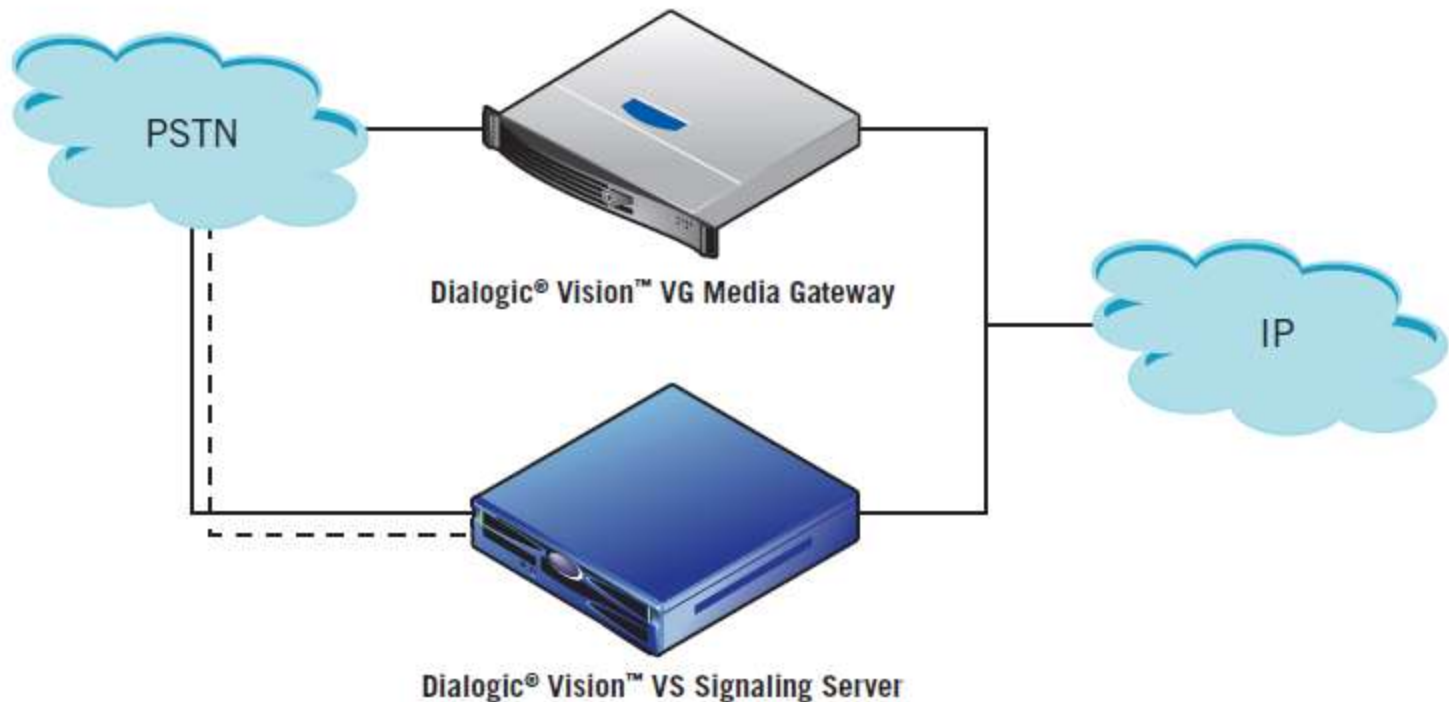
```
</menu>
```

Support



# Multimodal (Multiple input modes)

- Interactive Voice and Video Response (IVVR)
  - Including PDF, pictures, maps, illustrations and animations



# Multimodal

- VoiceXML field -> text field

```
<field name="PIN" type="digits">
```

```
<prompt>
```

To order please enter your PIN  
for identification

```
</prompt>
```

```
</field>
```



