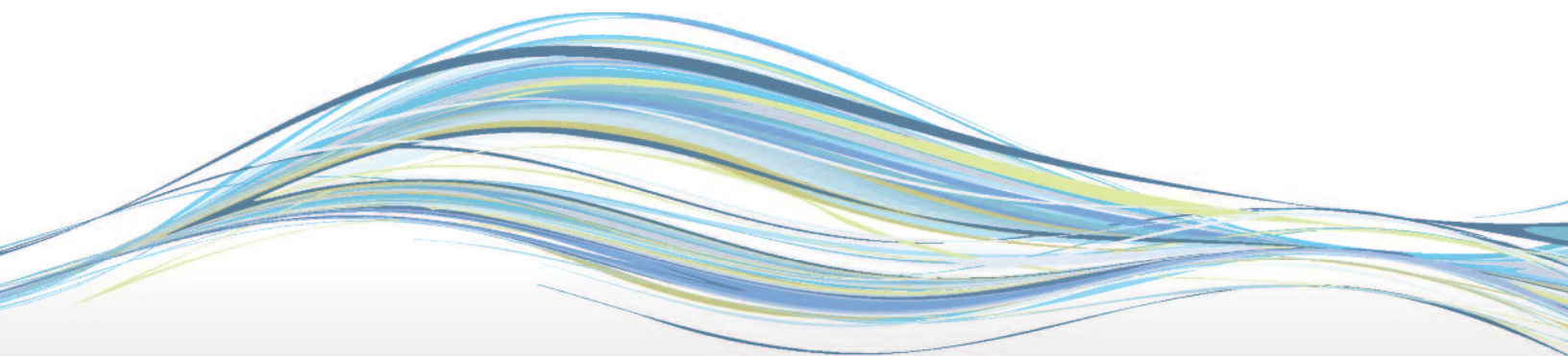# APTARA

Designing and Building an Interactive eBook

A Production Tutorial

by Maria Bartoszewicki
Director, Interactive eBooks

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An Introduction to Interactive eBooks

The eBook Evolution

Digital and mobile content are changing the way information is accessed and consumed across every industry. But nowhere is it more evident than in the field of publishing.

New media and new delivery mediums have upended the business of books.

It began with the transition from print to eBooks, in which a static representation of the printed page was displayed on a PC or mobile device, and then evolved to include enhancements such as internal linking and embedded audio and video.

Keeping pace with the rapid succession of new tablets, smart phones and eReaders – and consumers' expectation for ever greater levels of engagement with their mobile devices – todays most popular and effective eBooks are interactive.

Interactive eBooks leverage the latest mobile, web, and graphic technologies using CSS and HTML5 to make content more meaningful. They include a variety of interactivities to engage readers and deepen the impact of the written word. As such, they transform traditional books in creative ways that help bring content to life -- however the publisher envisions it.

Examples of interactivities include animations, interactive maps and graphs, guided tours, 3D renderings, slidelines, hot spots, short video and audio clips that offer further explanations on complicated topics and engage auditory learners, and self-assessments for gauging comprehension.

Any type of book can include interactivities, but educational books were the first to fully explore this new medium because of its potential for aiding the learning process.

Interactive eBook Samples

The following are descriptions of two highly interactive digital textbooks produced by Aptara.

