WAP

- the Wireless Application Protocol

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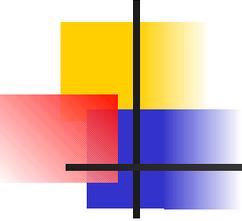
Introduction

- WAP stands for **W**ireless **A**pplication **P**rotocol

- an open international standard for applications that use wireless communication

- specifically designed to address the limitations of very small portable devices

Introduction

- The official body developing WAP used to be the WAP Forum, which has consolidated (along with many other forums of the industry) into OMA(Open Mobile Alliance)
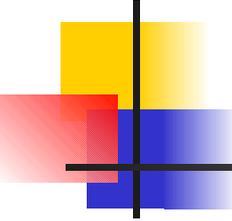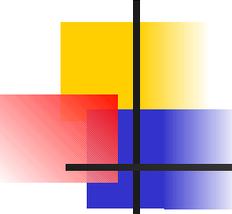
- The other major competing wireless data protocol – iMode

Technical specifications

- WAP protocol suite
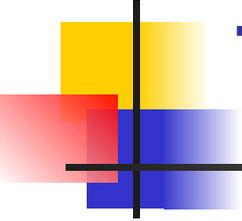
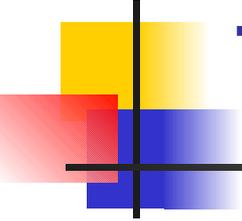| Wireless Application Environment (WAE) |
| --- |
| Wireless Session Protocol (WSP) |
| Wireless Transaction Protocol (WTP) |
| Wireless Transport Layer Security (WTLS) |
| Wireless Datagram protocol (WDP) |

*** Any wireless data network ***
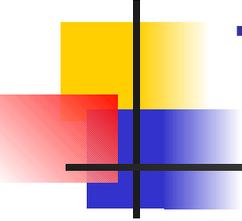
Technical specifications

- ## WAP protocol suite
  - ### Wireless Datagram protocol (WDP)
    - The bottom-most protocol
    - adaptation layer that performs functions similar to UDP(User Datagram Protocol)
    - implements an abstraction layer to lower-level network protocols
    - considered by all the upper layers as one and the same protocol, which has several "technical realizations"
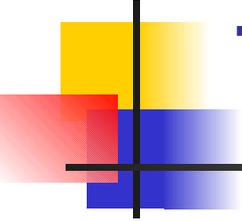
Technical specifications

- WAP protocol suite
  - Wireless Transport Layer Security (WTLS)
    - provides a public-key cryptography-based security mechanism
    - optional
  - Wireless Transaction Protocol (WTP)
    - provides transaction support that is adapted to the wireless world
    - more effectively than TCP(Transfer Control Protocol)

Technical specifications

- WAP protocol suite
  - Wireless Session Protocol (WSP)
    - a compressed version of HTTP for WAP browsers
    - works with relatively compact binary data(HTTP works mainly with text data)
  - Wireless Application Environment (WAE)
    - directly supports WAP application development
    - application-specific markup languages are defined in this space
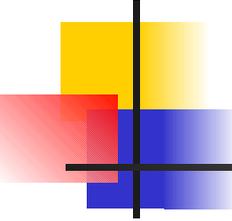
Technical specifications

- ## WML
  - ### Primary Languege of WAE
  - ### Based on XML
  - ### designed after the model of HTML for Web content

```
<?xml version="1.0"?>
<!DOCTYPE wml PUBLIC "-//PHONE.COM//DTD
WML 1.1//EN"
   "http://www.phone.com/dtd/wml11.dtd" >
<wml>
  <card id="main" title="First Card">
    <p mode="wrap">This is a sample WML
page.</p>
  </card>
</wml>
```

Conclusion

- WAP supports the delivery of Web content over wireless networks
- The WAP model was optimized for the following constraints
  - Wireless devices like cell phones have relatively small displays. Some displays support graphics but some only support text.
  - Wireless devices usually have no mouse and a limited keyboard; keyboards are often used one-handed.
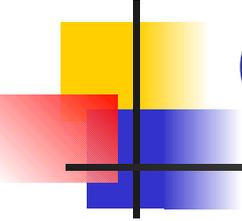
Conclusion

- The WAP model was optimized for the following constraints(2)
  - Wireless devices contain relatively little memory and processing power.
  - Wireless networks tend to have intermittent network connectivity
  - Wireless networks often feature limited bandwidth and long latencies (delays between requests and replies).
  - Wireless networks may or may not support IP.
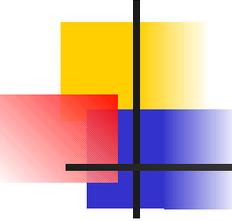
Literature

- http://en.wikipedia.org/wiki/Wireless_Application_Protocol
- http://compnetworking.about.com/od/wirelesswap/