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ALAN: Hello, world. Welcome to the very first episode of the "Talks at Google" podcast, where great minds meet. I'm Alan, your host for this episode. "Talks at Google" brings the world's most influential thinkers, creators, makers, and doers all to one place. Each episode is taken from a video that can be seen at youtube.com/talksatgoogle. This episode is with Frank Abagnale., renowned cybersecurity and fraud prevention expert, best-selling author, and subject of the 2002 movie starring Leonardo DiCaprio, "Catch Me if You Can." He transformed himself from one of the world's most notorious conmen to an international cybersecurity expert trusted by the FBI. With an eye on the latest techniques developed by high-tech criminals to deceive and defraud, Frank leaves us with a deep understanding of today's evolving security landscape and, more importantly, a vision of how to make the world a safer place.

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And now here is Frank Abagnale, "Catch Me if You Can."

FRANK ABAGNALE: Good morning. It's a pleasure to be here this morning. I'm gonna ask your indulgence on two things. It's allergy season, so I have a real hard time during this time of the year speaking, and two, most of the speaking I do when I walk up to the podium is very technical. It deals with cybercrime and identity theft, forgery, embezzlements, and things of that nature. I don't often talk about my life, but Google has asked me today to do something that different and talk a little bit about my life, so I will do that, and then at the end, of course, I'll take questions, and those questions can be about any subject matter that you'd like to ask. As you know, I've had a lot of people tell my story. I had a great movie director write a film about my life. I had a great Broadway musical team make a Tony Award-winning Broadway musical about my life.

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I had a popular television show on TV, "White Collar," for four years created around my life, and most of those very creative people have actually never met me personally, but they've enjoyed telling my story from their point of view. So I thought I would take a few minutes this morning and actually tell you the story from my point of view. I was raised just north of New York City in Westchester County, New York. I was actually one of four children in the family, the so-called middle child of the four. I was educated there by the Christian Brothers of Ireland in a private Catholic school called Iona, where I went to school from kindergarten to high school. By the time I had reached the age of 16 in the tenth grade, my parents, after 22 years of marriage, one day decided to get a divorce. Unlike most divorces where the children were usually the first to know, my parents were very good about keeping that a secret. I remember being in the tenth grade when the father walked in the classroom one afternoon and asked a brother to excuse me from class. When I came out in the hallway, the father handed me my books and told me that one of the brothers would drive me to the county seat in White Plains, New York, where I would meet my parents, and they would explain what was going on.

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I remember the brother dropping me at the steps of a big stone building and told me to go on up the steps, and my parents would be waiting for me in the lobby. I remember climbing the steps, seeing a sign on the building that said, "family court," but I really didn't understand what that

meant. When I arrived in the lobby, my parents were not there, but I was ushered into the back of an immense courtroom, where my parents were standing before a judge. I couldn't hear what the judge was saying, nor my parents' response, but eventually the judge saw me at the back of the room and motioned me to approach the bench, so I walked up to stand in between my parents. I remember distinctly that the judge never looked at me. He never acknowledged I was standing there. He simply read from his papers and said that my parents were getting a divorce, and because I was 16 years of age, I would need to tell the court which parent I chose to live with. I started to cry, so I turned and ran out of the courtroom. Judge called for a ten-minute recess, but by the time my parents got outside, I was gone.

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My mother never saw me again for about seven years, until I was a young adult. Contrary to the movie, my father never saw me or ever spoke to me again. In the mid-1960s, running away was a very popular thing for young people. A lot of them got caught up in Haight-Ashbury, the hippie scene, the drug scene. Instead I took a few belongings from my home, packed them in a bag, boarded what was then the New Haven and Hartford Railroad for the short train ride down to Grand Central terminal in New York. My father did own a stationery store in Manhattan. It was located on the corner of 40th and Madison. Like all of us, we had to work in that store, so from the time I was about 13, I made deliveries for my dad in the summer on a bike. I knew the city very well, so naturally I started looking for the same type of work. There were a lot of signs on the windows, stock boy, delivery boy, part-time. I'd walk in and apply. "So tell me, young man, how old are you?" "16." "How far did you go in high school?" "Tenth grade." "I'll hire you," and I went to work for a small amount of money a few hours a day, but I soon realized I couldn't support myself on that amount of money.

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I also realized as long as people believed I was 16 years old, they weren't going to pay me any more money. At 16 I was 6 foot tall. I've always had a little grey hair. My friends in school used to say that, once a week when we dressed in a suit for mass, I looked more like a teacher, so I decided to lie about my age. In New York we had a driver's license at 16. Back then it didn't have a photo on it, just an IBM card, so I altered one digit of my date of birth. I was actually born in April of 1948, but I dropped the four, converted it to a three, and that made me 26 years old. I walked around applying for the same type of work. People gave me a little more money, a few more hours, but even then it was very difficult to make ends meet. One of the few things I had taken when I left home was a checkbook. I had money from work in the summers. I had some money in that checking account. So every so often I would write a check to supplement my income, \$20, \$25.

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The funds were there. The checks were good, but it was my friends, my peers who would constantly say to me, "You know, you're the only guy I know who walks into a bank in the middle of Manhattan. You have no account there. You don't know a soul. You talk to somebody behind a desk, and they okay your check." "Oh, well, my checks are good." "Yeah, but if I walked in there, they wouldn't touch my check. You walk in there, they don't bat an eye." Now, years later reporters would write and speculate and say that that was my upbringing, mannerisms, dress, appearance, speech. Whatever it was, it was very easy to do, so consequently, when the

money ran out, I kept writing those checks. Of course, the checks started to bounce. Police started looking for me as a runaway, so I thought maybe it was a good time to start thinking about leaving New York City. But I was quite apprehensive about going to Chicago or Miami, wondered if they'd cash a New York check on a New York driver's license in Miami as quickly as they did in Manhattan.

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I was walking up 42nd Street one afternoon, about 5:00 in the evening, 16 years old, pondering all of these things when I started to approach the front door of an old hotel that used to be there called the Commodore Hotel, now the Grand Hyatt. Just as I was about to get to the front door of the hotel, out stepped an Eastern Airline flight crew onto the sidewalk. I couldn't help but notice the captain, the copilot, the flight engineer, about three or four flight attendants dragging their bags to the curb. They load them in the van to take them to the airport. As they loaded the van, I thought to myself, "That's it. I could pose as a pilot. I could travel all over the world for free. I probably could get just about anybody anywhere to cash a check for me." So I walked up the street a little further to 42nd and Park. I went to cross over. I heard a huge helicopter, so I looked up, and there was New York Airways landing on the roof of the Pan Am Building, Pan Am, the nation's flag carrier, the airline the flew around the world. I thought, "What a perfect airline to use." So the next day I placed a phone call to the executive corporate offices of Pan Am. I remember distinctly when the phone was ringing, I had absolutely no idea what I was gonna say.

