

SECTION A

Answer ALL questions

1. Outline the differences in architectures of the Internet, Intranet and Extranet. (6 marks)

2. Describe the main stages of an electronic Customer Relationship Management system (eCRM) and give an example of each type of functionality that you have mentioned. (4 marks)

3. Briefly describe the main functions provided by a web server. (4 marks)
4. Explain what is meant by dual key encryption, and give an example of its commercial application. (6 marks)
5. Briefly discuss the need to ensure accessibility in e-commerce sites. (4 marks)
6. Describe the Value System model. (8 marks)
7. Typically, an Ethical issue in E-commerce involves a dilemma; briefly describe the five steps you would follow in an Ethical Analysis of a situation. (10 marks)
8. Describe the terms Disintermediation and Reintermediation, illustrating your answers with examples. (8 marks)

SECTION B

Answer TWO questions

9. Review the issues faced by E-commerce with regard to security, authentication and non-repudiation, and the technologies in use to address them. (25 marks)
-
10. Describe and explain the Five Forces model for competitive advantage in the context of ecommerce systems. (25 marks)
11. "EDI will soon be obsolete and replaced by XML." Discuss this statement, and the problems and solutions currently envisaged in global data messaging. (25 marks)
12. Applying the SWOT analysis technique to the Virtual Vineyards Case Study in Appendix identify and summarise the reasons for its success. (25 marks)

Virtual Vineyard's Case Study

(taken from: www.prenhall.com/lauden)

Peter Granoff spent the better part of two decades serving various functions in the wine industry, working as a teacher, taster, consultant, and sommelier in San Francisco's restaurants and clubs. He ~~is the thirteenth American to be admitted to the British Court of Master Sommeliers. He watched~~ sadly as the wine industry followed the lead of other retail-oriented businesses by creating superstores appealing to the consumers' calls for lower prices. Such stores kept an abundance of wines in stock, but they purchased fewer varieties, using their clout to squeeze lower prices from wine producers. Also, by simplifying their stock, they could substitute regular sales clerks for wine experts who received higher wages. These savings were passed on to the customers, most of whom were willing to sacrifice knowledgeable service for convenient shopping and savings. The retail outlets relied on the large producers with advertising budgets to educate consumers.

As a result, smaller wineries had no one to sell their product to because they could not provide the output or the discounts that superstores demanded. Small wine producers were responsible for many of the industry's best wines, but they couldn't survive under the new order. Hundreds of small wineries producing fewer than 5000 cases of wine per year were abandoned by their distributors.

Granoff knew that a market still existed for specialty labels and quality wines. The question was how to tap it, because it was geographically diffuse and too fragmented to be addressed by superstores. He found his answer by teaming up with his brother-in-law, Robert Olson, who had headed a Silicon Graphics marketing team selling software for interactive television. Olson wanted to apply what he knew to on-line retailing, and the World Wide Web seemed like the perfect medium.

Olson and Granoff believed that there were three advantages to using the Web for on-line retailing: (1) Computers are perfectly suited for the task of searching for key words and comparing numbers; (2) on-line retail reduces marketing costs because it is available to potential customers 24 hours a day, 365 days a year (at very low cost compared to the price of placing four half-page ads per year in The New York Times); (3) a Web site can sell directly to customers, eliminating middlemen and distribution costs.

Olson and Granoff pooled their expertise to found Virtual Vineyards, an on-line store that would serve as an agent for both the vineyard and the consumer. Its proprietor would taste and evaluate everything in stock. Earnings would be based on commissions on sales. In essence, Olson and Granoff would be selling wines traditionally using the most leading-edge technology.

Virtual Vineyards opened its virtual storefront in late January 1995. Since then, business has been increasing by approximately 20 percent per month, and sales have topped \$1 million. It is not the only Web site selling wine. What it offers, in addition to convenience and low prices, is information, the expertise supplied by Peter Granoff, an authority in his field.

Other Web sites retailing goods typically feature links to reviews by other experts, mailing lists and on-line discussion groups, newsletters, journals, and so forth. Virtual Vineyards has none of these—only a clean line running to Granoff. Virtual Vineyards does not even have links to the wine producers' sites where customers can wander to read product presentations from different vendors. The information comes only from one source.

Granoff provides the winery descriptions, which demonstrate his knowledge of the industry and the operations of specific producers. For example, "The tiny Ahlgren Vineyard in the Santa Cruz Mountains . . . has earned a reputation for producing wines that balance concentrated varietal character with finesse and complexity. Total production is approximately 2000 cases, and vineyards

in the Livermore Valley, the Santa Clara Valley, and the Santa Cruz Mountains are sources for the small lots of handmade wines . . . Dexter Ahlgren's philosophy is to interfere as little as possible during the entire winemaking process. The results speak volumes about the wisdom of a minimalist approach." In the Virtual Vineyards advice column, Granoff answers questions on topics ranging from investment to wineglass selection and wine storage methods. Virtual Vineyards wants to educate its visitors as well as sell them products. Visitors learn as they shop. For example, the Portfolio option describing wines on sale describes each label with a few sentences but also provides information about the class of wine. The Portfolio Option includes Peter's Tasting Chart for each label, with seven parallel horizontal lines, each representing a dimension of wine taste (intensity, sweetness or dryness, body, acidity, tannin, oak, and complexity). Each line represents a range. A red diamond, placed anywhere from far left to far right, indicates where the label under discussion falls within that range for that particular dimension. The chart conveys a great deal of information at a glance.

Virtual Vineyard's Web pages are clean and load quickly. The menus are uncluttered with links, the graphics compact. The look and feel of the site and the performance of its software reinforce its message of a strong voice tied to a specific person. Virtual Vineyards stocks about 250 labels from 50 wineries. The company is now using Java to make the Web site even more interactive and helpful. It is also using other new Web technology, having purchased Personify Essentials, a new software system that analyzes each visit to Virtual Vineyard's Web site, helping the company understand who purchases and why.

Virtual Vineyards' information-based approach to sales and marketing presents some difficulties. Once past a certain level of detail, the expert's command of his product starts to weaken, and the software becomes too elaborate to use easily. The information-based model raises prices. The expert must be paid, adding to the retailer's mark-up. Customers theoretically could use the site to find out information and then purchase what they like somewhere else—at a lower price.

Virtual Vineyards hopes to surmount these difficulties by personalizing its service. For instance, Olson can learn about customer preferences from their order histories and then use that information to suggest new labels to try. Virtual Vineyards recently added food and gift items to its wares. It is considering opening a gourmet farmer's market to sell produce during peak seasons, but first must overcome transportation problems.