# Multimodal

- VoiceXML Menu -> List Menu

<menu>

<prompt> Customer Self Service </prompt>

<choice next = "SPM"> Service plan manager</choice>

<choice next = "CD"> Customer Data</choice>

<choice next = "Billing"> Billing</choice>

<choice next = "Support"> Support</choice>

</menu>



# Potential Problems

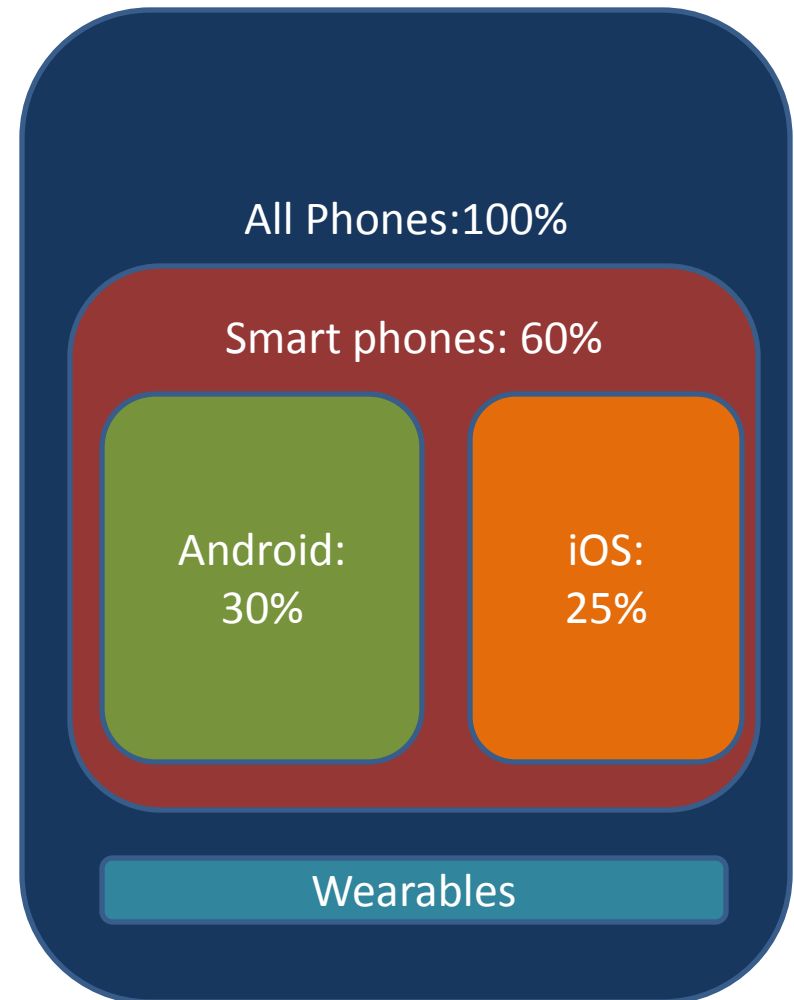
- Phrase changes required by visual IV
  - Introduce <alt> element
- Incorporate smart phone functions such as GPS, device orientation, QR codes, etc.
  - Introduce specialized <object> elements

Avoid multiple versions of code

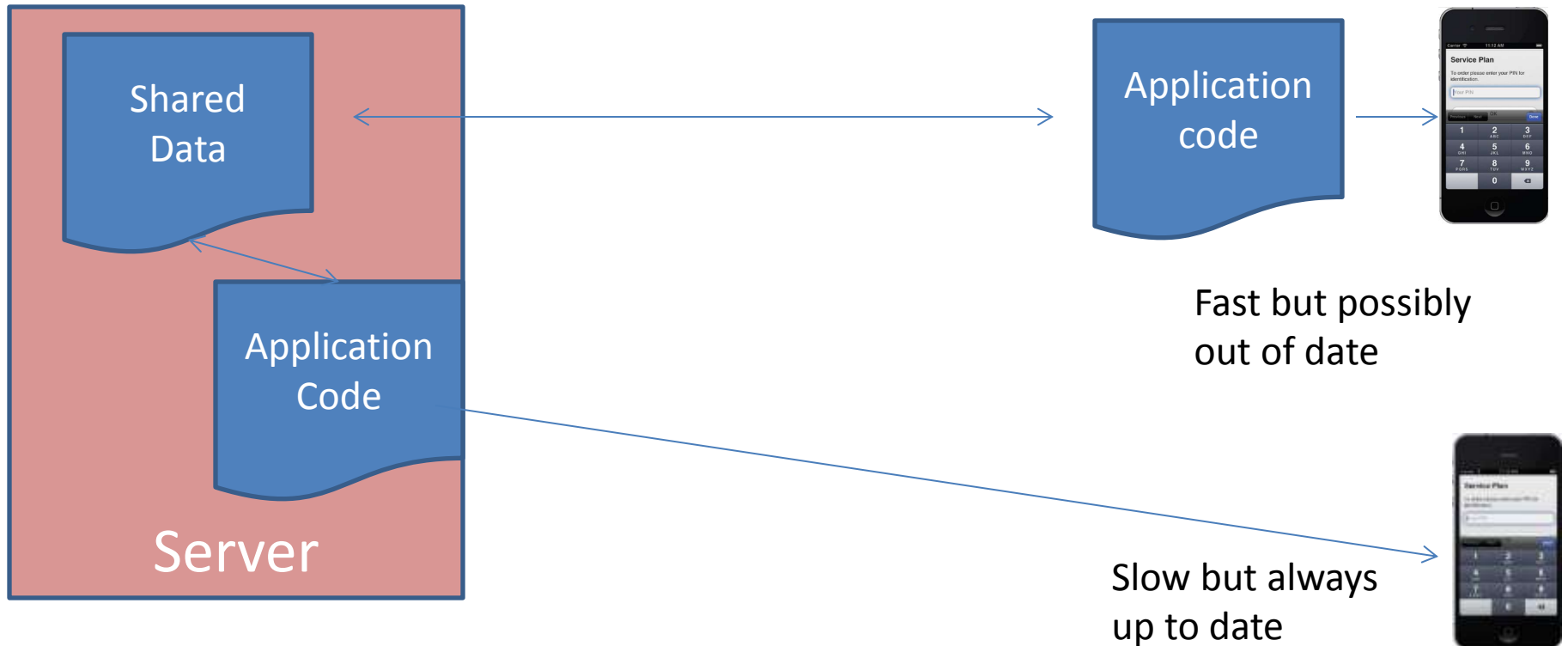


# Issue: Speed vs. availability

- VoiceXML is accessible on all phones
  - Slower but universal
- Android and IOS native code only works on vendor-specific devices
  - Fast but not portable



# Issue: Remote vs. Local



# Multichannel

(Multiple communication channels)

- Use channel appropriate for information
- Switch without loosing context



# Summary

- IVR systems will not go away
- IVR systems will be augmented to provide
  - Chat
  - Multimodal (including Visual IVR)
  - Multi channel IVR

# Thanks for your attention

Questions?