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When they answered, "Pan American Airlines, good morning. Can I help you?" "Yes, ma'am. I'd like to--I'd like to speak to somebody in the purchasing department." "Purchasing? One moment," and a clerk came on, and I said, "Yes, sir, maybe you can help me. My name is John Black. I'm a copilot with the company based out of San Francisco, been with the company about seven years but never had anything like this come up before." "Well, what's the problem?" "Well, we flew a trip in here yesterday. We're going out later today. Yesterday I sent my uniform out through the hotel to have it dry-cleaned. Now the hotel and the cleaners say they can't find it. Yeah, I'm with the flight in about four hours. "New uniform? Don't you have a spare uniform?" "Certainly, back home in San Francisco, but I'd never get it here in time for my flight." "Do you understand this will cost you the price of a uniform, not the company?" "I understand." "Hold on. I'll be right back," and he came back and said, "My supervisor says you need to go down to the Well-Built Uniform Company on 5th Avenue. They're our supplier. I'll call them and let them know you're on the way."

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Well, that's exactly what I wanted to know, so I went down to the Well-Built Uniform Company. Little fellow, Mr. Rosen, fitted me out in the uniform, the black gabardine, three gold stripes on the arm. I certainly looked old enough to be the pilot. When he was all done, I said, "How much do I owe you?" "Well, the uniform's \$286." I said, "No problem. I'll write you a check." "No, we can't take any checks." "Oh. Well, then I'll--I'll just pay you cash." "No, we can't accept cash. You need to fill out this computer card, then in these boxes put your employee number. Then we bill this back under uniform allowance. Comes out of your next Pan Am paycheck." "Well, that's even better. Go ahead and do that." New York had two airports, La Guardia and Kennedy. La Guardia was 20 minutes from Manhattan. Kennedy was 50. Naturally, La Guardia being the

closer of the two, that's where I went. I spent most of the morning walking around La Guardia in the uniform, trying to figure out, now that I had this uniform, how the hell do you get on these planes?

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I got a little hungry, so about lunchtime I walked in the luncheonette in the terminal, sat down at the counter on the stool, and ordered a sandwich. Moments later a TWA crew walked in. The flight attendants sat in the booth, but the pilots sat at the counter on either side of me, the captain right next to me. Now, back before deregulation of the airlines, airline people thought of themselves as just one big family, so they didn't hesitate a moment to talk to each other, and the captain kinda leaned over, "Hey, young man. How's Pan Am doing?" "Doing just fine, Captain." "Tell me, what's Pan Am doing out here at La Guardia? Pan Am doesn't fly into La Guardia. They only fly into Kennedy." Well, I picked up on that right away. "Yeah, we came into Kennedy. I had a layover, so I came over to visit some friends. Matter of fact, I'm on my way back to Kennedy now." "So tell me, young man, what type of equipment are you on?" Now, airline people have a lot of jargon for things, and one of them is they never call a plane a plane or an aircraft. They call it equipment, and, "What type of equipment are you on?" meant, "What type of plane do you fly?" Back then a DC-8, a 707.

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Of course, I didn't know that, and I thought, "Type of equipment am I on? The only equipment I'm on is this stool. They must mean what type of equipment is on the planes I fly," so I thought, "Well, they got the wings. They got the engine." They always had a sticker on the engine, who manufactured the engine, so I said, "Yeah, it's General Electric." All three pilots kinda just stopped eating and leaned over, and the captain said, "Oh, really? What do you fly, washing machines?" so I knew I'd said the wrong thing. Out the door I went. Everybody had an airline ID card, a plastic laminated card much like a driver's license today. Without the ID card, the uniform was worthless. I went back to Manhattan pretty discouraged, thinking where would I come up with a Pan American Airline corporate ID? I was sitting in a hotel room. I noticed a big, thick Manhattan Yellow Pages, so I pulled them down on the bed, flipped them open, and looked under the word "identification." There were three or four pages of companies who made convention badges, metal badges, plastic badges, police badges, fire badges. Started to call around, and finally one company said, "Listen, most of those airline IDs, manufactured by Polaroid, 3M Company."

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"Need to call one of them." Finally got the 3M Company on the phone in Manhattan. "Yeah, we manufacturer Pan Am's identification system along with a number of other carriers. How come?" "So I'll tell you, I'm a purchasing officer for a major U.S. carrier. I'm in New York just for the day. We're getting ready to expand our routes, hire a lot of new employees, go to a formal ID. We're very impressed with this Pan Am format. Wondered if I came by your office this afternoon briefly, we could discuss quantity and price." "By all means, come on by." So I went by dressed in a suit, and the sales rep opened the book. "Yeah, we do United, Braniff, National, Pan Am." "Pan Am, we like this Pan Am format. Wonder if you had a sample I could bring back." "Sure. I'll be right back," and he brought me back a 5-by-7 glossy piece of paper with a picture of an ID card blown up in the middle of it, someone else's picture in the picture, John Doe for a name, and

in bold red ink across the front, "This is a sample only." I said, "No, I'm afraid this won't do. I need to bring back an actual physical card."

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"And by the way, what is all this equipment on the floor?" "Oh, no, we don't just sell these cards. We sell the system, camera, laminator." "Oh, we have to buy all this?" "Absolutely." Well, tell you what. Since we have to buy it all, why don't you just demonstrate how it works and use me?" "Fine, have a seat right here." Took my picture and made up the card. I was going down the elevator studying the card. It had a blue border across the top, about 1/2-inch, in Pan Am's color blue, but not a single thing on the card said "Pan Am," no logo, no insignia, no company name. This was a plastic card like a credit card, so you couldn't type on it, couldn't write on it, couldn't print on it. Discouraged, I put it in my pocket, headed back to the hotel. As I was walking back, I noticed that I'd passed a hobby shop, so I turned around and walked back. "Excuse me, sir. I see you sell a lot of models here. You sell models of commercial jetliners?" "Sure, over there."

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And I bought a model of a Pan Am 707 cargo jet, took it back to my room, opened the box, threw all the parts out, but there at the bottom of the box was a sheet of decals that went on the model, and when soaked in a glass of water, the little "Pan Am" blue globe that would have went on the tail of the plastic plane went perfect up at the top of the plastic card, and the word "Pan Am" in the special styling and graphics that would have went on the fuselage went perfect across the top of the card, and the clear decal on the laminated plastic made a beautiful identification card. Pan Am says they estimate that between the ages of 16 and 18, I flew more than a million miles for free, boarded more than 260 commercial aircraft in more than 26 countries around the world. Pan Am says, "Keep in mind the fact that Frank Abagnale did in fact pose as one of our pilots for a long period of time. He never once stepped on board one of our aircraft." That's true. I never flew on Pan Am because I was afraid someone might say to me, "You know, I'm based in San Francisco, been out there 16 years. I don't recall ever meeting you before," or someone might say, "You know, your ID card is not exactly like my ID card." So instead I flew on everyone else.

