1. **Discuss the usage and security issues of the magnetic strip technology**?

A magnetic strip is on the back of credit and debit cards. When swiped through the processor it allows access to payment from the customer to the merchant through an encoded characters in the strip. In an article by hightechaid.com Magnetic strips are not inherently secure. Since they are easy to manufacture and encode, crooks also have the ability to duplicate them. Although there are Watermark Magnetics, WSsec, Holomagnetics,XIShield, jitter enhancement, ValuGard and MagnePrint help to deter these efforts at duplication. Magnetic stripes are the primary target for hackers and thieves. Hackers will generally use malicious software to break into retailers and steal the credit card information and sell it to thieves who encode it onto new credit cards. The thieves go shopping for sellable items.

1. **What is EMV technology?**

An article found on level2kernal explains that EMV technology is a global standard for credit and debit card payments based on chip card technology. The name is taken from Europay, MasterCard and VISA which were the original inventors of the concept. Where the magnetic stripe would only access 2 pieces of data from the card, the chip utilizes cryptographic authenticity to access dozens of pieces of information chip based cards are designed to be more expensive and difficult for thieves to counterfeit.

1. **Discuss the usage and security differences between "chip and sign" versus "chip and pin" cards?**

Chip and Sign cards are easy to use if lost or stolen. Even though the reproduction of the card might be very difficult, paying for something only requires the card and a signature. Very few retailers ask for identification even when the signature area asks “See ID”. Many cashiers have had unpleasant experiences when asking for additional ID be it that the customer might be in a hurry or a long time known customer, the cashier would rather not deal with an upset customer.

Chip and PIN cards require the customer to enter a PIN in addition to the card with the chip. While it might not be easy to duplicate the card, the added security of a PIN might thwart theft. However, should the PIN be acquired by a theif the card is much easier to acquire cash via ATM or money back via purchase.

1. Why has the United States resisted the adoption of the EMV technology?

According to Krebsonsecurity a $9 an hour cashier is less likely to look at a signature, however most issuing banks and Visa don’t want PINs because they can be stolen and used at ATM machines to withdraw money using that cards magnetic strip and PIN.Banks will eat the ATM fraud costs. Issuers of credit cards are hesitant to adopt the chip and PIN technology as it is another step for the card holder to purchase and much less convenient.

The United States is a very competitive card market. The thought that Americans have a difficult time doing two things at once delivers a strong message to card issuers that they want a very simplistic and easy payment process. This will bring more customers to acquire their cards.

On the other hand, retailers want PIN and chip technology because they want to strengthen the security of point of sale transactions. In addition to paying lower rates on PIN transactions. Cards that are issued by the retailer are more likely to adopt this form of card as well as it is more likely that the customer will use that particular car at that retail business.

According to a White House announcement in 2014 the US is adopting the chip and PIN technology as part of their commitment to security in the credit card industry. But as the card issuers spent much time coding the chip and sign method it is not going to be widely accepted at the start.