Campbell Biology

The Inkling version of *Campbell Biology,* often called "the ultimate digital textbook," features over 500 enhancements including slideshows, guided tours, and assessments. At 1,400 pages and 56 chapters in length, it has over 20 audio and video files and 40 assessments per chapter. It tempts students to interact with images and explore concepts in greater detail with test yourselves, guided tours, and 3D models and molecules.
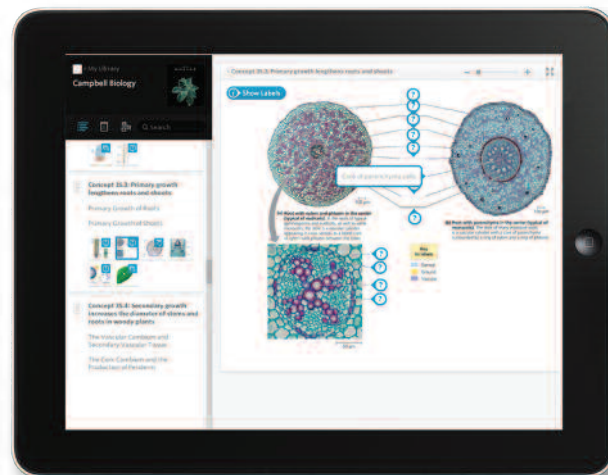
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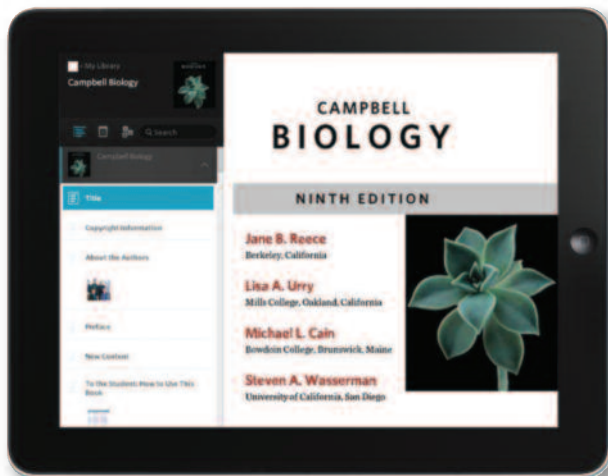
Title Page

Slideshow

3D Molecule

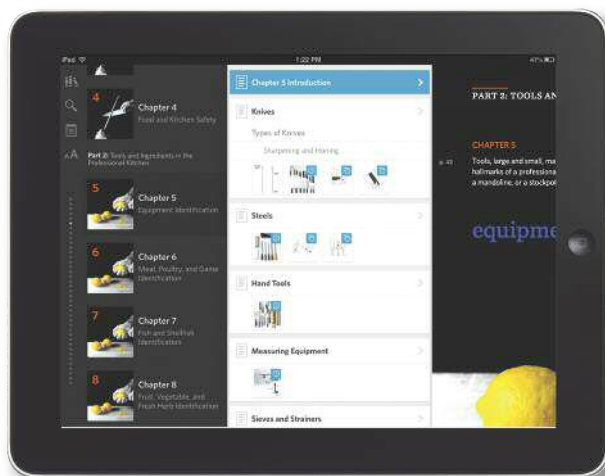

Test Yourself

Hotspot

Audio & Video

The Professional Chef

The Professional Chef, by The Culinary Institute of America, is a popular culinary reference and highly interactive recipe eBook. This Inkling title is exemplary of sophisticated digital enhancement. It has nearly 200 high-resolution images that the reader can tap into and pinch and zoom to further explore. It contains over 100 instructional videos and enhancements such as slideshows, test yourselves and quizzes to provide the reader an advanced interactive learning experience. This eBook contains a master recipe list with over 300 recipes including images, jump and push links, and extended pop-tips with embedded images and slideshows to convey a visual understanding of specific ingredients.

Title Page
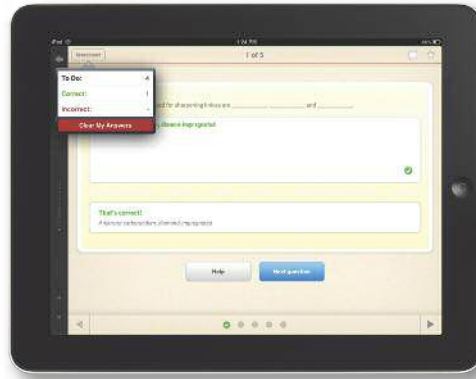
Outline View

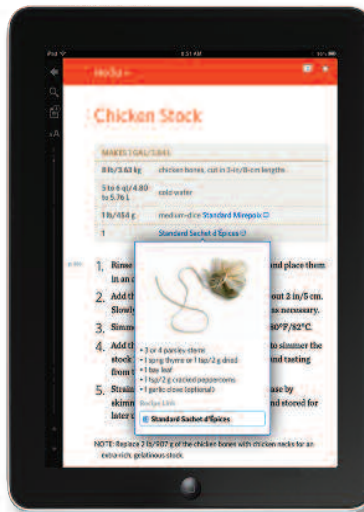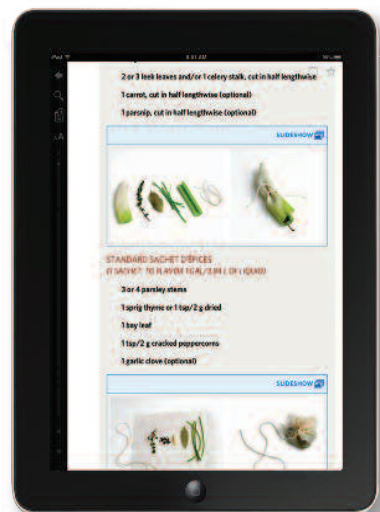**Slideshow**