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If I wanted to go somewhere, I literally just walked out to the airport, walked up on the board, "United flight 800 to Chicago." Then I went downstairs to the door marked "United Operations," and walked in. The operations clerk, "Hey, Pan Am. What can we do for you?" "Just wonder if the jump seat's open on 800. Need to [inaudible] at Chicago." "It's open this evening." "Like to get a pink slip pass." I'd give him my ID. He'd write me out a pass. I'd walk out, hand it to the flight attendant. She'd open the door to the cockpit, and I'd step in. They got a captain, a copilot, a flight engineer, and a seat behind the captain called the jump seat where pilots deadhead on company time. Now, because pilots love to talk shop, once you picked up that jargon, it was the same conversation over and over and over, so I'd just step on board. "Evening, gentlemen. Bob Davis, be riding to Chicago." On the taxi out, always the same question. "So, Bob, how long you been with Pan Am?" "Been flying about seven years." "What position you fly?" "Right seat," which is airline terminology for a copilot. "What type of equipment are you on?" Had that one down perfect. Matter of fact, whatever they flew, I didn't fly, so I had no problems with that.

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Then we'd arrive in Chicago. I'd go by the Pan Am ticket counter but just enough to get the attention of the passenger service rep. "Excuse me. I haven't laid over here in over a year. We still at the Apartment House Hilton downtown?" "Catch a crew bus, lower level, door three out." I'd go down to the Apartment House Hilton, walk in, and on the corner of the registration desk was a little sign that said, "Airline crews." That was a three-ring binder. You signed in, referenced your flight number, showed your ID. They'd give me a key. I'd stay two or three days, and Pan Am would be direct billed for my room and my meals. I also could cash a personal check at the front desk because I was an employee of the airline. The airline had a contract with the hotel, and as a courtesy, they'd cash your check, but then I found out that every airline honors every other airline employees' personal check, actually, a reciprocal [inaudible] and still practiced today in 2017. So at the San Francisco Airport, a Delta flight attendant can walk up to an American Airline ticket counter, show her ID, and cash a personal check up to \$100 and vice versa. Of course, when I found that out, I'd go out to JFK or LAX, only I'd go to everybody, Northeast, National, KLM, Air [inaudible].

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It would take me a good eight hours, stopping at every counter and every building. By the time I got all the way around the other end of the airport, at least eight hours had gone by, and what did you have in eight hours? Shift change and new people, so I'd go all the way back around the other way again. As you know, I went on to impersonate a doctor in a Georgia hospital for a while. I took the bar exams in Louisiana, passed the bar, went to work for Attorney General P.F. Grimmy on the civil division of the state court, where I spent about a year practicing law. In both the job as the lawyer and the doctor, no one ever doubted for a second I was not eligible or qualified to do so. I on my own resigned and moved on. Of course, like any criminal, sooner or later you get caught, and I was no exception to that rule. I was actually arrested just once in my life, when I was 21 years old, by the French police in a small town in southern France called Montpellier. The French police were actually arresting me on an Interpol warrant issued by the Swedish police, who were looking for me for forgery in Sweden but believed that I was living in France.

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When the French authorities took me into custody on that warrant, they realized I'd forged checks all over France, so they refused to honor the warrant and Sweden's request for my extradition. They later convicted me of forgery and sent me to French prison. I served my time in a place called the Maison d'Arret, the house of arrest, in a small town in southern France called Perpignan. Stephen Spielberg told Barbara Walters, "It was extremely important to me to go back to that cell, to the exact cell he was in and reconstruct it according to the logbooks during his stay there." He said, "To my amazement, that was a blanket on the floor, no mattress, a hole in the floor to go to the bathroom, no plumbing, no electricity." He said, according to the logbooks, I entered the prison at 198 pounds, left the prison at 109 pounds. When my sentence was over in France, I was extradited to Sweden, where I was later convicted of forgery in a Swedish court of law and sent to a Swedish penitentiary in Malmo, Sweden.

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When my prison term was up in Sweden, U.S. federal authorities took custody of me and returned me to the United States. Eventually a United States federal judge in Atlanta, Georgia would sentence me to 12 years in federal prison. I served 4 of the 12 years at a federal prison in Petersburg, Virginia. When I was 26 years old, the government offered to take me out of prison on the condition I'd go to work with an agency of the federal government for the remainder of my sentence or until my parole had been satisfactorily completed. I agreed and was released. This year I'm celebrating 41 years at the FBI. I've been at the Bureau for more than four decades. I work out of Washington, D.C. I actually make my home in Charleston, South Carolina, so every Monday I fly up to Washington, about an hour flight, and I go home on Thursday evenings. I live in Charleston with my one and only wife of 40-plus years and my three sons. My youngest boy graduated from the University of Beijing in China.

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He went on to get his master's degree there. He reads, writes, and speaks Chinese fluently. He works for a San Francisco gaming company called Glu Mobile. He designs gaming--games for the Chinese market. All of his games are in Chinese, and they're in their fourth generation as mobile games and devices. My middle son graduated from the University of Nevada in Las Vegas. His degree was in business. He and his wife graduated together, and he and her own a business in South Carolina, and they manage that business together. My oldest son graduated from the University of Kansas at KU. He went on to Loyola School in Chicago to get his law degree, passed the bar in Illinois, and went on to make his dad very, very proud. He's an FBI agent. He's been in the Bureau about 12 years. He supervises a team that deals with American citizens kidnapped overseas, so they're a response team that operates out of Quantico, Virginia. As many of you know, I had very little to do with the film. I would have preferred not to had a movie made about my life. I actually raised my three boys in Tulsa, Oklahoma in the same house for 25 years.

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My neighbors had no idea who I was, and I would have preferred it stayed that way, but Stephen Spielberg told Barbara Walters he felt compelled to tell the world the story, not because of what I did but because of what I'd done with my life after that. He loved the redemption side of the story, wanted the world to know the story. So in the end my family and I were very pleased with the outcome of the film, but we thought in a couple years I would all be forgotten and move on with our life. I never dreamed that "Catch Me if You Can" would go on to earn more than a billion dollars for DreamWorks and be shown over and over, literally every week on HBO and TV and then become a Broadway musical and a TV show, so consequently, every Monday morning when I come to work, I have emails that come from all over the world, someone who's seeing the movie for the first time, watching the play at a community theater or a high school somewhere, and they feel compelled to write, and, of course, they come from people literally as young as 8 years old sending those emails, to people as old as 80.

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Most people assume I'll never read those emails or see those emails, but they feel compelled to write, and they wanna make a statement. Some say, "You know, you were brilliant. You were an absolute genius." I was neither. I was just a child. Had I been brilliant, had I been a genius, I don't know that I would have found it necessary to break the law in order to just simply survive.

