CREDIT CARD DATA PROCESSING pdf

1: Understanding Credit Card Processing

Most credit card processing companies have wide support for popular credit cards such as AmEx, Discover, MasterCard, and Visa, as well as for contactless payments such as Android Pay, Apple Pay.

Extended item amount Debit or credit indicator In addition to these fields, there are specific interchange qualification criteria that may also apply. For example, there may be requirements related to settlement time, MCC, and more. Fortunately, many popular gateways are capable of supporting enhanced data and are compatible with a number of processors. You can use the CardFellow directory of credit card processing gateways to determine if your existing solution allows for level 2 and 3 transactions. Interchange is the largest part of processing costs. Achieving level 2 or level 3 interchange means lowering the wholesale cost, which can result in a lower overall processing cost as long as you use a processor on a true pass-through pricing model. Also sometimes called interchange plus pricing. Interchange categories have rules that determine when transactions are eligible for the category. Every transaction is routed to an interchange category based on the criteria of the transaction. Your goal is to help your transactions qualify for the lowest cost interchange category possible every time you take a card. Pass-Through and Tiered Pricing A pass-through pricing model means that your credit card processing company will charge you the actual interchange wholesale cost and apply a separate markup. If your credit card processor uses a tiered pricing model, the processor will benefit from your efforts to lower interchange costs, not you. Processors in the CardFellow marketplace are contractually obligated to use pass-through pricing, resulting in the highest level of transparency and potential for lowest costs. The opposite of downgrade interchange categories for commercial cards is enhanced interchange categories, also known as level 2 and level 3. Enhanced data interchange categories have the most requirements. Your transactions will qualify for enhanced data categories if you meet the requirements. When you choose a processor through CardFellow, we check for downgrades and help you correct any problems through our free statement audit service. Benefits of Level 2 and 3 B2B Transactions For the business taking the card, processing transactions by including level 2 and level 3 data will result in lower costs than level 1 data, meaning a lower overall cost of processing for your business. These benefits will vary by card company and may have additional requirements. Can I just refuse to accept commercial cards? Your agreement with the card brands generally includes a provision requiring that you accept all types of cards that are valid for payment, meaning that if you accept Visa cards, you agree to accept all Visa cards. This means that the Merchant must permit the Cardholder to choose whether to pay for a transaction with that Visa Card or with some other means of payment accepted by the Merchant. MasterCard Rules Am I required to send enhanced data? When you accept a commercial card, it remains a commercial card whether or not you send the enhanced data with the transaction. However, without enhanced data, the transaction will downgrade. If you only take commercial cards now and then, you may be able to set up credit card surcharges for those transactions to help defray the costs of a downgrade, but surcharging is often disliked by customers and should be considered carefully. If you take commercial cards regularly, qualifying for enhanced data is likely to be a better long-term solution.

2: B2B Transactions: Level 2 and Level 3 Credit Card Processing

First Data Advantages. From financial institution and retail credit card issuing to commercial card processing, management, payment electronification and cash management, First Data delivers the service and solutions that drive overall operational efficiency, improve risk management and increase customer retention.

