The use of computer technology in history instruction permits students to explore the data, and formulate and test their own hypotheses within the confines of the data, rather than being passive receptors of someone else's interpretations. The Gallipoli project brought together materials from a national war archive to develop a multimedia teaching resource for Australian culture and history. The Gallipoli stacks are a set of linked hypermedia documents written with HyperCard that incorporate text, graphics, sound and video and include the diary, statistics, pictures, films, maps and database stacks. They support a full range of media types, facilitate user browsing as well as direct inquiry, and contain a balance of material including soldiers' accounts, official statistics and factual data, a chronology of events for the entire campaign, and original material, some of which has never been published. As instructional materials, these stacks can be used to teach about the history of the Gallipoli campaign, to inform about conducting historical research or to examine issues such as bias in historical writing. (AEF)
History, Hypermedia and the Birth of a Nation

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Abstract: The Gallipoli project brought together materials from a national war archive to develop a multimedia teaching resource in an area that is central to a great deal of both Australian culture and history. The material contained within these HyperCard stacks makes it possible for students to conduct serious research as well as giving them a feel for what many of the participants actually felt at the time. A variety of linking mechanisms, including a class based link, were employed to make the process of following various themes a manageable process.

Introduction

Gallipoli is a small peninsula at the north-eastern end of the Aegean Sea leading to the Sea of Marmara and Istanbul. The narrow passage between the Gallipoli peninsula and the Turkish mainland is known as the Dardanelles. However, to Australians, Gallipoli is more an event than a place. It represents as significant an event to Australians as does the storming of the Bastille to the French and the Boston Tea Party to citizens of the United States.

It more accurately represents the birth of Australia as a nation than does its proclamation of independence. Indeed, ANZAC Day which commemorates the events that took place on Gallipoli on April 25, 1915 is conscientiously celebrated as a public holiday, more so than the official Australia Day (January 26) or even the anniversary of the date of Federation.

The events of Gallipoli form a most important part of Australian culture and consequently feature in the curriculum of every state educational authority in Australia. As an historical event during World War I, it was a notable failure and little more than a dot on the page of the events of 1914-18. Students learn of the courage, self sacrifice and other most admirable of human attributes that the soldiers of the first Australian New Zealand Army Corps (ANZAC) displayed during that campaign. However, what most students fail to ever gain from a traditional approach to the study of these events is a real understanding of the feelings of the soldiers, the deprivation, the futility or even an accurate representation of the events of the Gallipoli Campaign.

Australian history teachers have for quite some time been aware of the possibilities associated with the use of computer technology for the teaching of historical concepts. The development and dissemination of the First Fleet Database for the Apple II in 1982 was arguably, the alerting of many an Australian history teacher to these possibilities. Since that time there have been many other similar projects, each bringing something different, sometimes something better, to the use of computers as a resource in the teaching of history. The principal value of such databases has been that they permit students to explore the data, formulate their own hypotheses and test these within the confines of the data rather than being the passive receptors of someone else’s interpretations. Both authors of this paper have been involved in such projects in various ways for nearly fifteen years.

While database management software has become more sophisticated and the types of queries which may be put, have also increased in sophistication, the inescapable conclusion that one comes to is that the actual software used has been very much a secondary consideration. The value of such databases lies in the richness of the data. While databases may have increased in size; both in the number of records and in the number of fields of data, thereby increasing the scope for meaningful learning, such data is still largely text. Consequently, it has not used the vast information carrying capacity that pictures, sound and movies possess which make such
information available to a wider audience. Adding other media forms would make it multi-media but this is still a long way short of what is required in a true hypermedia system. True hypermedia provides a variety of access paths to any point in the data and will thus support a variety of learning activities and a range of people who may prefer to gain their information from sources other than text.

The Gallipoli stacks are a set of linked hypermedia documents written using HyperCard. They incorporate the full range of media: text, graphics, sound and video. They break new ground in the use of computers as a resource in the teaching of Australian history and while there are probably still many areas for improvement, they point to a new direction in serious historical reference material. They attempt to convey more than just historical accuracy. The vast resources of the Australian War Memorial were used to build an application which portrays events from many different perspectives including that of some of the actual participants as well as official accounts.

A database of Australian soldiers was originally compiled using records submitted by students from all over Australia and implemented using Apple Works as part of the 75th anniversary of the Gallipoli campaign. It was from the discussions that the authors had concerning the conversion of this database to a more generally available computer platform that the Gallipoli stacks originated. There seemed little point in producing just another database and from the very outset the objectives of the project were widened to include creating a reference work which:

- supported a full range of media types
- would facilitate user browsing as well as direct inquiry
- contained a balance of material including soldiers accounts, official statistics and relevant factual data, a chronology of the events for the entire campaign not just the few days that are the most noteworthy and original material, some of which had never before been published.

What are the Gallipoli stacks?