And while I know that people are fascinated by what I did some 50 years ago as a teenage boy, I've always looked upon what I did as something that was immoral, illegal, unethical, and a burden I live with literally every single day of my life and will until my death. There are many who write and say, "Well, you know, you were certainly gifted." That I was. I was one of those few children that got to grow up in the world with a daddy. Now, the world is--the world is full of fathers, but there are very few men worthy of being called "Daddy" by their child.

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I had a daddy, loved his children more than he loved life itself. Stephen Spielberg told Barbara Walters, "The more I researched Frank's youth, now, without having met Frank, I couldn't help but put his father in the film through the likes of Christopher Walken." My father was a man who had four children, three boys and a daughter. Every night at bedtime he'd walk into your room. He was 6'3". He would drop down on one knee, kiss you on the cheek, pull the cover up, and he'd put his lip up on your earlobe, and he'd whisper deep into your ear, "I love you. I love you very much." He never, ever missed a night. As I grew older, I sometimes fell asleep before he got home, but I always woke up the next morning, knew he had been at my bedside. Years later my older brother joined me in my room temporarily. He was in the marine corps. He was 6'4". He played semi-pro football for Buffalo, but my father would walk around to his bed, hug him, kiss him, whisper in his ear he loved him.

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When I was 16 years old, I was just a child. All 16-year-olds are just children. Much as we'd like them to be adults, they're just children, and like all children, they need their mother, and they need their father. All children need their mother and their father. All children are entitled to their mother and their father, and though it is not popular to say so, divorce is a very devastating thing for a child to deal with and then have to deal with the rest of their natural life. For me, a complete stranger, a judge, told me I had to choose one parent over the other. That was a choice a 16-year-old boy could not make, so I ran. How could I tell you my life was glamorous? I cried myself to sleep till I was 19 years old. I spent every birthday, Christmas, Mother's Day, Father's Day in a hotel room somewhere in the world where people didn't speak my language.

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The only people that associated with me were people who believed me to be their peer, ten years older than I actually was. I never got to go to a senior prom, high school football game, share a relationship with someone my own age. I always knew I'd get caught. Only a fool would think otherwise. The law sometimes sleeps, but the law never dies. I was caught. I went to some very bad places. My boys have grown up asking their mother, "Why is it that Dad gets up in the middle of the night and goes down to the TV room? 'Cause, you know, he doesn't turn the TV on. He just sits there all night." That's because there are things you can't forget, things you're not meant to forget. While I was sitting in that pitch-black cell in France, my father, 57, was climbing the subway stairs of New York, as he did every day. He was in great physical shape. He just happened to trip. He reached his arm to break his fall. He slipped, hit his head on a railing, landed at the bottom of the step. He was dead. I didn't know he was dead. I was thinking about him, how much I couldn't wait to see him, hold him, hug him, kiss him, tell him how sorry I was.

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But I never got the opportunity to do that. I was very fortunate because I was raised in a great country where everyone gets a second chance. I owe my country 800 times more than I can ever repay it over these past four decades. That is why I'm at the FBI today, 32 years after the federal court order expired requiring me to do so. I have turned down three pardons from three sitting presidents of the United States because I do not believe, nor will I ever believe, that a piece of paper will excuse my actions, that, only in the end, my actions will. 40-plus years ago on an undercover assignment in Houston, Texas I met my wife. When the assignment was over, I broke protocol to tell her who I really was. I didn't have a dime to my name, but I eventually asked her to marry me. Against the wishes of her parents, she did.

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I could sit up here and tell you that I was born again, I saw the light, prison rehabilitated me, but the truth is God gave me a wife. She gave me three beautiful children. She gave me a family, and she changed my life, she and she alone. Everything I have, everything I've achieved, who I am today is because of the love of a woman and the respect three boys have for their father, something I would never, ever jeopardize. There comes a time in all of our lifetime we grow older, and eventually, if we're fortunate enough, we have children, and as every parent knows, whether your child's three months old or 38 years old, when you lay your head on a pillow at night and you're just about to close your eyes, the last thing you think about, the last thing you worry about are your children. So if you still have your mother, you still have your father, you give them a hug. You give them a kiss. You tell them you love them while you can.

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And to those men in the audience both young and old, I would remind you what it truly is to actually be a man. It has absolutely nothing to do with money, achievements, skills, accomplishments, degrees, professions, positions. A real man loves his wife. A real man is faithful to his wife, and a real man, next to God and his country, put his wife and his children as the most important thing in his life. Stephen Spielberg made a wonderful film, but I've done nothing greater, nothing more rewarding, nothing more worthwhile, nothing that's actually brought me more peace, more joy, more happiness, more content in my life than simply being a good husband, a good father, and what I strive to be every day of my life, a great daddy. God bless you, and thanks for coming this morning. Thank you. Thank you.

[00:29:01]

We--we have a bunch of questions, both from the audience as well as some people that sent in, so we'll take some questions. I'll be happy to answer.

PERSON: Do you have any advice for Googlers who are feeling impostor syndrome, the insecure feeling that they're not nearly as good at their jobs--at their job as their colleagues believe they are, and how did you stay confident, or did you, when you knew you were an impostor?

FRANK ABAGNALE: You know, people always say to me, you know, "You were brilliant. You were a genius." No, I was an adolescent, and that was why I was successful. I was so young that I had no fear of being caught. I was so young that I didn't think about consequences. Everything I did was not premeditated. Everything was done by opportunity or by chance. So if,

in fact, I was standing out in front of a bank in Manhattan with a \$500 check, there was never a plan. I didn't say to myself, "I'm going in, cash this check."

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"If they say this, I'll do this. If they do this, I'll do that." I just went in and did it, and I felt that there was nothing I couldn't do. I had tremendous confidence in myself, but everything was for a reason, so I saw that airline crew. I never dreamed about getting on planes or staying in hotels around the world for free. All I saw was the uniform and said to myself, "If I had that uniform on and I walked in a bank, it would be a lot easier to cash a check than me walking in as just some young kid," so the whole thing was to get a uniform and do that. But then I quickly realized the power of that uniform, how it turned from night to day. No one ever said no when I walked in to cash a check even though there was no bank account there or anything else. All they saw was the uniform. They didn't see me, and I realized very early on the power of that uniform, and then I realized--I had gone to the TWA ticket counter, just like he showed in the movie. I was going to purchase a airline ticket, and the ticket agent said to me, "Are you riding for free, or are you buying the ticket?" and I said, "Riding for free?" "Yeah, you on the jump seat?" and I learned about the jump seat, so then I flew around the world for free.