Memo Purchase Order if present As you can see in the table above, each Authorize. Net field corresponds to a QuickBooks field to ensure that your data transfers correctly. You can change the mapping for fields from the default, if needed. Net sync offers a convenient way to incorporate transaction data into QuickBooks, and can be a great choice for businesses that are already processing credit cards using the Authorize gateway. You can sign up for an Authorize. Net account through Authorize directly or through a credit card processor. The company through which you sign up will set your pricing for the gateway. As a feature of the Authorize. Net gateway, Sync for QuickBooks may be included in your gateway pricing. Contact your credit card processor if you have questions about utilizing Sync for QuickBooks through your current gateway account. Not sure if you should go with Authorize directly or a reseller? NMI has two routes for QuickBooks integration: NMI offers this option for free, though your processor may charge for it if they wish. SyncPay is a more robust automatic sync tool and is compatible with desktop versions of QuickBooks. The tool allows you to initiate payment for invoices from within QuickBooks. When properly configured, SyncPay will open within your QuickBooks account as a separate window, allowing you to enter card information by keying in details or utilizing an attached card reader. The form offers fields for card details, amount, billing address, the option to save the info to a secure card vault, and more. Swipe card at any time. Once you complete the gateway payment, your records in QuickBooks automatically update to reflect the transaction. NMI does not directly set up businesses to use its gateway. Your processor can include the costs of QuickBooks integration in your total gateway pricing or may charge a separate fee. The plugin is the more robust of the two choices, but if you just want an automated process to sync transaction data, ePNSync is the way to go. When you use ePN, you can easily integrate your transactions with Windows-based desktop versions of QuickBooks, including Pro, Premier, and Enterprise. You can take cards by swiping, hand-keying, or allowing customers to pay online through a secure web form. Many processors offer the ePN gateway, providing you with more choices for your merchant account while still enabling QuickBooks integration. You can create or choose an open invoice and apply a payment to that invoice. The ePNPlugIn allows and records payments made by credit card, gift card, and cash. However, the ePNPlugIn does not support level III data, which is commonly required for cards that require even more information, such as government transactions. External Transactions with ePN If you accept payments outside of QuickBooks using the ePN gateway, you can still download those transactions into QuickBooks to ensure you have an accurate record of payments. Depending on the method you use, the plugin may even auto-match the transactions to invoices for you. For example, if you accept a payment outside of QuickBooks for a transaction that already has an invoice within QuickBooks, some versions of the plugin help ensure easy reconciliation if you enter the invoice number at the time you accept the payment. Auto assigning transactions also works if you upload an invoice to ePNBillPay or create a payment page through ePNWeb Order Generator to allow customers to pay their invoice through a secure form. The system will only show you partial card numbers and a status to determine if the card is current, as seen in the confirmation screen image below. This process eliminates the need to manually enter transaction details. Official SDKs provide information on programming best practices and detailed information that allow developers to create peripherals like plugins to connect to a program. Companies that offer SDKs are essentially encouraging third parties to enhance the functions of their product. QuickBooks does still currently provide SDKs through its Intuit Developer platform but may have limited functions like direct real-time integration with payment systems. Secure QB Plugin white labels its solution for several major banks and processors, but you can also obtain it yourself without going through another company. The plugin opens in tandem with QuickBooks and allows you to work from within your accounting software through a separate overlaid window. The plugin screen in the bottom right corner allows you to chose from options such as single payments, batch payments,

