

# The KAMAS<sup>TM</sup> Report

Knowledge And Mind Amplification System.

Issue Number 1

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## WHAT WE'RE UP TO

The KAMAS Knowledge And Mind Amplification System is a unique and exciting member of a new class of software with many potential applications. At Compusophic Systems, we anticipate the rapid growth of an enthusiastic user community. We want to encourage and participate in that community.

We don't want to be just an anonymous voice on the other end of the phone line. Part of the purpose of this newsletter is to provide a communications channel between us and you. To let you get to know us and to keep you informed about what we're up to.

For example, as we convert the KAMAS system to new formats and new machines, one of the ways that we'll let you know is through this newsletter. We'll use the newsletter as a forum to keep you up to date on other things that we're doing as well.

Another purpose of the newsletter is as a vehicle for support. We'll answer your most often asked questions through the newsletter.

But the main purpose of the newsletter is to offer application tips. We'll give you ideas on what you can do with the KAMAS system, what other people are doing with the system, and how to set up interesting applications. We'll offer tips and techniques for performing specific functions.

For example, we've developed an interesting calendar application that will let you use the KAMAS system to support Management By Objectives (MBO). Other applications slated for future issues include setting up a remote user bulletin board system, a novel approach to cataloguing your record collection based on your moods, experimenting with expert systems and artificial intelligence, setting up systems for education and training, designing and writing an interactive novel, and more.

We have plenty of ideas to keep the ball rolling, but we would also like to hear from you. The newsletter is a two-way communication channel. So, let us know how you use the KAMAS system. Write to us about tips and techniques that you've discovered. We'll use the newsletter to funnel your information out to the KAMAS user community. If you are an applications developer and have developed an interesting application under KAMAS, let us know about that too; we might be able to help you get in touch with a market for your product.

From time to time, we'll also offer theoretical articles related to the philosophy of the KAMAS system and the use of personal computers.

This premier issue includes several articles that give you some background on what the KAMAS system is.

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## VALUE FOR YOUR DOLLAR

At Compusophic Systems, we've put together a product that we believe offers value for your dollar. And we've made it run on machines that offer value for your dollar, too. Machines like the Kaypro that are the workhorses of small businessmen and professionals. These machines get the job done at a price that doesn't put you in the poorhouse. We have adopted the same philosophy with KAMAS.

The KAMAS system combines Outline Processing, Information Retrieval, Word

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Processing, Telecommunications, and an Extensible Programming Environment into an integrated operating environment that we call Knowledge Processing. If purchased separately, these packages would cost you well over \$500.00, and they wouldn't be integrated. They probably would not even be compatible. In KAMAS, these functions are fully integrated with one another at an introductory price of \$147.00. That's what we think is value for your dollar. And offering you value for your dollar is one of the things we're up to.

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## KNOWLEDGE PROCESSING --

### THE NEXT WAVE

The KAMAS environment is integrated in the sense that, with its commands, you can perform a wide variety of tasks normally made possible with separate, unrelated, and sometimes incompatible programs.

In this article, we'll take a look at the separate features that make up Knowledge Processing. However, KAMAS is not made up of a number of separate programs that are simply bundled together and sold as a package. Instead, the environment is truly integrated; all of the capabilities are achieved through a few simple mechanisms that are consistently designed to provide its wide range of functioning.

### A Personal Tool for Developing Ideas

KAMAS lets you organize your ideas into a familiar outline form with its **outline processing**. Outline processing does for ideas what spreadsheet processing does for numbers. It lets you deal with the structure of your ideas, independently of the textual content.

First, you arrange your ideas into a dynamic, hierarchical outline filling them out with text as needed. Then, you can restructure your thoughts into new arrangements as they evolve by inserting, deleting, and moving items. Or you can change the level of an item by promoting or demoting it.

Outline processing is an important feature of the KAMAS system and is covered in detail in the next article.

### Access Ideas in Many Ways

Once entered into the outline, your thoughts remain at your fingertips with the **information retrieval** commands. This way, you can get a handle on how your ideas fit together without being distracted by the detailed text associated with them. The KAMAS system gives you more than 10 different ways to access your structured ideas.