These stacks are perhaps the best single collection of research and reference material relating to Australia's involvement in the Gallipoli campaign ever published. As well as Anzac letters, diaries and photographs from the Australian War Memorial, there are film clips, maps and the individual records of over 500 Anzacs. Daily accounts in the Diary stack provide an almost day to day chronology of the campaign and the Statistics stack contains a great deal of useful background information. These stacks provide a combination of a research archive and a reference library. They provide an assembled collection of information on the Gallipoli campaign, some of which schools would find extremely difficult if not impossible to obtain.

How can they be used?

This is largely up to teachers. They can be used to teach about the history of the Gallipoli campaign, to teach about conducting historical research or even examine issues such as bias in historical writings. One can simple browse through the stacks, reading letters and looking at photos, film clips etc with no particular goal in mind. Or one can use the facilities to track down answers to specific questions such as "What happened on April 25th?", "What did the Anzacs think of the Turks?", "What were the major battles?", "What did the Anzacs do in their spare time?", "How was the evacuation organised?" "What were conditions like on Gallipoli?" "When...? Where...? Why...? It would be presumptuous and restrictive for us to provide the questions! The stacks have not been designed to provide simple answers to prepared questions. To enter the Gallipoli stacks is not unlike entering the real archive or research library. Lots of help is provided but it is up to the researcher to formulate the questions and search for their answers. Teachers and students will find them useful; not just for the historical content but also in teaching researching and writing. Journalists and historians too, will find something of interest. Indeed, anyone with an interest in the Gallipoli campaign will find much in these stacks to further their understanding of this important chapter of our nation's history.

What makes the Gallipoli Stacks different?

There are a number of features which make this resource unique. One of these which sets this system apart from other multimedia or even other hypermedia systems is the range of linking that is possible between different parts of the system but especially from the diary. Obvious linking mechanisms from buttons and hypertext links from text are supported in a manner which greatly increases their usefulness. It soon becomes
apparent to the user that the hypertext links are not all the same. There are three types of hypertext links which have been built in:

- Some text is linked to a single reference and in this case, clicking the text will take one directly to the reference.
- Some text has multiple references and in this case, clicking will display a list of all of these references and ask one to choose from the available list.
- Some text such as "Bully beef" may have direct references but it is also an example of a general category of "food".

Ten "class" or general category links have been constructed to permit a broader view and an exploration of various themes such as food, weather. When a list of references is displayed, the type of reference (Picture, Map, Text, Film, Database, Statistics) is also indicated.

An additional linking mechanism which is a little easier to use than HyperCard's Find command has also been created. This provides links to the next occurrence of a selected word or phrase from any part of the diary stack. This allows students to follow a theme using certain keywords.

Photographs and film clips have been digitised and compressed using QuickTime compression techniques which make such a multimedia information system feasible. While multimedia encyclopaedia are becoming more commonplace, they are still relatively scarce. This is the first attempt of an Australian historical subject which looks at it in such minute detail instead of the glossy but superficial treatment given by some other products. It is hoped that this type of information system is the vanguard for educational resources in the years to come.

**What's in the stacks?**

![Diagram of Gallipoli material with navigation and embedded links]

The six elements of the Gallipoli material are shown in figure 1. Since the Dairy is the key to the system it is shown at the centre. Each of the stacks will work in its own right, and as shown, there are navigation links to take you from one to the others. However, the Diary stack has many other embedded links which may be used to enrich the basic descriptions and discussions.

**The Diary stack**

This is organised like a daily diary that consists of two major panels of text which relate to events on that particular day. One contains extracts from letters and diaries which were written by soldiers. In most cases these accounts were written after the actual event. It is a little impractical to expect soldiers to stop fighting so that they can write a letter or make a diary entry!! In some cases these accounts were written when the person was wounded and recovering in hospital. Many diaries and letters held in the Australian War Memorial Archive were examined and representative samples selected. Several accounts were very complete and a number of these have been used throughout the stack to give a consistent point of view at different times. The second panel contains a description of the events of that day compiled by the authors. Sometimes this includes copies of official dispatches or signals that were sent (particularly on the days of major battles).
The actual landing at Gallipoli took place on April 25th and the last of the troops were evacuated in December 1915. The diary has entries for most days between April 1st and 31st December so that it covers all of the campaign as well as preliminary events which are of some significance.

April 25, 1915: In the distance one just discern the Dardanelles opening, the thunder of the guns is much closer, the weather this morning is beautiful. What will it be tonight? I can now see the fire from the base of the hill, wonder which of the men not chosen by Death I least fear, only a sincere hope that they will not fail at the critical moment.

5:30 PM we are on the beach under the fire of the enemy, it is impossible to realize that every human voice has been drowned in the sound of battle. The date and days from landing information are also provided to give chronological references. It also includes the day of the week which adds an extra dimension to the questions which may be asked. Since April 25 was the date of the landing, days in early April are negative. These have been included to show that the campaign did not just begin on April 25, a fact which is easily overlooked. Words or phrases which are underlined indicate that clicking on this word or phrase will link to another part of the system.