recurring payments, and more. Once you click on an option, the appropriate window will appear to enable payment acceptance. Additionally, this plugin offers the option of batch payments. If you need to charge a group of clients, you can do so in a single batch if you have cards on file. This feature is useful for businesses that bill clients on a membership model with a fixed weekly, monthly, or annual charge. Fortunately, the plugin is processor agnostic and compatible with many different gateways, including Authorize. It works with Windows operating systems and is compatible with desktop versions of QuickBooks, including Pro, Premiere, and Enterprise. Some processors offer Secure QB Plugin under other names, so you may be able to get it from your processor. The company also would not confirm to CardFellow whether the solution is Intuit-approved. Verosa did provide us with a list of compatible gateways, as seen below: Like other options, Verosa allows you to key in card numbers manually or attached an optional card reader to swipe cards. The payments post against an open invoice, ensuring that your records are up-to-date. Read more about Verosa for QuickBooks integration. You can also accept payments through mobile devices or online forms and record those payments automatically in QuickBooks. In any case, the process is similar to other options: The company claims to work with all major banks and processors. InstantAccept is another solution that some processors offer under a different name. The company offers this explanation of its QuickBooks integration capabilities: That gives you the flexibility to find the right processor and still eliminate the hassles of manual transaction entry into QuickBooks. You can apply payments to invoices and optionally connect a card reader to swipe cards rather than hand-keying. The PayGuard feature of the service allows you to securely store cards in a vault for future payments. In addition to the basic real-time features, Merchant Edition offers the option of add-on modules to allow you to customize the perfect solution. Add-on modules include other payment methods: The Email Payments add-on allows you to email invoices that contain an embedded payment link to your clients. When they pay, the transaction downloads into QuickBooks for easy reconciliation. The Online Payments add-on lets your customers make a payment through a secure, dedicated payment page with your business branding. Those payments also download into QuickBooks. Transactions through the Mobile Payments module download into QuickBooks. The solution syncs data every 5 minutes by default, but you can also manually initiate syncs. With Business Portal, you can create orders and receive payments without having to enter your QuickBooks Online account. You can also offer customers a self-serve payment portal branded with your company name and logo. The payment portal lets customers view or pay their outstanding invoices at their convenience. Business Portal is compatible with QuickBooks Online. Clover The popular Clover systems are known for being customizable through the Clover App Market, where you can choose third party apps on tasks ranging from loyalty programs to timeclocks. Commerce Sync and Better Sync. Both options offer daily automatic syncing. In advanced versions, you can set sales by category to transfer into accounts according to your Clover categories or track sales by customer. The app also tracks payment method of each sale, so cash and credit is denoted. You can even transfer tips, refunds, and discount information. The company offers this video introduction to its services: Commerce Sync is available in two versions: Prices subject to change. The company automates transfer of sales, tips, and discounts similar to Commerce Sync. Once you set up the account to which you want to sync information, Better Sync will automatically create the invoice and an offsetting payment record for you in QuickBooks. The primary con of a Clover plugin is the additional monthly fee. However, eliminating manual entry saves time and limits human error, making the cost well worth it for many businesses. See pricing for Clover-compatible processors. You can even request an independent analysis to get detailed information on possible savings. Conclusion and Resources When it comes to QuickBooks and credit card processing, there are plenty of options. To find the right fit at the lowest price, simply complete a 2-minute business profile. Best of all, certified quotes come with protections exclusive to CardFellow clients, including: Lifetime rate lock No cancellation fee Statement monitoring and more. We connect you with a range of processors that offer QuickBooks integration and can help you find the perfect solution at the right price. BY Ellen Cunningham Ellen has a degree in English, which she puts to work every day researching and writing articles, processor reviews, and social media posts. Please join the conversation.

3: Punched card - Wikipedia

First Data is the #1 merchant acquirer providing credit card processing services for small/large businesses and national financial institutions. Meet the complete family of First Data solutions that free you to focus on what you love.