Audio & Video

Test Yourself

Assessment

Master Recipe List with jump links

Recipe Card with extended poptips

Recipe Card with embedded enhancements

Behind the Scenes: Transforming a Print Book into an Interactive eBook

Platform Selection

An eBook expert consults with the book's publisher to determine which interactive digital publishing platform is best suited for the title's content.

The four most popular platforms are:
- Inkling
- iBooks Author
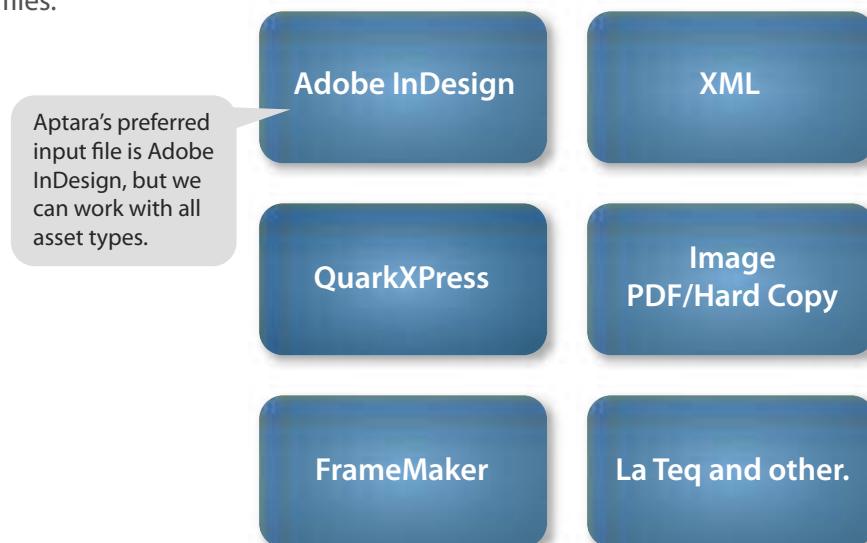- Adobe DPS
- Custom HTML5 Solutions & EPUB3

All of these platforms create publications that are accessible from multiple mobile device types and via enterprise Apps available through the Apple App store.

The publication's subject matter and content type is an important determinant in selecting the appropriate platform. Each introduces different production considerations. Examples of different publication types include:

- Medical Practice, Medical Education, Nursing Guides
- Science, Health, Social Studies, Foreign Language, Arts
- Business, Economics, Finance, Information Technology
- Communications, Leadership, Education, Case Studies
- Novels, Periodicals, Journals, Magazines, Travel Guides, Cookbooks, etc.

Asset Collection

All assets, including source files, are required prior to production. Any of the following formats can be used as source files.

Aptara's preferred input file is Adobe InDesign, but we can work with all asset types.

Adobe InDesign	XML
QuarkXPress	Image PDF/Hard Copy
FrameMaker	La Teq and other.

With the content in hand and the platform decision made, production begins!

A Three-Phase Process

Producing a quality interactive eBook is a detailed process that requires honed methodologies and the collaboration of a team of experts including content architects, instructional and interactive designers, CSS experts, HTML5 experts, and digital testers.

The process is divided into three phases:

Editorial and Design Analysis	→	Digital Composition and Development	→	Testing and QA

1) Editorial and Design Analysis

Phase 1 begins with the creation of a sample chapter that serves as a blueprint for building the remainder of the eBook.

The sample chapter defines the digital design for every element in the book, including a page layout and style guide that delineates how the digital book will look.