Navigation is performed using a variety of buttons as well as a unique calendar interface. The Calendar Palette (see figure 1) is used to select particular dates rather than scrolling from one day to the next or using an index or table of contents. It provides an efficient access mechanism, using a metaphor that users readily identify.

Access to the other parts of the system is via a consistent set of icons along the bottom of each screen. Clicking these icons usually takes the user to the first card of that part of the system. Some days have a special reference marker attached to either of the Picture, Map or Film icons. This is used to indicate that there is a specific picture, map or film clip that relates to the events of that day. Clicking on the appropriate icon will take the user directly to that reference material.

The Statistics stack

This contains a miscellaneous set of data divided into eight major sections as follows:

- Facts & Figures provides statistics on the number of soldiers involved and enlistment data during 1915/1916.
- Nations Involved is a summary of the number of troops / casualties etc involved in the whole Gallipoli campaign.
- Convoys is a list of all the convoys which sailed with Australian troops, the names of all the ships and their embarkation dates and ports.
- Anzac Units provides a breakdown of all the Anzac units that served on Gallipoli.
- Army Organisation describes how the army was organised at that time and the ranks of soldiers.
- Expressions & Abbreviations is a short dictionary of abbreviations and expressions which were in common use at the time. Some of these were unique to the Anzacs as they served to disguise the discussions both verbal in the trenches and in their letters home. The "slang" or vernacular language gives a unique insight into what life must have really been like. For example in reading about "Anzac stew" one might be
forgiven for mistakenly believing that it represented some type of nourishing meal. In reality it
demonstrates the typical Australian humour because it was simply one bacon rind boiled in an urn of
water!

* Biographies is a short set of biographies and pictures of some of the key players in the Gallipoli campaign.
  While much of the material is selected from an Australian point of view, the biographies section does
  include a number of British, Turkish and German generals.
* The ANZAC Book was a book that was produced by soldiers in the last days of the campaign. It consisted
  of writings, sketches and cartoons from a large number of contributors. It was later published but some of
  the sketches were omitted for political reasons. This section contains some of these censored cartoons.
  While they may not seem particularly sarcastic or damaging today, in terms of the political climate in
  Australia at the time, they were very controversial. In some instances, they have never been published
  before.

The Pictures stack

The archives of the Australian War memorial contain many black and white photos of scenes related to the
Gallipoli campaign. While a good many of these may have been published at various times in the past, the
extensive selection provided here serves not only as a pictorial history in its own right, but also a unique insight
to the day to day activities of the troops. Many pictures of mundane tasks such as the carrying of water (figure
3) which occupied a great deal of the activities of the soldiers, have been included to reinforce their accounts
from the diary. Without the use of the picture compression technology provided by Apple’s QuickTime system,
such pictures would not have been a viable proposition.

![Figure 3. Carrying water in the trenches.](image)

The Films stack

Very little film footage was ever taken at Gallipoli and only a few fragments remain. This stack contains
parts of that remaining black and white footage as well as segments from the feature film Gallipoli. Only small
sections which are historically accurate recreations of the actual events were used from the feature film. Like
the pictures, the film clips provide a reinforcement of the written accounts, in a way which has not been done
before. For example, the famous charge at the Nek during August in which 500 soldiers were killed in an area
just over the size of a couple of tennis courts is recreated with such stunning effect that could not be portrayed
by any other means. The ability to control individual frames from within the QuickTime movies also adds to the
flexibility of the system with individual frames being the focus of discussion.
As in the case of the photographs, the use of QuickTime compression was critical to the success of the
result. Film clips which totalled over 60 megabytes were able to be compressed to occupy less than one third of
their original size without an appreciable loss in quality.

The Maps stack

Maps are an integral part of the paraphernalia of war. Included in this stack are maps that may be used to
locate landmarks which are referred to in written accounts, trench maps showing troop dispositions at various
times, maps showing the progress of particular battles or raids and even animated demonstrations of trench
digging. The maps play an important part in developing a sense of the scale of the activity, particularly in
realising that this all took place in such a small area.

The Database stack

While it may have provided the genesis of the project, the database stack is the least developed of all the
components. All of the original records have been converted and an inquiry system provided for searching.
Most of these records were contributed by students from all over Australia by doing research on their own local
identities who may have served at Gallipoli.

Future Developments

Gallipoli is only a start. Historical information systems will soon be commonplace. As repositories of data such
as libraries, archives and museums begin to store copies of their collections in electronic form, the dissemination
of the vast amounts of information held in these huge granaries of knowledge will for ever change the face of
education. The Australian War Memorial is to be commended for its foresight and generosity in opening up this
part of its collection. The technology is poised, as if about to open a door that leads to a scene that one can only
guess at.