McLaughlin The Best Credit Card Processing Services of Credit card processing services can foist unfair practices and hidden fees on their small business customers. We research 10 credit cards processing services to help you pinpoint which is right for your company. Easily the most popular payment method in use today, credit cards are a mandatory requirement for an effective payment operation. Additionally, consumers are expecting even more flexibility when it comes to payment processing, including new mobile payment methods, some of which are also provided by the same credit card processing services that manage payments for traditional cards. Unfortunately, as their popularity has grown, credit card processing services have become much more complex and fraught with hidden fees and limitations. Luckily for merchants, fair-minded processors are emerging that offer transparency, fair fees, and good customer service. This is true especially for online "e-tailers," but also for small brick-and-mortar operations. Whether you need credit card payment processing on the street or online, accepting credit cards and processing those payments is still complicated, though. This is due to the sheer number of moving parts inherent in this aspect of merchant services and mobile payment processing. In this review roundup, we cover some of the most popular credit card processors on the market, and consulted with experts in the field at CardFellow and FreedomPay to determine how to choose a provider. We also interviewed the 10 processors featured hereâ€"Cayan, CreditCardProcessing. Finally, we looked at user reviews and ratings from the Better Business Bureau BBB to get a sense of customer service and reliability. Startup Costs, Fees, and Equipment In the payments industry, there is a sort of pyramid of providers. At the top are the credit card companies, which charge flat interchange fees to big processors such as First Data, Flagship, Global Payments, and Vantiv. These entities clear the credit card payments and, while some take individual customers, each works with intermediary services, including Independent Sales Organizations ISOs , which must register with a bank. Rather than providing you with a merchant account, these merchant services set you up with a sub-account under its master merchant account. At the bottom of the pyramid are the business owners, who have to contend with two or three sets of fees: There are a few different pricing structures available, and which one you choose depends on the number of transactions you clear each month, the sum of the credit card payments you receive, and the average amount of each transaction. While these represent the most popular digital and mobile payment systems in use today, in the near future you can expect them to be joined by ever-more-sophisticated cryptocurrency payment systems, even at the retail and micro-payment level. As we mentioned, interchange fees are fixed by the credit card companies and all processors pay the same amount. However, different types of cards can have higher fees, such as corporate cards and the more exclusive rewards cards. Another unavoidable fee is chargebacks, which vary from processor to processor. When a customer or credit card company reports a potentially fraudulent charge, the processor must manually verify the fraud and arbitrate between the merchant and the credit company. Processors make a profit by either marking that fee up or charging both a subscription fee and a small transaction cost. The experts at Cardfellow , a quote generator and credit card processing review website, told us to beware of bundled pricing, which offers qualified and non-qualified rates. Carefully read your merchant agreement for hidden fees up to and including cancellation fees. It used to be standard for processors to offer 3-year, auto-renewing contracts. Recently, however, the industry is moving away from that. Some providers, such as Payment Depot, offer wholesale rates. Consider also the average amount of your transactions. When taking advantage of these kinds of partnership bundles, basic equipment is usually only a few hundred dollars, though more advanced hardware, such as intelligent POS systems that talk to back-end accounting, supply chain, or cloud apps, can cost more. Using an aggregator, such as Square Point of Sale, is helpful, as Square the company is responsible for maintaining its merchant account, including compliance overhead. Even if these resources are offered, you should still be sure to ask about getting a dedicated account manager when signing up for the service. Try calling at off hours to see how easy it is to reach a human and

how long the wait times are. Featured Credit Card Processing Reviews:

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4: Best Credit Card Processing Companies | ConsumerAffairs

Credit card processing companies allow all types and sizes of businesses to boost their sales by accepting both credit and debit card payments. For an online business, subscribing to a credit card.

Dharma Merchant Services - Best for Non-Profits In an industry known for confusing contracts and surprise fees, the best credit card processors shine for having fair and transparent pricing. The financial advisors and business owners we spoke with also praised processors that are easy to work with and provide excellent customer support. We sifted through over a hundred credit card processing companies and found five that meet all these criteria. Our top picks offer competitive rates, helpful customer resources, and â€" depending on your business model â€" some nice perks to boot. Payment Depot , on the other hand, is a perfect choice for big-ticket items. PayPal should be your go-to for setting up online payments. Adding the PayPal checkout button to your site is free and easy, and customers with existing PayPal accounts will be able to check out in a single click. Along with being convenient for your customers, PayPal is affordable for you: Shopify offers an end-to-end e-commerce package. Dharma Merchant Services is committed to keeping costs low for non-profits so that more money goes toward supporting your cause rather than lining the pockets of your credit card processor. To top it off, Dharma itself makes sizeable annual donations to nonprofit organizations. Since credit card processing is a little convoluted, we took some time to cover the most important terms and concepts in our Credit Card Processing section. Different pricing models that may look more or less pricey at face value will benefit different business models in the long run. On top of that, the range of services and quality of support a company offers are often just as important as its rates. To start, we compiled a list of every credit card processor we could find that operates in the US: We covered our bases, making sure that big names like Square and PayPal were present, as well as lesser-known options like Helcim and Swiftpay. We only considered companies that are up-front and transparent about their fees. Thankfully the card processing industry has started trending towards more transparency in recent years. Disruptor companies, like Square and Payment Depot, have set a new standard for pricing transparency. Processors that have ditched tiered pricing can offer a couple of different pricing models. The two main options are interchange-plus and flat-rate pricing. You can read more about these below , but the important thing to know is that both are upfront about fees and much more fairly priced than tiered rates would be. We cut all the companies that still use the opaque and expensive model of tiered pricing. In addition, we only considered processors that accept payments both online and in-person. In an industry as complex as credit card processing, getting your questions answered is key. You may need help choosing the right package, getting your equipment set up, settling a disputed charge, and so on â€" and your processing company should be there for you when you do. With that in mind, we evaluated all of our contenders for their customer support tools and availability. We looked for a reliable website with clear terms of service, FAQs and quality education materials, and ample channels for reaching a live rep. Our top picks are some of the most helpful and responsive companies on the market. They all have easily navigable, plainly-worded websites that make it simple to find the answers you need.