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Everything I did, I did by chance. I moved into an apartment complex in Atlanta. I said I was a doctor because I didn't want to write down "airline pilot." They were looking for me with that airline pilot, so I said I was a doctor. I said pediatrician because it was a singles complex, and there were only single people living there, and then I met a doctor who lived there, and then he took me up to the hospital, and I met people, so I ended up at the hospital. I dated a flight attendant whose father was the attorney general in Louisiana. I told her that I had gone to law school, but I never practiced law. Instead, I wanted to be a pilot and got furloughed from the airline, so she introduced me to her dad, and I went to work. Everything was all these opportunities but always the confidence that I could pull it off, and that--that became just from age. But if you believe that you're good at what you do and you strive to be good at your--what you do, you don't need to worry about what other people think.

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You need to be able to understand that you have your own confidence that you can do whatever it is you're required to do, and other people will see that confidence in you. The minute you start doubting yourself, other people will see that--that you're doubting yourself, and that becomes a weakness in your personality. You always wanna be confident in everything you do that you can do it, you can get it done. You'll find a way to get it--get it done.

PERSON: Obviously, technology has evolved quite a bit since you were going around and things like that. Would somebody be able to accomplish something similar today even with all of the technical advances?

FRANK ABAGNALE: Yeah, you know, I get asked that a lot. Actually, it's, sorry to say, but 4,000 times easier today than when I did it. Technology breeds crime. It always has, and it always will, and there will always be people willing to use technology in a self-serving way. So,

you know, I always use the example that when I used to forge checks, I needed a Heidelberg printing press. It took me about 12 months to learn that press.

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That was a million-dollar printing press. It was 90 feet long, 18 feet high. It required three journeyman operators to operate it, so I built scaffoldings on either sides of the press so I could eliminate the other two positions, and because I was a teenager, I was able to run the length of that press, but there were color separations. There were negatives. There were chemicals you had to work with. There were plates you had to make. There was typesetting involved. Today, one just opens a laptop and decides to forge and counterfeit a check. They first bring up a diagram of a check with a little security background in it, and then they go and look on--for whose check they're gonna forge. So if I'm gonna forge, for example, Intuit's check, I go to their company's website, capture their logo, and put it up on the corner of the left part of--top of the check. I put in their corporate address. I might put some stuff in the background, step and repeat patterns or whatever it is I'm designing, and in 15 minutes I have a four-color beautiful check, prettier than the real check they use, up on my website.

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Now, in the old days you'd have would said to me, "You know, this check you printed from Pan Am, I have to admit, it's pretty awesome. It's amazing, four-color. It's--looks terrific, but let me ask you this. How do you know where Pan Am banks?" "I have no idea where they bank, so I'm just making up a bank's name, Chase Manhattan Bank, 1 Chase Plaza, New York, New York." "How do you know what the account number is?" "I have no idea, so I'm just making up a bunch of numbers." "How do you know who the authorized signer is?" "I don't know. I'm just signing somebody's--Joe Black, whatever name on the check." But we live in a way-too-much-information world today, so once I forge Intuit's check, every forger calls their victim twice because every forger will tell you, "A victim will tell me everything I need to know." So when he calls, he would have simply said, "I'd like to speak to someone in accounts receivables." "Sure, one moment." "Accounts receivables, can I help you?" "Yeah, I was getting ready to pay an invoice you sent us, but we prefer to wire you the funds. Just needed wiring instructions." "Yes, sir, we bank with Bank of America. Our account number is 176853."

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They tell you right on the phone. You can call any company and just tell them you're gonna wire them money. They're gonna tell you where they bank, on what street, their account number, what you need on the check, so I capture the bank's log. I put it on the check. I put the MICR line down on the bottom, and I hang up and call back. "Intuit Corporation, can I help you?" "Yeah, I'd like to speak to someone in your corporate communications." "Sure, one moment." "Corporate communications, can I help you?" "Yeah, I wonder if you'd be so kind as to mail me a copy of your annual report." "Sure, I'll send you one out today." On page three is a signature of the chairman of the board, the CEO, the CFO, the treasurer, white glossy paper, black ink, camera-ready art. Scan it, digitize it, put on the check. So the technology has made it much, much easier, and when we talk about IDs, making an airline ID today would be very simple with the technology that's available today. So all of those things are a lot easier, and so I used to say that it would be a little more difficult for me to get on an aircraft today posing as a pilot, but if

you ever go to the airport and watch the crews go through the airport, they just simply hold up a card, and they go through the airport.

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That--anyone could make that card with today's software and technology that's available to anybody, so technology has certainly made it a lot easier. So that's why we are constantly making technology to counter the use of technology by criminals and to make it more difficult for them to convert that technology into a negative idea.

PERSON: In your candid opinion, did Leonardo DiCaprio and Tom Hanks do justice to y--to your and Joseph Shea's respective roles in the movie?

FRANK ABAGNALE: Yeah, you know, I'm not a big movie person, so I don't--I've watched very little television. This is most of my life, not just something I took up. Even as a kid, I didn't watch a lot of television. I don't watch a lot of television now, and I certainly very rarely go to movies, and so when it was announced that Leo had--was the person picked to play the part, I really knew nothing about him. My sons weren't too happy that it was Leo, but I didn't--I didn't know anything about him, so I went to the movies and saw "Street Gangs of New York," and I said to myself, sitting there, "How would this person portray a person, 16 years old?"

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He had a beard. He was--at the time he filmed that movie was about 27, 28 years old. I thought, "No one's gonna believe this guy's 16," but because I had never saw the script, I didn't know if maybe Spielberg was making the character a lot older and not a teenager. Now, when the movie came out, it was quite amazing that Leo starts out in the film at 14. Then he's 16. Then he's 18. Then he's 21. He is an amazing character actor, and he took the role, and he did an amazing job of playing the role. Tom Hanks's character was actually named Joe Shea, S-H-E-A. He was an Irishman from Boston. Joe Shea was my supervisor at the FBI after I came out of prison. I answered directly to him. He and I were friends for 30 years, until his death. I've written five books on crime. The last book I wrote, "Stealing Your Life," I dedicated that book to him and our 30-year relationship.

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But he was an Irishman from Boston, which Tom Hanks--he didn't want his real name used, so Tom Hanks used the name of an old football player and took that name, Carl Hanratty, but if you were watching the screen, for me it was like watching him. He looked like him. He sounded like him. He had his mannerisms. They did an amazing job, both of them, in portraying the parts of real people that were still living at that time.

PERSON: So first of all, as a father, your statement was just--had me tearing, so I'm not gonna ask you anything about that. I'm gonna ask totally practical. With the Equifax hacks and the Anthem hacks that everyone this room has been probably affected by one or the other, is there anything we can do as citizens to protect ourselves, or is it a lost cause?

FRANK ABAGNALE: No, I'll tell you what to do, but let me explain this to you. That is where I--when I went to the FBI 41 years ago, I worked undercover for a long period of time. Then I

went into the field and dealt with counterfeits and forgeries and embezzlement, financial crimes. In the last 20 years I've dealt with only cyber-related crimes.

