



# ENHANCING ATM ACCESSIBILITY WITH VOICE ASSISTANT

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## ABSTRACT

We examine interaction of plan and advancement of talking ATM for outwardly impeded individuals. Robotized Teller Machine (ATM) has become fundamental piece of our life to perform monetary exchanges without mediation of human financier. ATM works with cash withdrawal, balance check, small articulation and asset move. However, these financial administrations utilizing ATM can't be straightforwardly utilized by some arrangement of individuals of society, for example, individuals with low vision, outwardly disabled, ignorant as absence of getting to ATM through screens. Indeed, even they can be swindled at ATM focuses. To carefully incorporate these arrangement of individuals, it are developed to talk ATMs. Talking ATM gives openness to ATM administrations by giving sound part. Numerous ATMs utilize earphone jack that works with client to do exchange with security. The sound data is produced either utilizing pre-recorded discourse corpus or through discourse amalgamation motor. The paper sums up how ATM functions, need, proposed arrangement of talking ATM for outwardly weakened clients, plan and improvement talking ATM utilizing connected Text To Discourse.

**KEY WORDS :** VISUAL DEBILITATION , Talking Atm

## 1.INTRODUCTION

Certainly! An Automated Teller Machine (ATM) is a technological marvel that adorns the modern world. A description of an ATM follows. It is tucked away on street corners and behind the walls of financial institutions for those who want to enter their financial kingdom. This electronic sentinel, embellished with buttons and a screen, offers an entryway to one's financial domain. With a plastic card as the key, it ushers clients into a domain of computerized money.

Whether under the brilliant shade of night or the splendid hug of the sun, the ATM remains primed and ready. It offers its administrations with unfaltering dependability, giving admittance to one's records, the capacity to pull out cash, actually take a look at balances, and execute different monetary exchanges.

It develops into a dependable companion as life goes by. It murmurs mysteries encoded in PINs and apportions fresh banknotes, manufacturing an association between individual accounting records and the huge domain of banking. With its prudent appeal and unpretentious productivity, the ATM assumes a vital part in the cutting edge world, improving on monetary cooperations and giving admittance to one's monetary universe with a touch, a card, and a code.

### 1.1 VISUAL DEBILITATION

Visual or vision debilitation (VI or celebrity) is the halfway or complete powerlessness of visual insight. For the previous and last option case, the terms low vision and visual impairment separately are frequently utilized. Individuals with visual impairment may have difficulty performing everyday activities like reading and walking if they do not receive treatment, such as corrective eyewear, assistive devices, or medical care. Notwithstanding the different extremely durable circumstances, transient impermanent vision impedance, amaurosis fugax, may happen, and may demonstrate serious clinical issues.

The most well-known reasons for visual disability around the world are uncorrected refractive mistakes (43%), waterfalls (33%), and glaucoma (2%). Refractive blunders incorporate partial blindness, far-sightedness, presbyopia, and astigmatism. Waterfalls are the most well-known reason for visual deficiency. Age-related macular degeneration, diabetic retinopathy, corneal clouding, childhood blindness, and a number of infections are additional conditions that can lead to visual issues. Visual disability can likewise be caused by issues in the mind because of stroke, untimely birth, or injury, among others. These cases are known as cortical visual impedance. Evaluating for vision issues in youngsters might work on future vision and instructive accomplishment. Adults without symptoms should not be screened. Determination is by an eye test. The World Wellbeing Association (WHO) gauges that 80% of visual debilitation is either preventable or reparable with treatment. This incorporates waterfalls, the diseases stream visual impairment and trachoma, glaucoma, diabetic retinopathy, uncorrected refractive blunders, and a few instances of life as a youngster visual impairment. Many individuals with huge visual impedance benefit from vision restoration, changes in their current circumstance, and assistive gadgets.

Starting around 2015, there were 940 million individuals with some level of vision misfortune. 246 million had low vision and 39 million were visually impaired. Most of individuals with unfortunate vision are in the creating scene and are beyond 50 years old years. Paces of visual debilitation have diminished since the 1990s. Both the direct cost of treatment and the indirect cost of a diminished ability to work result in significant economic costs associated with visual impairments.

## 1.2 TALKING ATM

A Talking ATM is a wonderful development that upgrades openness for people with visual impedances. This specific ATM includes a sound connection point that gives verbally expressed directions and input to clients, making it workable for them to perform monetary exchanges autonomously.