To create the sample chapter, content architects start by scoping and organizing the content from the print source files to prepare the content for digital layout. The output of this process is called a content mark-up or a content map (depending on the eBook platform used), which defines the digital treatment, or solution, for the final eBook.

Example of a Content Mark-Up

One of the most valuable aspects of the Editorial and Design Analysis team's work is deciding what content from the print book can/will be enhanced, what type of interactivities will be employed, and creating a storyboard for every interactive element.

The editorial resources consult with Subject Matter Experts (SMEs) to enrich and sometimes expand content for interactivity opportunities.

Once the interactivity is fully mapped through storyboarding, editorial resources create interactivity mapping guides to show how and where each interactivity is to be integrated into the eBook.

Example of a Mapping Guide

Content architects, interactive designers and technical experts then work collaboratively to develop the sample chapter that will serve as the foundation upon which the remainder of the eBook is built.

Some of the most important elements that are defined during Phase 1, in addition to interactivities, include:

- unit openers
- chapter/section openers
- lesson openers
- card structure
- embedded readers
- headers
- list & bullet styles
- sidenotes
- quotes

As the design and CSS resources design each element of the eBook, they collaborate to ensure the best and most engaging content experience for the reader. These teams are responsible for designing platform-agnostic environments so that the final product 'behaves' the same across all monitors and devices. They also pay close attention to responsive design methodologies. Responsive design ensures that the eBook's content reflows and displays correctly regardless of the device type or screen orientation.

Interactive designers create the visual design for all of the elements in Adobe Illustrator and coders create CSS (Cascading Style Sheets) for the implementation of the design. These are passed to the production team for the next phase, Digital Composition and Development.

The following are examples of an interactive designer's Adobe Illustrator file, and a sample chapter at the end of the Editorial and Design Analysis phase.

Example of a Visual Design
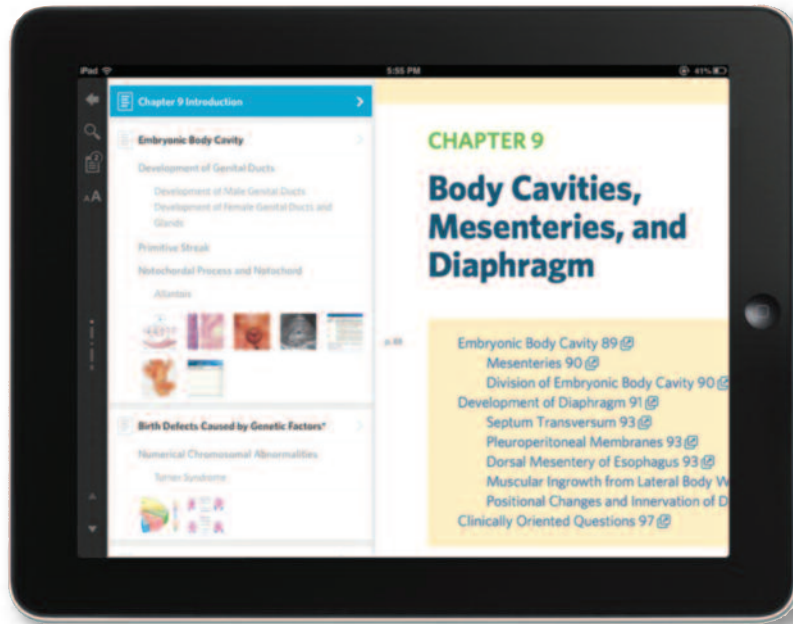
Sample Chapter Examples
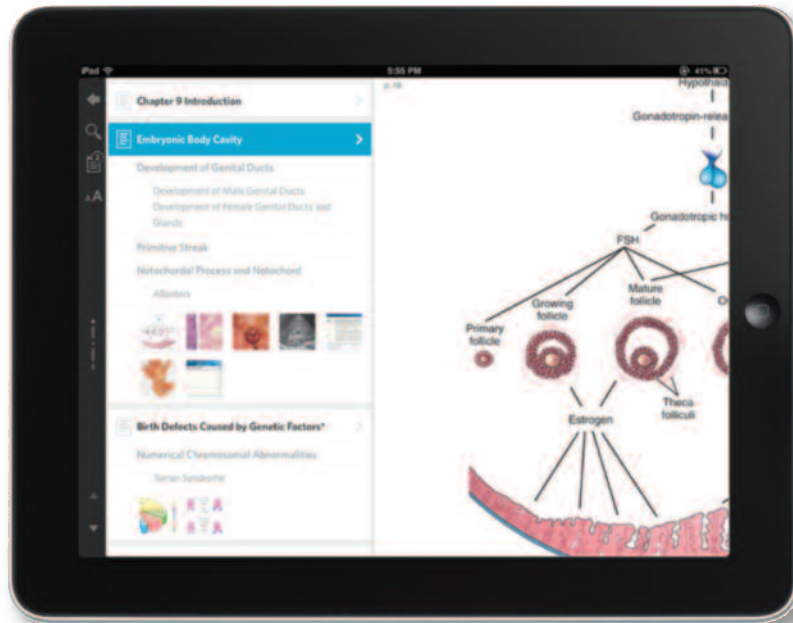
2) Digital Composition and Development

