The SWAP Project
Helping to build Secure Web Applications

From the news:
- 30–40% of e-commerce sites are vulnerable to attack – ZD-Net, March 2001.
- By 2004 30% of all buffer overflow attacks will be carried over HTTP tunnelling; and
- by 2006 more than 50% of successful Internet attacks will exploit application data handling vulnerabilities vs. operating system and application misconfigurations – Gartner, March 2002.

Some reasons for failure:
- Developers forced to use low-level languages and tools with few useful abstractions
- Projects often consist of multiple interacting components written in different languages (e.g. PHP, VBScript, Javascript, SQL) by different people
- Distributed systems are much harder than non-distributed ones
- Tricky to get a clear view of the whole system; often there is no simple way to abstract out security-related code for easier analysis.

Our Application Framework

Security-related aspects abstracted out of main application source code into a separate, easier to check specification.

Code analysis and transformation used in conjunction with dynamic request processing to ensure specified policy is met.