You can display the local neighborhood of ideas or focus back through the tree-like structure to view the ancestry of a specific idea or show all the items on a given branch of the tree.

You can access your ideas item by item following the structure up a level, down a level, or next on the same level. Or ignore the structure and move sequentially from item to item.

You can also access your ideas level by level as if they formed a progression of menus.

Any idea in the mounted context (up to 128 MB) can be accessed rapidly and directly in about 15 seconds by its key. A sound-alike key can be used, if you can't remember the exact key or its spelling.

You can also search for any string in the detailed text using a rapid partial match retrieval technique.

Information retrieval is closely tied to outline processing. Both are covered in the next article in more detail.

### A Step Beyond Word Processing

The outline processing takes you a step beyond most word processors by putting you in touch with the form of your ideas. You can deal with a three-dimensional structure instead of just linear text. Then, you can fill out the structure at any level with text

using the integrated text editor. The text editor is also used in the programming environment to enter the source code for programs.

With KAMAS, you can produce hardcopy output on your printer with many of the features of a full-function word processor including justification, left and right margin settings, paging, single spacing, double spacing, and triple spacing. You can also add customized formatting features if you need them.

### **Telecommunications**

KAMAS lets you set up a structured, electronic bulletin board system. Remote users can dial in and completely function KAMAS with several levels of password security available.

KAMAS also lets you use your system as a terminal to dial up other remote systems.

### **Extensible Programming Environment**

Unlike many application packages, KAMAS integrates a structured programming language within its Knowledge Processing. The language lets you directly take advantage of the essential power of the computer, its capacity to be programmed. A computer is a general purpose tool that can perform many different tasks. With the KAMAS language, nothing is out of your reach. The KAMAS language lets you work directly with the powerful engine under the hood of the KAMAS system.

With features like built-in data types, dynamic type checking, streamlined control structures, recursion, top down design with bottom up coding, and compact, threaded code, you'll experience the very latest technology in computer languages.

The language is highly interactive and fast, offering an outstanding environment for developing and testing applications using the KAMAS outline processing, information retrieval, and telecommunications features. The language is integrated with the outline processing, so that program source code can be edited with the text editor and stored in outline form providing unprecedented leverage for structured programming and development.

### **Layered and Integrated**

But you needn't do any programming to use the KAMAS outline processing, word

processing, information retrieval, and telecommunications. KAMAS is integrated, combining many useful productivity tools to allow you to accomplish the most challenging tasks. But it is also layered in four levels, so that you can choose the level that's right for you.

The outer level is a menu-driven, interactive human interface that lets you use most of the outline processing, information retrieval, and word processing features of the system. The inner levels are programmable and command-driven to provide more flexibility for performing more challenging tasks.

### **Full Documentation**

The KAMAS system includes clear directions to steer you straight. Three levels of on-line help messages guide you while you're using the system.

Off-line help is available with a two-volume user manual that contains plenty of examples, a tutorial section, a reference part, and an applications guide.

A free subscription to The KAMAS Report, an applications newsletter, also helps get you up to speed fast.

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## **OUTLINE PROCESSING AND INFORMATION RETRIEVAL**

While the programming environment is the engine driving the KAMAS system, its heart and soul are **outline processing** and **information retrieval**. They provide a personality and character to the product.

As with other general purpose computer tools, it is not easy to pin down any single specific application for outline processing. Just as spreadsheets are used for numerous different applications, outline processors find many potential uses in the everyday life of a professional. This article gives you an idea of what we mean by outline processing and information retrieval to help shed some light on what these two tools can do for you.

You are probably familiar with using outlines as an aid to writing. They help you clarify your thoughts to start with giving you focus and direction, and, then, they keep you from rambling during your writing development.

The outline approach to writing rests on the natural way that it lets you handle information. For example, when you make a grocery list, you probably group items that can be found in the dairy section, the meat section, the canned goods section, the bakery section, and the fresh vegetable section of the store. By organizing the list in this way and grouping similar items, you can make your shopping trip more efficient.