Phase 2 is the build phase. HTML5 experts collect the sample chapter information from the Editorial and Design Analysis teams and begin coding the entire eBook accordingly.

Senior-level HTML5 coders work closely with the editorial and design teams to handle the treatment of any anomalies that may arise. For example, if an element is missed during the editorial and design phase, it would not have a visual design or CSS implementation and would be sent back to the design and editorial teams for treatment suggestions.

HTML5 coders build and program all interactive elements based on the storyboards from the Editorial and Design Analysis phase.

Once the eBook and all of its interactive content has been built, the final eBook is passed on to the testing and QA teams for the final phase of production.

3) Testing and QA (Quality Assurance)

Strict audit standards are required to enforce stringent quality metrics and to successfully produce high volumes of complex works.

The first step in this final phase is a thorough proofreading of the digital content against the source files and the printed book to ensure that all of the appropriate content was transferred and all interactivities incorporated in the right places.

The interactive eBook then undergoes a rigorous functionality test to ensure that all links and interactivities work correctly across all web and mobile platforms. Cross-platform testing is also done on all devices for UI/UX, accessibility, and compliance. For each of these processes a checklist is in place so that nothing is overlooked.

Examples of a Testing and QA Checklist

Once the testing and QA process is complete and all revisions have been made and proofed, a Product Sample Audit team conducts sample chapter audits to confirm that the publisher-defined quality standards have been met. This entails an audit of the final product before it is presented to the publisher.

Ready for Market!

