9 — Web API Design

From Code to Product

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Lecture 9

- **Introduction**
- REST
- Data formats
- Security
- Maintenance
- Documentation
- Resources

Application Programming Interface

"a set of functions and procedures that allow the creation of applications which access the features or data of an operating system, application, or other service."
— Oxford English Dictionary

"An interface or go-between that enables a software program to interact with other software." — Investopedia

Types of API

- ## Programming language libraries, e.g. C
  - `malloc(), printf(), strcpy()`
- ## Operating systems, e.g. Android
  - `findViewById(R.id.search).setText("");`
- ## Plug-in APIs, e.g. NPAPI for browsers
  - `NPError NP_Initialize(…)`
- ## Web APIs, e.g. Yahoo! BOSS
  - `http://yboss.yahooapis.com/ysearch/web?q=API`

Web APIs

- Same infrastructure as websites
  - Request—Response over HTTP
  - Open and exposed to the world
- Textual request/response
  - URLs in, JSON/XML out (generally)
- Many simply wrap web requests...
  - e.g. search APIs, Twitter posting
- ...but many go far beyond