You probably apply the same approach to doing many chores and tasks. You organize the information into an outline structure called a hierarchy. The hierarchy is the basic organization metaphor used in the KAMAS system; it provides a mirror for the way that you structure your concepts.

The KAMAS system lets you organize items in structured text files called Hierarchical Topic Files. Topic files model the way that you structure information in your own mind by organizing text into general tree-like structures. The hierarchies are not rigid, static structures, but are brought to life by a rich set of topic commands that allow you to dynamically grow the trees as your concepts evolve.

Topic files contain two types of elements: **titles** and **text leafs**. Together the two elements are called **stems**. Stems are arranged in a tree structure and are related hierarchically to one another like items in an outline. The KAMAS system lets you make such outlines easily; it lets you do computerized outline processing. Whether you use the outlines for writing or as an aid to organizing and developing your thoughts, KAMAS provides the kind of support you need.

Because the information is stored electronically, it is easy to alter it, look at it, reorganize it, and print it out on paper. Outline processing brings all the same advantages to your ideas that spreadsheets bring to numbers or that word processors bring to words.

The KAMAS system lets you start out by typing in your thoughts as they occur when you are brainstorming. It's easy to go back and move items, change the level of items, delete items that no longer belong, and add new items as your ideas occur.

For example, suppose you are writing a science report. You might start out with the following structure:

Everything  
Animal  
Vegetable  
Mineral

Everything, Animal, Vegetable, and Mineral are all keys in the tree. A **key** is the part of a title that unlocks the information in the item. Each key can have a text leaf associated with it containing normal text, such as sentences or paragraphs about the key. The available disk space is the only limit on the number of keys or the number of levels in the outline.

A comprehensive set of topic commands let you retrieve and modify the keys apart from the text leafs. By showing you the keys without the detailed text in the leaf, you can see how your ideas fit together without being distracted by the details.

This process of hiding details and focusing only on the key elements is the familiar process of abstracting. All of us employ abstraction as a tool to deal with the overwhelming amount of information that we are exposed to daily. By chunking the information into groups and naming those groups, we are free to deal with the group as a unit and ignore the details for the time being.

The powerful leverage that abstraction provides is reflected in the KAMAS system. By abstracting the structure from the content of your ideas and hiding the detailed text, KAMAS provides you with an intellectual lever, a mind amplifier. That's why we call KAMAS the Knowledge And Mind Amplification System.

With KAMAS, you can display all the keys on a given level; you can display all the ancestors of a given key back to the top of the tree; you can display all the keys in the same general neighborhood of a given key regardless of their level; or you can display all the items on a given branch of a tree showing the descendents of a given key. Each of these views gives you a different perspective on your ideas and lets you deal with your ideas and their structure independently of their content.

You can rove through the tree interactively key by key following the structure up a level, down a level, or next on the same

level. Or you can ignore the structure and move sequentially from stem to stem. You can also access the items level by level as if they formed a progression of menus. You can access your ideas rapidly and directly by key or by a sound-alike key, if you can't remember the exact key or its spelling. You can search for any string in the detailed text using a rapid partial match retrieval technique. All of these abilities let you get at your ideas in different ways.

As for modifying the structure, you can move a key (and its associated text leaf), insert a new key, or delete a key. You can also change the level of a key, promoting it or demoting it, to reorganize the structure.

Again, all of these outline processing and information retrieval commands allow you to deal with the structure independently of the text in it. You can get a handle on your ideas and how they fit together without being distracted by the details.

The outlines or hierarchies map the relationships between your concepts and can grow as your ideas evolve. Take the science report example started above. Suppose that you have written several pages of text in leafs for each category. Then, you decide on a more sophisticated organization such as:

```
Everything
  Organic
    Animal Kingdom
    Plant Kingdom
  Inorganic
    Mineral
```

This kind of change can be done easily with KAMAS outline processing commands. You can insert the two new stems with Organic and Inorganic as their keys; then demote Animal, Plant, and Mineral; and, finally, rename Animal to Animal Kingdom and Plant to Plant Kingdom.