5: Process Credit Cards Today with Ignite by FirstData

For the business taking the card, processing transactions by including level 2 and level 3 data will result in lower costs than level 1 data, meaning a lower overall cost of processing for your business. Visa's interchange table even notes in some places that B2B payments receive better pricing, as shown in this screenshot.

Credit cards are useful for both merchants and consumers. High credit limits, purchase protections , budgeting tools and reward programs make credit cards one of the most common payment methods. The ability to accept them is vital for a business to compete and thrive in the modern economy. Flexibility in payment options broadens customer base and leads to higher customer satisfaction. The impulse purchasing associated with credit cards increases the likelihood that cardholders will spend more, and more frequently, than they would with cash or debit cards. They also allow merchants to better identify customer spending habits and optimize resources because processing systems produce clear-cut financial data and integrate with other business operations. For example, a Point-of-Sale POS terminal can integrate with hundreds of different applications and manage employee hours, inventory and sales trends in addition to processing credit cards. The Processing Chain The electronic payment process begins when a customer presents a payment card to a merchant in store , over the phone or online to buy a product or service. In order to accept the payment, the merchant employs a merchant service provider MSP to process it. The MSP, also known as the merchant bank or acquiring bank, sends an authorization request to the appropriate card network Visa, MasterCard, Discover, American Express or JCB , which then contacts the card-issuing bank. The issuing bank assumes liability for providing transaction funds and then holds the customer responsible for paying them back—meaning the merchant is guaranteed the funds, regardless of if and when the customer pays the debt to his or her bank. If the transaction is approved, the acquiring bank collects funds from the issuing bank and disburses them in batches to the merchant in a process called settlement. Interchange refers to the settlement of funds, when the acquiring bank representing the merchant pays the issuing bank representing the customer a wholesale fee for processing each electronic transaction. The acquiring bank also pays an assessment fee to the appropriate card network for each transaction. Card networks and banks set non-negotiable interchange and assessment fees that vary depending on type of payment. Tiered Pricing A business can choose a payment processing plan that best suits its specific needs. There are two choices when setting up a merchant account: Interchange plus sets a fixed price for each transaction: Tiered pricing is variable depending on the type of transaction. Qualified, mid-qualified and non-qualified rates are the tiers determined by MSPs. Qualified rates are the lowest in price and apply to low-risk, card-present transactions. Non-qualified rates are the highest risk and therefore most expensive. They could apply to transactions where card information is received over the phone and manually entered but the billing address is not verified. Are the Tiers Set in Stone? Any action, or lack of action, that increases potential for fraud could prompt a downgrade. Different kinds of cards also play a role in determining rate—whether the card is a private brand, a cash-back or rewards card, etc. A business that operates mostly online might choose interchange plus pricing, while tiered pricing might work best for a business that accepts mostly in-store payments with an EMV chip reader. Some MSPs provide customer service through online live chat rather than over the phone. We believe in customized solutions and personal communication to ensure proper understanding of and satisfaction with our products and services. The many parties and channels involved in payment processing are protected by Payment Card Industry PCI standards, a set of rules about how cardholder data can be transmitted, stored and processed. Non-compliance with PCI standards can result in heavy fines and card data theft. Low interchange plus fees can seem attractive, but may come with offsetting membership and early termination fees or other charges described in fine print. At BankCard USA we believe in transparency and cost-efficient solutions, especially for small and medium-sized businesses. Are there online, mobile and in-store payment options? Flexible payment options can give your business a competitive edge, especially if business is conducted in varying locations. As an omnichannel processor, BankCard USA can accommodate all electronic payment methods and help your business boost sales and customer satisfaction. We understand the inconvenience of large transaction holds and offer next-day