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So I spend most of my time with breaches. I have worked every breach back to TJ Maxx 15 years ago, and this is what I've learned. First of all, every single breach, every breach occurs because somebody in that company did something they weren't supposed to do or somebody in that company failed to do something they were supposed to do. Hackers do not cause breaches. People do. And every breach comes down to that. So in the case of Equifax, they didn't update their infrastructure. They didn't fix the patches they should have put in place. They were very negligent in what they were doing, so the hacker waited for the door to open. So when you interview a hacker, the hacker will say to you, "Look, I can't get into Chase Bank. The truth is they spend about a half a billion dollars on technology. Every 12 months they spend a half a billion dollars of their profit on putting technology and software in their bank to keep me out."

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"However, they employ 200,000 people worldwide. All I have to do is wait for one of those people to do something they weren't supposed to do or fail to do what they were supposed to do, and that'll open the door for me to get in." When you steal credit card numbers, like Home Depot, Target, TJ Maxx, that--stealing credit cards and debit card information, that has a very short, short shelf life, so you have to get rid of it very, very quickly. But if I steal your name, your social security number, and your date of birth, you can't change your name. You can't change your social security number. You can't change your date of birth. So those people warehouse that data for two to three years. So we won't even see that surface for at least a couple of years before some of that will start to surface that data that was stolen. Whatever number they start with, I think it was 143 million. Then it became 146 million. It was a million driver's licenses. Now it's 10.6 million driver's licenses.

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All breaches start with very low numbers before they let you know the actual true numbers, so it's probably about 240 million pieces of information that were stolen. But I remind people all the time that they're gonna warehouse that data, so buying one year of credit monitoring service is absolutely worthless because nothing's gonna happen in a year, and if you really analyze Equifax, they were very unethical in what they did. They thought to themselves--first of all, they sold a bunch of stock knowing that it was gonna come out. That was worse, but then they sat there and said, "How do we make a profit from this? It was our mistake, but how do we turn this around into a profit?" So they sat there and said, "What we'll do is we'll offer millions and millions of people one year credit monitoring service for free. They'll sign up, and in a year from now we'll simply say, "That data hasn't really surfaced yet. You need to be enrolled automatically into our program, which is \$20 a month," so they're gonna make millions and millions of dollars with automatic enrollment into their--their program.

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If you've been a bre--if you have been a subject of that breach, there's only two things you can do, and two things only. One, you can freeze your credit. Each state varies about that, so some states, freezing your credit is free. Other states, there's a fee associated with it, typically \$10 to

freeze it, \$18 to unfreeze it, and \$10 to freeze it again. So for the last two years I've testified before Congress, and you go to my website at abagnale.com, you'll see me testifying before Congress, telling them that they need to put a federal law across the 50 states that allow anyone to freeze their credit at any time and unfreeze it at any time. There should be no reason that there should be a fee associated with it because then that becomes a deterrent to people actually freezing their credit. So you can freeze your credit. That's one thing you can do, and then you unfreeze it if you need it if it's not too much of a hassle. And then the only other thing is to monitor your credit.

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So I've used a credit monitoring service since 1992, so for about 25 years I've been using a service. I think they charge me, like, \$12 a month. The reason I like it, I can monitor my own credit. I don't need them. All they've given me for that \$12 is the ability to go on my keyboard in a few strokes and bring up my credit reports instantly on my screen, and up on my screen comes all three reports, Equifax, Experian, TransUnion. At the top is my score for the moment of that day, what my credit score is at those three agencies. Then I can scroll down and look at my credit, and I can say to myself, "You know, I paid this card off, like, four months ago. They still show that I owe money to this bank. I'll correct that," and I can go all the way down and see every inquiry made on my credit. That's what we call hard and soft inquiries. That's your employer checking your credit, the IRS checking your credit, your insurance company checking your credit, or a credit card you applied for, and they're checking your credit.

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So I really don't need them, but for a fee they're also monitoring my credit as well. So they're checking my credit, and they're letting me know in real-time if someone attempts to use my social security number to get a job, open a bank account, or whatever the case may be. So to me, it's worth using that. Now, one other tip I'll give you is I don't own a debit card. I've never owned one. I've never allowed my three sons to possess one, certainly and truly, the worst financial tool ever given to the American consumer. So a long time ago I asked myself a simple question, how would I remove 99.9% of my personal liability like that? 'Cause I really don't wanna worry about all these things. So I use the safest form of payment that exists on the face of the earth, and that is a credit card, credit card, Visa, MasterCard, American Express, Discover Card. Not debit-credit but credit card. Every day of my life I spend their money.

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I don't spend my money. My money sits in a money market account. It earns interest. Actually, nobody knows where it is because it's not exposed to anybody to find it. It's just sitting there. I go to the dry cleaner. I give them my card. I pick up the groceries. I give them my card. I put fuel in my boat on the weekend, and I use my card. I pay the marina to keep my boat in the water all year long. They put the rent on my credit card. I travel all over the world. While I wait to get reimbursed, I use my credit card. If I need euros, I go to the ATM machine, and I use my credit card. I'm not gonna use my debit card to get euros overseas or pounds in Great Britain, and every day I use my card, and then if I pay the bill in full or part of the bill, my credit score goes up, so I'm building credit while I'm using that credit card, and if tomorrow--and I'll do everything to protect my information, but if tomorrow someone gets my card number and charges \$1 million on my credit card, by federal law, my liability is zero.

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I have no liability. So yes, I love to shop online. I don't use a special card. I just use my credit card. If they don't deliver the merchandise, if they deliver it and it's broken, if the host site I went to was fictitious to begin with, I have no zero--zero liability. When you use your debit card, every time you reach for it, you're exposing the money in your account. The only person who's gonna get robbed is you. When you use your debit card, you can use it for the next 50 years, 20 times a day. You will not raise your credit score by that much, and of course, when you use your debit card, you are liable up to a certain amount, and it takes a while in order to get that debit card fixed. So when we do post investigations at breaches and we say to someone, "On your incident, what happened?" "Well, I was in Target, but I used a Visa card, so I don't know, nothing. I got a--they canceled my card the next day. Two days later FedEx sent me a new card, and that was the last I heard about it." "What about you?" "And I used a debit card there. They took \$3,000 out of my checking account."

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"It took me two months to get my money back while they said they were investigating. I had to pay my rent, had kids' tuition, everything. I couldn't pay it because they had my money." So I do it for that. So I had three sons. They went off to college, and I said to them, "I'm not giving you a debit card. I've actually applied for a credit card in your name, so it's your card. Of course, you're 18. You have no credit, so I guaranteed the card. So as a guarantee--or of the card, three things take place. One, the bill comes to me, and I'm responsible for the bill, so if you spend a lot of time in the bar, I'm gonna know that. Two, I set the limit on the card, so whatever I want you to spend each month as--while you're at school, I'll set that limit. Third, every month that I pay the bill, goes on your credit. So by the time you get out of college, you should be looking at a credit score of about 800. You wanna buy a car, buy a house, buy a condo, you're not gonna need me to do that." All three of my sons came out of college with great scores of around 800. One of the best things you can do for you kids is to teach them to learn to use credit early on and build credit in their name.