Later, you can add more categories and expand the report even further. With a few commands, you can rearrange the hierarchy as you reorganize your thoughts. Since the outline is stored electronically, you can change it without the clutter that accumulates when you try to do outlines with pencils and paper.

In summary, outline processing and information retrieval provide the powerful mind amplification capabilities of the KAMAS system.

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## PRODUCTIVITY SOFTWARE

In the current personal computer revolution, a genre of software has appeared called Personal Productivity Software. Products in this genre increase the productivity of professional workers, who spend between 50% and 75% of their time handling information. These workers analyze, evaluate, change, and communicate vast quantities of information.

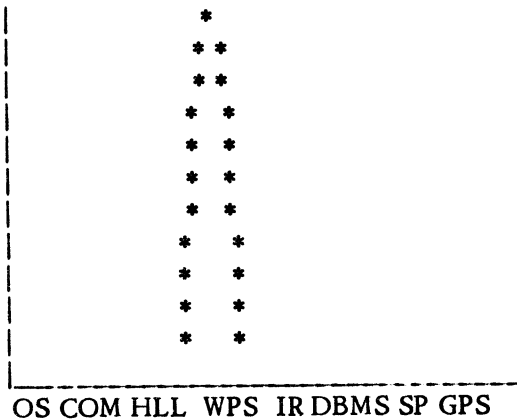
This article takes a look at the productivity tools available and places outline processing in the spectrum.

To provide the greatest amount of leverage as a professional productivity tool, a software product must effectively support some aspect of information handling. The following lists some of the traditional classes of productivity tools:

- Operating Systems (OS)
- Telecommunications Systems (COM)
- High Level Languages (HLL)
- Word Processing Systems (WPS)
- Information Retrieval/Filing Systems (IR)
- Database Management Systems (DBMS)
- Spreadsheet Processors (SP)
- Graphics/Plotting Software (GPS)

Some of these applications are specialized and would not be used by all professionals; i.e., only a programmer would use a high level language. However, they all act as mind amplifiers and leverage the professional's capacity for handling information.

These productivity tools can be placed on the horizontal axis of a graph with performance on the vertical axis. When viewed in this way, they form a productivity tool spectrum. Many single products, such as word processors, would appear as a narrow vertical curve over a single area on the spectrum.



All of these products are useful tools and help the professional in many valuable ways. However, they all reach limits leaving a gap in the productivity tool spectrum that outline processing fills. Outline processing has evolved from recent trends in computing.

First, there is the trend toward non-numeric computation. Computers were first used to perform complex numeric calculations. Only later were they applied to text processing, word processing, and other non-numeric forms of information processing. Outline processing is the latest step in this trend.

Another trend in computing is toward computer assistance for abstraction. This trend can be seen most clearly in high level languages like Smalltalk, Modula-2, and Ada. These object-oriented languages allow programmers to solve problems from higher and higher levels of abstraction.

The languages act as intellectual levers for programmers. This trend also leads to outline processing which can be seen as an abstraction from word processing.

OS COM HLL WPS OP IR DBMS SP GPS

### Integration across the Spectrum

The KAMAS system incorporates an outline processor. But it doesn't stop there. Many recent products have integrated functionality across one part of the spectrum--spreadsheet processors, database managers, word processors, and graphics. KAMAS is integrated across the other half of the spectrum: outline processing, information retrieval, word processing, telecommunications, and high level languages. That is why we consider KAMAS to be a new class of integrated software tool: a Knowledge Processor.

As more and more products become available, we'll probably see more varieties of integration taking place. We'll also probably see more classes of productivity software filling out other gaps along the continuum. The KAMAS system itself will probably evolve to incorporate more of the domains shown on the spectrum above. Since it already incorporates a programming language, it is in a unique position to grow and incorporate the other domains.

At Compusophic Systems, we are excited by the prospects of Knowledge Processing and anticipate a future of further integration across the productivity spectrum.

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#### Contributor Key

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