funding for our merchants. Choosing a payment processor that has the capacity to grow with your business will save time and money reinvesting in different MSPs in the future. We offer a diverse range of scalable processing solutions and value developing long-term relationships with our merchants as they grow. Time in business translates to more experience, which is a plus when looking for the right MSP. BankCard USA has been helping businesses process credit cards since Contact us now at CALL

6: Credit Card Processing | Microsoft Dynamics | Nodus Technologies

Founded in and incorporated in , First Data Card Processing is a merchant services provider and transaction processing leader. We have a long history of innovation, and we've introduced our clients to many advanced products and services.

How much are the fees and other costs? Here are some of the main credit card processing fees: The credit card processing company might charge you monthly statement fees to cover the expense of mailing you a statement. Application and setup fees: You may face a fee just for applying for the processing service. Setting up the equipment needed to accept credit cards may cost you extra, too. This refers to a minimum amount in fees the processing company must collect in any one month. Monthly gateway access fee: Some processors may charge you this monthly fee for providing a payment gateway, which transmits transaction data from your processing system to the credit card companies. Some processors may charge you this fee for early cancellation of your contract. The fee can cost anywhere from a few hundred dollars to thousands. If you have any questions or concerns, ask a company representative for an explanation. Set your goals and track your progress. How long will it take to set up? It should be easy for you and your employees to set up the processing technology. Find out how long the payment processor will take to set up your account and install the equipment so you can plan accordingly. If it seems like it might be a complicated task, make sure the processor can provide some support, whether you need help over the phone or in person. What are the accepted payment types? You might also want a system that accepts prepaid cards and gift cards, or an electronic benefit transfer, or EBT, depending on the type of business you operate. Does it accept new payment technologies? Does your business have a lot of tech-savvy customers? If so, you might want a payments processor with near-field communication NFC technology, so you can accept digital wallets such as Apple Pay, Samsung Pay or Android Pay. This allows customers to make purchases with a simple touch on their smartphone or tablets. The number of people using mobile payment systems will exceed million by the end of , according to a report by Juniper Research, a market research company. How helpful is customer support? What if you run into technical problems with your credit card machine? Or you have questions about your monthly billing statement, such as confusing fees? And in the end, it might be worth paying a little more in fees to avoid unreliable, confusing service for your small business. You can look up accredited businesses in your area on the Better Business Bureau website, where you can also find out whether the company has faced any customer complaints. Bank also offer merchant services. If your business keeps you on the move, you may want to consider mobile credit card readers over traditional processors. Small-business owners should compare costs, accepted payment types and level of customer support before making a decision.

7: Experience Payments Differently With Payline as Your Payment Processor

Understanding your credit card processing fees is probably the most frustrating and difficult part when getting a merchant account. For every honest and transparent processor, there is another deceptive company looking to take advantage of unsuspecting merchants.

