PSL TaskWeb
Hypertext for PDAs
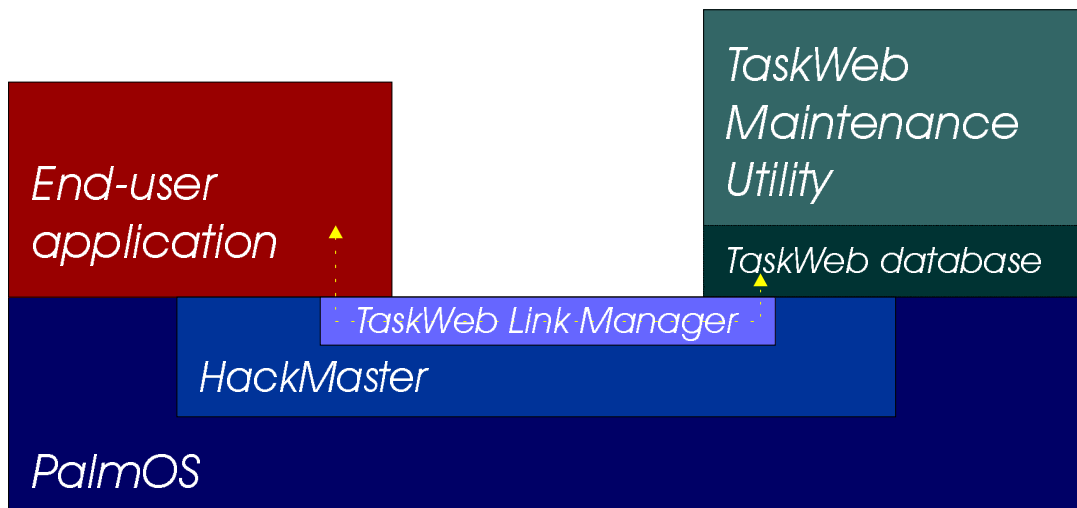## PROGRAMMING SYSTEMS LAB, COLUMBIA UNIVERSITY

Introduction

TaskWeb is a hypertext system designed particularly for small devices, especially Personal Digital Assistants (PDA's). Much of the data on a device like 3Com's popular Palm series and the Windows CE-based units is interrelated. But until now, there has been no mechanism for maintaining direct links connecting these pieces of information. TaskWeb enables the user to create and traverse n-ary links among records managed by the PDA's conventional applications.

TaskWeb makes handhelds more useful by incorporating the power of hypertext.

System Description

TaskWeb consists of two main components: the TaskWeb database and maintenance system ("TaskWeb Maintenance Utility"), and the TaskWeb linking utility ("TaskWeb Link Manager"). The former maintains the actual anchors and links, while the latter provides an interface to the user so that they can traverse links seamlessly. Tasks are first created through the maintenance application. Once this is done, anchor creation is accomplished by associating an anchor with a particular link through the linking utility. Multiple anchors can be associated with multiple links, allowing for a many-to-many relationship between links and tasks. Links are inherently n-ary by virtue of this relationship.

TaskWeb System Architecture

The TaskWeb Link Manager is designed to handle links to all internal and third-party applications on the organizer. Apart from creating links, this module makes it easy to traverse between different anchors by running continuously in the background throughout operation of the device.

The maintenance application is responsible for maintaining the data behind the scenes; end-users wishing to perform direct maintenance on the system can use this tool. TaskWeb's database uses standard Palm OS's database mechanisms.

Features

N-ary linking and many-to-many relationships with anchors

Instead of providing one-way hyperlinks, such as those on the web, or two-way hyperlinks common to many hyperweb systems, TaskWeb allows for generalized *n*-ary links. At the same time, since many links are associated with many different categories, many-to-many relationships between anchors and links allow a given anchor to be associated with many links.

Complete system integration

Through TaskWeb's integration with the Palm OS, operation is seamlessly available from any application, whether it is built into the Palm device or an externally-installed application.

Management of logical information structures

TaskWeb fills the gap in the organizational power of Palm devices, by allowing association of different pieces of data with each other, quickly and easily.

Independence from application data

TaskWeb maintains links *completely independently* of the linked applications; the data in these applications is not touched in any way. TaskWeb can therefore be inserted, used, and removed from the system completely independently of actual content yet works with most add-on applications following the standard PalmOS design conventions.

General Specifications

Palm OS 2.0 device or higher; this includes the PalmPilot Personal, PalmPilot Professional, Palm III, Palm IIIx, Palm V, and Palm VII handheld devices; and the IBM Workpad family. Other Palm OS-compliant devices should work but have not been tested. Palm OS 1.0 devices may work but are unsupported.

Availability

3Q 1999 at **http://www.psl.cs.columbia.edu.**