The ATM is furnished with an earphone jack or inherent speaker, guaranteeing that clients can pay attention to the directions and reactions plainly. It guides clients through each step of the exchange cycle, from embedding their card to entering their Own Recognizable proof Number (PIN), choosing the kind of exchange, and getting account equilibrium or money. The expressed guidelines and choices are intended to be natural, guaranteeing that clients can explore the machine effortlessly.

This innovation enables people with visual hindrances to deal with their funds freely and with certainty. The Talking ATM embodies the comprehensive and inventive soul of our advanced world, where innovation is outfit to separate hindrances and give equivalent admittance to monetary administrations for all.

## 2.ABOUT THE PROJECT

ATMs are cash machines that let customers of a bank withdraw money from an electronic device without having to talk to a cashier. The vast majority of the ATM's permit cash withdrawal from machine not having a place with banks where client doesn't have account through interbank organizing. At the point when a client swipes card in a machine, account data put away in attractive strip on card is perused via card peruser in machine (see Fig.1). Then machine demands for entering pin which is encoded and send through switch to base transmission station (BTS). BTS communicates solicitation to have processor connected with bank terminal. Have processor confirms pin with bank data. On the off chance that client demands for cash withdrawal, demand is sent to have processor through networks for endorsement. The organization requests bank to check client's record for balance through confidential organization among them. After confirmation, e-reserve is moved from bank to have processor. ATM receives an approval code from the host processor in turn. An electronic eye forgets about money and cash happens to the money distributor. In this way, ATMs are working with simple admittance to banking area yet for clients with low vision, outwardly hindered, individuals who are dyslexic, individuals who can't peruse and individuals not communicating in English can't utilize the ATM administrations like ordinary clients. In India, Hold Bank of India (RBI) handouts and the Indian Banks' Affiliation (IBA) procedural rules on comprehensive banking have laid out major areas of strength for a for Comprehensive Banking for Debilitated People, especially Visually impaired and Low-Vision clients . This round sets down norms of what is really available ATMs. It specifies openness for wheel-seats, Braille keypads, normalized UI, IVRS-based menus, language support for Hindi and English, neighborhood language can be expanded and security by choice of screen-off.