History[edit] Basile Bouchon developed the control of a loom by punched holes in paper tape in The design was improved by his assistant Jean-Baptiste Falcon and Jacques Vaucanson [4] Although these improvements controlled the patterns woven, they still required an assistant to operate the mechanism. In Joseph Marie Jacquard demonstrated a mechanism to automate loom operation. A number of punched cards were linked into a chain of any length. Each card held the instructions for shedding raising and lowering the warp and selecting the shuttle for a single pass. It is considered an important step in the history of computing hardware. Korsakov announced his new method and machines in September Charles Babbage proposed the use of "Number Cards", "pierced with certain holes and stand opposite levers connected with a set of figure wheels Initially, these electromechanical machines only counted holes, but by the s they had units for carrying out basic arithmetic operations. In , the US government took both to court on this issue. Remington Rand settled quickly. IBM viewed its business as providing a service and that the cards were part of the machine. IBM had 32 presses at work in Endicott, N. Government checks [16] and savings bonds. See, for example, Central Bureau in Australia. At Bletchley Park in England, 2,, punched cards were used each week for storing decrypted German messages. By punched cards had become ubiquitous in industry and government. During the s, the punched card was gradually replaced as the primary means for data storage by magnetic tape , as better, more capable computers became available. Mohawk Data Sciences introduced a magnetic tape encoder in , a system marketed as a keypunch replacement which was somewhat successful. Punched cards were still commonly used for entering both data and computer programs until the mids when the combination of lower cost magnetic disk storage , and affordable interactive terminals on less expensive minicomputers made punched cards obsolete for these roles as well. The terminals that replaced the punched cards, the IBM for example, displayed 80 columns of text in text mode , for compatibility with existing software. Some programs still operate on the convention of 80 text columns, although fewer and fewer do as newer systems employ graphical user interfaces with variable-width type fonts. Nomenclature[edit] A deck of punched cards comprising a computer program The terms punched card, punch card, and punchcard were all commonly used, as were IBM card and Hollerith card after Herman Hollerith. The rectangular, round, or oval bits of paper punched out were called chad chads or chips in IBM usage. Sequential card columns allocated for a specific use, such as names, addresses, multi-digit numbers, etc. The first card of a group of cards, containing fixed or indicative information for that group, is known as a master card. Cards that are not master cards are detail cards. Card formats[edit] The Hollerith punched cards used for the US census were blank. Printing could include having fields named and marked by vertical lines, logos, and more. For applications requiring master cards to be separated from following detail cards, the respective cards had different upper corner diagonal cuts and thus could be separated by a sorter. These patents described both paper tape and rectangular cards as possible recording media. The card shown in U. Hollerith was originally inspired by railroad tickets that let the conductor encode a rough description of the passenger: So you see, I only made a punch photograph of each person. It featured an enlarged diagram of the card, indicating the positions of the holes to be punched. A printed reading board could be placed under a card that was to be read manually. In an article he wrote describing his proposed system for tabulating the U. A reading board for these cards can be seen at the Columbia University Computing History site. These are the dimensions of the then current paper currency of â€" His tabulating machine had up to 40 counters, each with a dial divided into divisions, with two indicator hands; one which stepped one unit with each counting pulse, the other which advanced one unit every time the other dial made a complete revolution. This arrangement allowed a count up to 9, During a given tabulating run counters were assigned specific holes or, using relay logic , combination of holes. Royden Peirce , to independently develop ways to increase data capacity without increasing the size of the punched card. Pierce