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Credit is a very important thing. 30 years ago it only meant whether you got the car or you got the house. Today everything is based on your credit. If a company hires you, they're gonna check your credit. If you're--buy auto insurance, they're gonna check your credit. If you buy life insurance, they're gonna check your credit. Everything is based on your credit, so you want to make sure that you maintain a good credit, and it's one of the best things you can do with your kids. Question?

PERSON: I wanted to ask you more about the FBI specifically and kind of hiring, and how you got in there is such an interesting story. You know, when I was younger, I was really interested in, you know, working for the FBI. Worked in fraud and security. If my boss is watching, I'm very happy where I am right now, but I couldn't believe how difficult it was to try and get into public service. I thought, you know, there's--you know, I was willing to take a pay cut. I was willing to move anywhere. I was willing to do anything, and it was difficult.

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I mean, I was in touch with people at the FBI, and they were super nice and very helpful, but I just couldn't believe that--you know, the background checks, and there's no available jobs, and, "You have to keep emailing me," and, "Oh, you don't have a law degree? Oh, that's not gonna matter," and, you know, again, I ended up in a great spot, so I'm happy, but when people ask me about public service and working for these organizations, I really don't have an answer.

FRANK ABAGNALE: Yeah, the FBI is extremely tough. We have about 13,000 agents and about 25,000 support people who support the agent, analysts and things of that nature. Currently we take 1 in every 10,000 applicants to be an agent, so it is extremely difficult to get in the FBI. So just to share this story with you, my oldest boy, when he was about 14, I used to take my kids to the FBI Academy, which is on a marine military base in Quantico, Virginia, 'cause they liked to shoot guns on the range, and I would take them up there, and while I was teaching class, they would be out there with the instructor shooting on the range.

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And I remember distinctly coming back off the base, which takes you about 20 minutes to get from the academy off to the base, and when we were riding through the base, he said to me, "You know, Dad, this is what I want to do. I want to become an FBI agent." I said, "Well, that's great, son, but, you know, keep that in mind," and so he graduated from high school. He said to me, "I really want to become a FBI agent." I said, "That's great. Now you gotta go to college." So he went to school at University of Kansas, got his undergraduate. He kept--I always thought he'd change his mind. My wife always had a Christmas party for all the agents in Tulsa. We had about 200 FBI agents in the state, and every Christmas they would be at our home with their family, and he would go talk to all of them, and the special agent in charge, who is in charge of the entire state, he would say to him, "Yeah, my son tried to get in, but they turned him down." He's--and he would explain to him that senators' sons have been turned down, former presidents' sons have been turned down. It has nothing to do with anything other than you, and I kept emphasizing that to him, but I kept thinking he'd change his mind.

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So when he graduated from undergraduate school, I said, "Son, you need--I would recommend you go to law school." "I have no desire to be a lawyer." I said, "No, I understand, but if you really wanna pursue the FBI, that would put you up a little higher in the chances of getting in." He went to Loyola School of Law. He graduated from law school. The Bureau requires you pass the bar, so he took the bar in Illinois, passed the bar, and then he went through the yearlong process of the process it takes to apply to the Bureau, and I got very worried because I'd say to my wife that, you know, "I'm a little concerned because first of all, I don't know if someone in management would like the fact that my son is an FBI agent, or maybe someone in management would look at it and say, 'His dad has done so much for him--for them, we need to look at his son.'" It had absolutely nothing to do with that. It was all about him, and I always tell him every day he's living his life's dream, so he's--he got in, but it is very, very tough. So when the Bureau came to me--and they just a few years ago celebrated their 100th anniversary.

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They did a big coffee table book, and they talk about me in there as being the only person they ever did that with. The whole thing to the Bureau back then, the director was Clarence Kelly, who was the director of the Bureau at that time. He wanted the ability because he could say to me, "Okay, you are a lieutenant in the army. You have been in the army this many years. Your expertise is this missile. I need you to learn all of this in two weeks, and I'm sending you to this base, and I want you to find out what's going on in this particular area." He knew that no matter what assignment he gave me undercover, I could go do it, whether it was a scientist at a lab in New Mexico, whether it was a doctor in a hospital. He knew that I could get away with it, make it believe--people believe that I was that person without any doubt, and that's how they used me. I think that was their initial thing, and then, of course, when my time was up--and again, keep in mind that when I got that offer, to me it was just an opportunity.

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I looked at it, "Well, opportunity to get out of jail." I--I'm not gonna sit here and tell you I was a changed person, that I was a different person than when I went into prison. I just saw that as an opportunity to get out of prison, so I was gonna do it, but then I--you get involved with the men and women of the FBI, who obviously it's probably the most ethical people you ever meet in your life. They have tremendous character, love of country, love of family. That kinda wears off on you, and I started to realize that--you know, I met my wife, and I was becoming a husband. I had to take care of my wife, had to take care of children, fatherhood. All those things is what really changed my life. It wasn't that I was rehabilitated or--those things changed my life. So it started out more as an opportunity, so when my time was over and the court said, "His court order has--ceases to be. He's free to do whatever he wants to do," I made the choice to stay there, only because I thought that I could bring a lot to the Bureau. So the Bureau is very smart.

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They realized very early on that I wouldn't be accepted very well, and so there was a great scene in the movie where Stephen Spielberg obviously knew that it was very, very difficult for the agents. You know, keep in mind, now, this is back when there were no women agents, no blacks, no Hispanics. Everybody was a white agent, and they either graduated from Harvard or they graduated from Yale, and they all came from very good families, and it was a totally different environment 40 years ago. So they all had, really, tunnel vision, once a criminal, always a criminal, so they were not very--very happy with the fact that I came there. So he showed that scene of me walking in the office and the way people looked at me. That took years for me to turn that around. It took years for me to build their credibility, and of course, in the first part of my career I was out in the field, so I was undercover, so they really weren't dealing with me. So when I finished working undercover, the director then simply said, "You know what? He needs to go to the academy and teach class so that every agent who comes to the academy, they will--he will be their instructor in one of their courses, and they will all know him."

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So I've taught at the academy now for well over 35 years. I taught my son when he went through the academy, three generations of agents. That helped a great deal because they learned who I was early on, knew who I was, and that tamed a lot of that, but it took a lot of--a lot of work to turn that around and build that credibility.

PERSON: I'm curious to know whether or not you continued to fly even after you were released from jail and working at the Bureau as the movie suggests, or if that was a bit of Hollywood embellishment.