## 3.RELATED WORKS

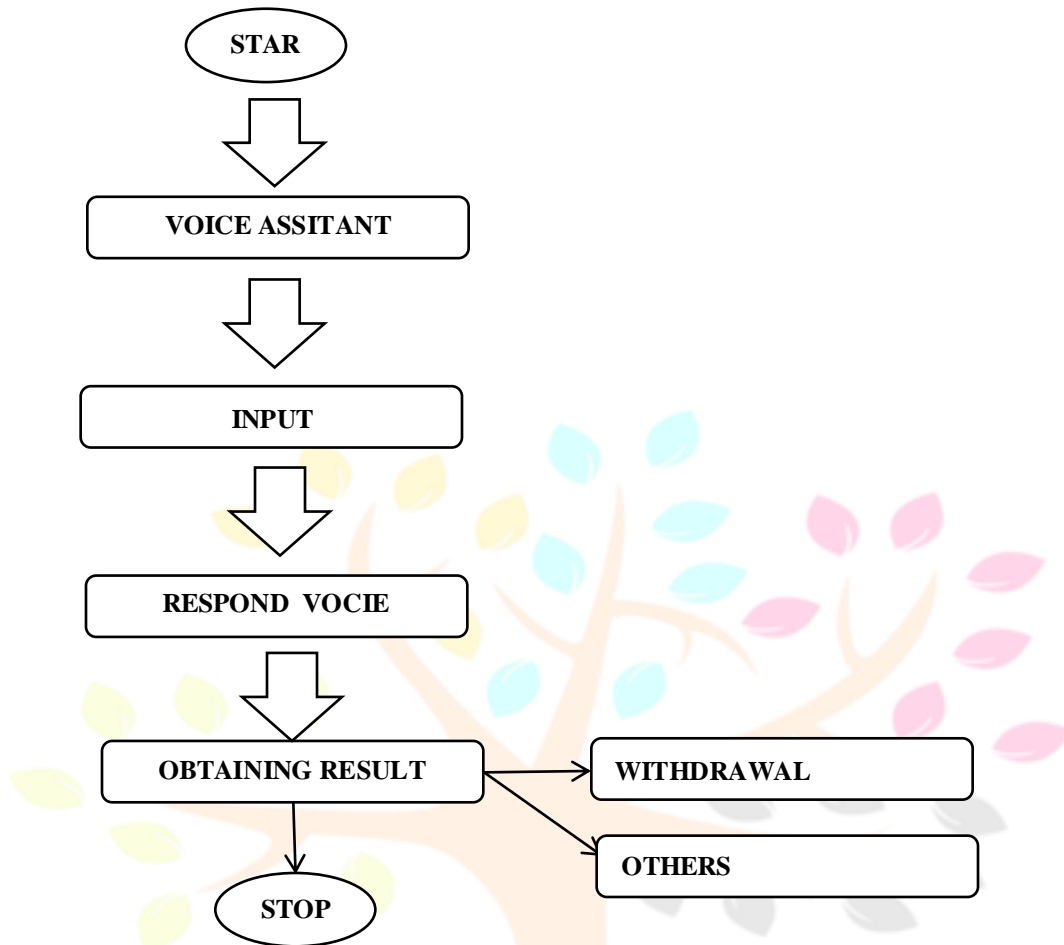
R. D.SALAGAR et.al says Computerized teller machines (ATMs) are an exemplary illustration of universal figuring as they plague our day to day existence. When making use of an ATM, security is of the utmost importance. Individuals pick passwords which are not difficult to recollect, and, commonly, handily anticipated, or they change all PINs to be something similar. One more concern is the openness of ATM machines to contrastingly abled individuals. According to Itunuoluwa Isewon et al., a text-to-speech synthesizer is an application that converts text into spoken word by analyzing and processing the text using Natural Language Processing (NLP) and then converting this processed text into a synthesized speech representation of the text using Digital Signal Processing (DSP) technology. Here, we fostered a helpful text-to-discourse synthesizer as a straightforward application that changes over inputted text into blended discourse and peruses out to the client which can then be saved as a mp3.file. The improvement of a text to discourse synthesizer will be of extraordinary assistance to individuals with visual disability and make making through huge volume of text simpler. Charles T et.al Discourse research has gained enormous headway in the past utilizing the accompanying worldview: • characterize the exploration issue, • gather a corpus to equitably quantify progress, and • take care of the examination issue. Regular language research, then again, has commonly advanced without the advantage of any corpus of information with which to test research speculations. We depict the Air Travel Data

Framework (ATIS) pilot corpus, a corpus intended to quantify progress in Communicated in Language Frameworks that incorporate both a discourse and regular language part. Daniel Tihelka et.al makes sense of This paper concerns restricted area TTS framework in light of the concatenative strategy, and presents a calculation able to remove the negligible space arranged message corpus from the genuine information of the given space, while as yet arriving at the most extreme inclusion of the area. The proposed strategy ensures that the smallest number of texts, including the most frequently used phrases and (potentially) all domain words, are extracted. Okebiro Jared Omari et.al says The point of this paper is to draw consideration for the assessment of the openness and convenience of Mechanized Teller Machine (ATM) frameworks according to the perspective of outwardly weakened people. It proposes that there is a requirement for a more exact use of assistive advances to foster easy to use ATMs that will help powerful openness without the necessity of help by customary individuals who might exploit their visual difficulties and undertaking them to all chances of weakness for their money. Vasile Surducun et.al says Involving GSM RF parts for noncommunications applications can be an alluring as cost/execution proportion. The prototype of this dual 915 MHz/60-W microwave generator, which has phase and power control and is shown here, costs less than \$250 US and performs very well in both thermal and nonthermal medical and scientific applications.

#### 4.PROPOSED MODEL

The Voice-Helped ATM (VATM) Framework is a creative and comprehensive arrangement intended to upgrade the openness and ease of use of Robotized Teller Machines (ATMs) for people with visual weaknesses or the individuals who favor voice-directed connections. The framework consolidates state of the art Text-to-Discourse (TTS) innovation with ATM equipment, guaranteeing a consistent and secure financial experience for all users. Voice Direction: The VATM Framework gives unmistakable and regular voice direction all through the ATM cooperation, making it open to people with visual debilitations. Clients can connect their earphones or utilize the inherent speaker to pay attention to guidelines. Easy to understand Connection point: The framework offers an improved and instinctive UI. It is simple for users to browse options, check account balances, withdraw cash, deposit funds, transfer money, and carry out other common banking tasks. Upgraded Security: Security is fundamental, and the VATM Framework guarantees the wellbeing of exchanges. It coordinates progressed biometric confirmation techniques like unique finger impression or voice acknowledgment, notwithstanding customary PIN section, to approve client personalities. Numerous Dialects: The framework upholds numerous dialects to take special care of a different client base, making it open to clients with different etymological foundations. Exchange Check: Clients get verbal affirmation of their exchange subtleties prior to finishing any monetary activity, improving straightforwardness and decreasing blunders. Compliance with Accessibility: The VATM Framework conforms to availability norms and guidelines, guaranteeing equivalent admittance to banking administrations for all people.