wanted to keep round holes and 45 columns, but allow each column to store more data. Lake suggested rectangular holes, which could be spaced more tightly, allowing 80 columns per punched card, thereby nearly doubling the capacity of the older format. The cards are made of smooth stock, 0. In , IBM changed from square to round corners. Continuous form cards could be both pre-numbered and pre-punched for document control checks, for example. The top three positions of a column are called zone punching positions, 12 top , 11, and 0 0 may be either a zone punch or a digit punch. For Pound sterling pre-decimalization currency a penny column represents the values zero through eleven; 10 top , 11, then 0 through 9 as above. An arithmetic sign can be punched in the adjacent shilling column. The 11 and 12 zones were also called the X and Y zones, respectively. In IBM began introducing upper-case letters and special characters Powers-Samas had developed the first commercial alphabetic punched card representation in The languages of Germany, Sweden, Denmark, Norway, Spain, Portugal and Finland require up to three additional letters; their punching is not shown here. The Space character has no punches. For example, the combination "" is the letter "A" in an alphabetic column, a plus signed digit "1" in a signed numeric column, or an unsigned digit "1" in a column where the "12" has some other use. IBM and other manufacturers used many different column card character encodings. For some computer applications, binary formats were used, where each hole represented a single binary digit or " bit " , every column or row is treated as a simple bit field , and every combination of holes is permitted. Invalid "lace cards" such as these pose mechanical problems for card readers. As a prank, in binary mode, punched cards could be made where every possible punch position had a hole. Such " lace cards " lacked structural strength, and would frequently buckle and jam inside the machine. One of the most common punched card formats is the IBM card format, a general purpose layout with no field divisions. This format has digits printed on it corresponding to the punch positions of the digits in each of the 80 columns. Other punched card vendors manufactured cards with this same layout and number. IBM Stub card or Short card formats[edit] The column card could be scored, on either end, creating a stub that could be torn off, leaving a stub card or short card. Stub cards were used in applications requiring tags, labels, or carbon copies. Designed to fit in the pocket, Port-A-Punch made it possible to create punched card documents anywhere. The product was intended for "on-the-spot" recording operationsâ€"such as physical inventories, job tickets and statistical surveysâ€"because it eliminated the need for preliminary writing or typing of source documents. In this format, each column of the top tiers are combined with two punch rows from the bottom tier to form an 8-bit byte, and the middle tier is combined with two more punch rows, so that each card contains 64 bytes of 8-bit-per-byte binary coded data. Card courtesy of MIT Museum. The even numbers in a pair are formed by combining that punch with a 9 punch. Alphabetic and special characters use 3 or more punches. Later 36, 40 and 65 column cards were provided. A column card was also available - formed by dividing the card into two rows, each row with 65 columns and each character space with 5 punch positions. A 21 column card was comparable to the IBM Stub card. Mark sense electrographic cards, developed by Reynold B. Johnson at IBM, [63] have printed ovals that could be marked with a special electrographic pencil. Cards would typically be punched with some initial information, such as the name and location of an inventory item. Information to be added, such as quantity of the item on hand, would be marked in the ovals. Card punches with an option to detect mark sense cards could then punch the corresponding information into the card. Aperture card format[edit] Aperture card Aperture cards have a cut-out hole on the right side of the punched card. Aperture cards are used for engineering drawings from all engineering disciplines. Information about the drawing, for example the drawing number, is typically punched and printed on the remainder of the card. Carroll [64] developed a series of rotary presses that were used to produce punched cards, including a model that operated at cards per minute cpm. In he introduced a completely different press that operated at cpm. A wide variety of forms and documents were printed on punched cards, including checks. Such printing did not interfere with the operation of the machinery. A punched card printing plate. Pricing[edit] Punched cards were not inexpensive: Savings Bond, Series EE issued as a punched card. Eight of the holes record the bond serial number. Each carton could hold 2, cards. While punched cards have not been widely used for a generation, the impact was so great for most of the 20th century that they still appear from time to time in popular culture. Artist and architect Maya Lin in designed a public art installation at Ohio University, titled "Input", that looks

like a punched card from the air. In the â€"65 Free Speech Movement , punched cards became a metaphor Punched cards were the symbol of information machines, and so they became the symbolic point of attack. Punched cards, used for class registration, were first and foremost a symbol of uniformity. A student might feel "he is one of out of 27, IBM cards" The president of the Undergraduate Association criticized the University as "a machine

8: The Best Credit Card Processor of | www.enganchecubano.com

Level 3 processing requires the capture of specific line item data in credit card transactions. These additional data fields include merchant name and address, invoice number and tax amount, plus line item details such as item description, quantity and unit of measure, freight amount, and commodity and product codes.

9: Best Credit Card Processors

This is the web's largest collection of credit card statistics. We culled the best of our own research, data compiled by government agencies, universities and the most reputable private-sector studies.

CREDIT CARD DATA PROCESSING pdf

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