FRANK ABAGNALE: No, you know, when people ask me--and I saw the movie in a movie theater. I've only seen the movie twice. I've seen that trailer a thousand times, but I've only seen the movie twice, so when the media asked me what I thought about the movie and what was right and what was wrong, I said, you know, "Well, first of all, I have two brothers and a sister. He portroed--portrayed me as an only child. In real life my mother never remarried. There's a scene in the movie where she's remarried, has a little girl. That didn't really happen."

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"In the real life, I never saw my father after I ran away. In the movie they keep having him come back to Christopher Walken, and the film was nominated for the Academy Award for that role as my father. That didn't really happen. I escaped off the aircraft, but I escaped off the aircraft through the kitchen galley where they bring the food and stuff onto the plane, and there they had me escape through the toilet, and my wife kinda looked at me and said, 'You didn't go through the toilet, did you?' I said, 'No, I didn't go through the toilet.'" So I thought he stayed very close to the story, but pretty much all of that wa--he was--he was very concerned about being accurate, first of all, because it was--it was the first time he made a movie about a real person living. Second, the Bureau had an information officer on the set for all the sh--all the shooting of the entire film to make sure that what he said about the FBI and what comments they made and all that was accurate.

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The agent--there was an agent from our information officer on the--on the set, and then, of course, as he later said, "I really got most of my information from those three retired agents because," he said, "They--their notes were so particular and so accurate," he said, "That when I filmed the scene in the hotel room, I had scripted it, and so we're sitting there, and I said, 'Read me your notes.' He said, 'I entered the room with my gun pulled. I heard someone in the bathroom. I ordered them to come out of the bathroom, and this is what happened.'" He basically loved his notes better than his script, so he used his notes for the--for the film. So I thought he's--he did a good job of staying very--very accurate with the movie. I'll just make a final comment to you. Having to deal with cyber now, I like to write about crimes in the future. So I always used to write to my class about what will we investigate five years from now. What will an agent be doing five years from now? And unfortunately, there's good news, and there's bad news.

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First of all, the good news, we will be doing away with passwords in the next 24 months. Passwords will leave the world. There will be no more passwords. There is a new technology called Trusona. That's T-R-U-S-O-N-A. It stands for "true persona." It is a company in Scottsdale, Arizona that created a technology for the CIA, which we have used now for the last few years. That technology--and I was an advisor on that technology for the CIA, so I'm an advisor on bringing it to the commercial world, but it was the ability for an agent to send data back from the field, such as Afghanistan, on their iPhone, and that Langley would know 100% that is the agent on the other end, to 100% identify the person on the other end of the device.

That's a level four security, so they basically said, "What if we brought this to level two security and we did away with passwords?"

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So immediately when they announced that, Microsoft gave them \$10 million and said, "I'm in. Develop it." So Microsoft is gonna use it on all their gaming, all their access to their computers, et cetera. We now have the ability to identify who the person is on the other end of that device, and when you go to their website at Trusona, they actually show you how it's done. So they-- should be demo videos there that are three or four minutes long that show you how it's done, and that's great. Passports are sta--passwords are stagnant. They should have been gone a long time ago. It's why we have most of the problems that we have today, so it is very important that we get rid of passwords, and just in case you didn't know, if we take a bank like a Bank of America, they spend about \$6 million a month in their call center resetting passwords. It costs them \$6 million a month, so that would save that bank \$100 million a year to eliminate the use passwords. So that's the good part of it, and I think that'll eventually do away with social security numbers. You'll still have a number assigned to you for the government purpose, but when I go buy a car, I go to the doctor, I don't have to give them a number 'cause they already know who I am through my device.

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So I won't have to provide a social security number. So I think that's a good part, but I do believe that cyber i--up until this point in time, has been used for financial crimes or gathering data and information which is of value. What's going to happen is we're gonna see cyber very quickly now turn very black. So we have the ability, as you know, to basically shut someone's pacemaker off, but we have to be within 35 feet of them. We test these devices at Quantico all the time. So as long as I walk up within 35 feet of you, I take control of any bodily device you have on you. So if I want to assassinate you, I want to speed it up, take it down, I can do that, but I believe that in five years you'll be able to do that from 5,000 miles away. We have the ability now that we test that we can chase a car down the interstate. We gotta get up within 35 feet of the vehicle. We take over the vehicle.

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We shut the motor off. We lock the person in the car. We lock the power windows so they can't open them. We can turn on their airbag. Again, five years from now you'd be able to do that 5,000 miles away. So yes, our electrical grid used as a terrorist tool, the ability to shut down an entire system, shut down an entire banking system, those are all the things that, unfortunately, we'll be dealing with in the next four or five years as cyber starts to make that turn to the very black side of cyber, not just about stealing money, information, and data, and so that's why we're gonna have to work extra hard to make sure that we go back to protect our electrical grid. We--I always remind people, we have the technology to prevent most of these problems, but if you don't use it, then it's worthless, and we tend to develop a lot of things--now, I just wanna make this emphasis to you. We develop a lot of things without following them through.

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So one thing I've done in the government over the last several years, if the government's gonna buy a technology, they send me to the technology company and say, "Try to defeat that." I just

simply go there and see their technology. As one CEO says, "He plays chess with you. You tell him you did this, this, and this, and then he tells you, 'We have a weakness right here because I would come in and do this. So they build a wall up, and then he says, 'No, I would still get in here,' until he says he can't do it any longer. Then we know we have a good technology." But very rarely is it--and I did that with Trusona when we did it for the purpose of the CIA, but today you--and it tells you on the website that I advised on that project and why--how it became down to commercial use, but today what we have is we develop things, so we say to you, "Here's a device you put in your kitchen, and then you can talk to it and tell you--ask what the weather is, what's on TV tonight, all of that." I could easily reverse that and listen to everything you say in your house. There are so many weaknesses in your home.

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Your security cameras are access points, your remote control on your TV, your Samsung television, your refrigerator that tells you how much milk is in it. My thing is I really don't need my refrigerator to talk to my toaster. They've gotten along for a long time without ever having a conversation. But what happens is we develop something. We get real excited about, "We gotta get this to the marketplace," and sure enough, we never look at the negative side. All I try to say to a technology company, "Yeah, this is great. Now can you take a little time to just say how would someone use this technology in a negative, self-serving way so that we build the block to that before we ever give it to the public to use it?" We'd save a lot of problems. Been an absolute pleasure spending the morning with you. Thank you very much for coming. Been a pleasure. Thank you. Thank you.

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ALAN: Thanks for listening. If you have any feedback about this or any other episode, we'd love to hear from you. You can visit g.co/talksatgoogle/podcastfeedback to leave your comments. To discover more amazing content, you can always find us at youtube.com/talksatgoogle or through our Twitter handle, @googletalks. Thanks for listening. Talk soon.