The three-phase design and build process employs teams of highly-skilled experts leveraging new media and HTML5 technology to creatively transform the printed page. It culminates in exciting new interactive eBooks for entertaining and educating readers.
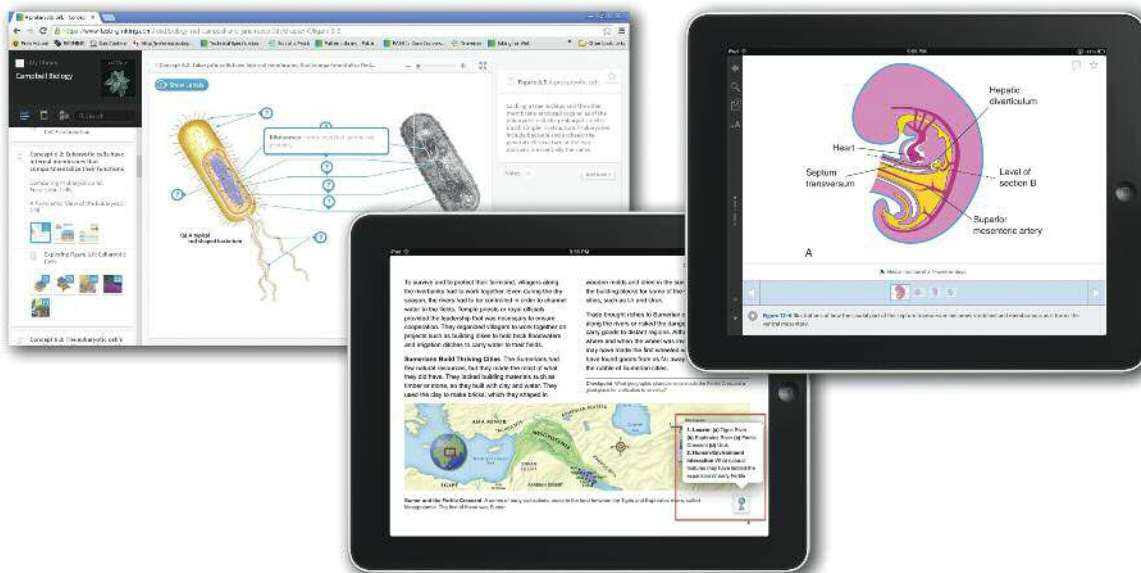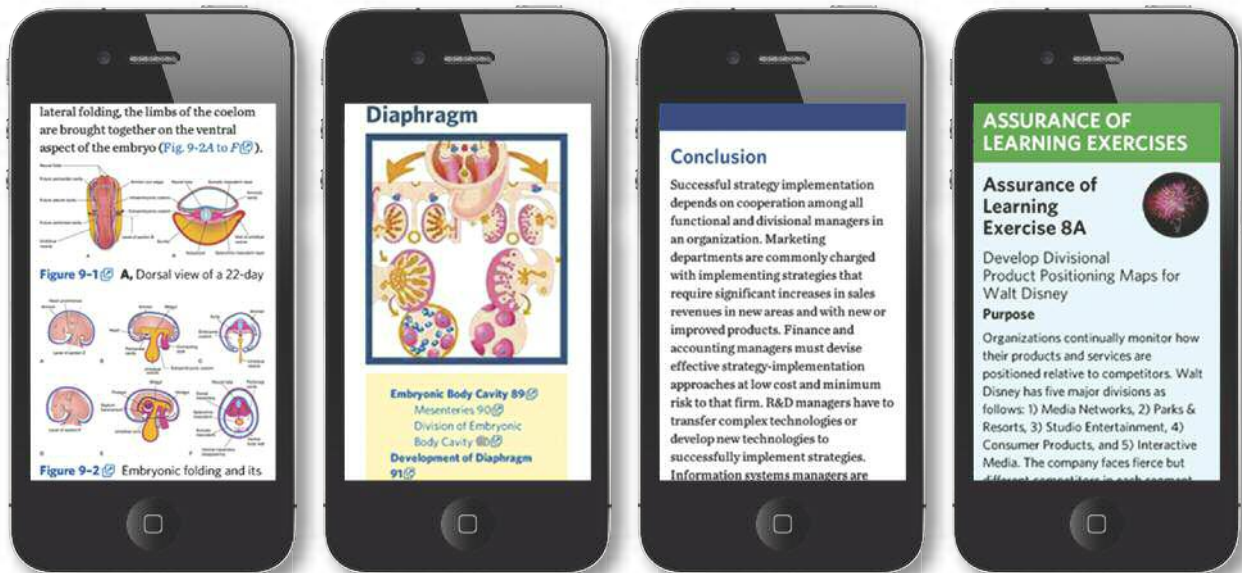
About Aptara

Aptara works directly with publishers to transform their ideas for interactive eBooks into exciting, engaging new digital products. As one of the leading interactive eBook developers in the marketplace, Aptara has produced over 300 interactive eBooks and over 250,000 pages, including high profile titles such as *Campbell Biology*, *The Professional Chef,* and *Harrison's Principles of Internal Medicine*, for some of the leading publishers in the world, including:

- Inkling
- Pearson
- Peachpit
- Wiley
- Open Air Publishing
- McGraw Hill Professional
- McGraw Hill Education
- Wolters Kluwer
- Workman
- O'Reilly
- Thieme
- Reed & Elsevier
- Garland Science

About Aptara

Aptara's digital content, learning and performance, and business services solutions are in place at market-leading companies worldwide. Our industry specialists design and implement strategies that capitalize on new digital and mobile technologies for information providers in IT, law, healthcare, pharmaceuticals, insurance, financial services, and publishing. Aptara solutions uncover new revenue streams, improve operations, and realize cost savings for enterprises.

Founded in 1988, Aptara is headquartered in the United States and has offices on four continents. Our parent company, iEnergizer, is publicly traded in the UK.

APTARA

3110 Fairview Park Drive, Suite 900
Falls Church, VA 22042
+1-703-352-0001

aptaracorp.com