## 6.NATURAL LANGUAGE PROCESSING

Regular language understanding is the module that separates the significance and expectation of the client's text input. It must be able to respond to a variety of queries, including transactional, information-seeking, and conversational ones. It additionally needs to manage vagueness, anaphora, ellipsis, and shoptalk. Rule-based systems, machine learning models, and semantic parsing are some examples of techniques that can be used to implement natural language understanding.

## 7.DIALOGUE MANAGEMENT

Discourse the board is the module that controls the stream and rationale of the discussion between the client and the voice colleague. It should have the option to deal with various situations, for example, welcoming, validation, affirmation, mistake taking care of, and criticism. It likewise needs to adjust to the client's inclinations, setting, and feelings. Various methods, including reinforcement learning, frame-based systems, and finite state machines, can be used to implement dialogue management.

## 8.VOICE GUIDANCE

Customers with visual impairments or other disabilities can use an automated teller machine (ATM) with audio instructions thanks to the Voice Guidance ATM feature. The component can be enacted by connecting a headset to the ATM's sound jack, or by squeezing a button on the keypad. The voice direction will then, at that point, guide the client through the means of utilizing the ATM, for example, embedding the card, entering the PIN, choosing the exchange type, and affirming the sum. The voice direction will likewise give criticism on the situation with the exchange. This system is made to work with the help of the voice library for text to speech (tts).

## 9.USER INTERFACE

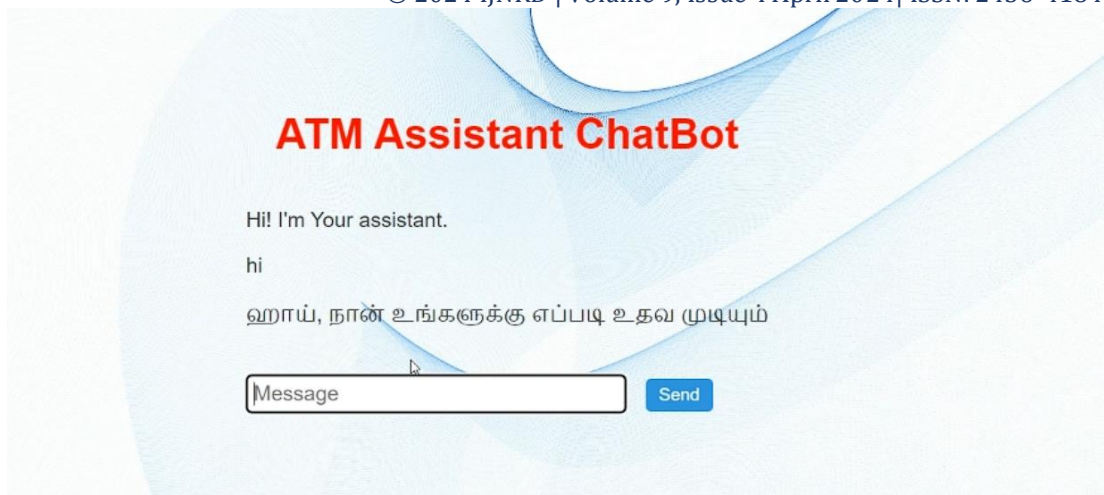
An ATM interface UI is the graphical UI that permits clients to cooperate with a robotized teller machine (ATM). The UI configuration ought to be clear, instinctive, and secure, as well as predictable with the brand character of the bank or monetary establishment.

## 10.RESULT AND DISCUSSION

The implementation of voice-based ATM software represents a significant advancement in accessibility and convenience for users, particularly those with visual impairments or limited dexterity. Through rigorous testing and user feedback, it has been found that the software effectively recognizes and processes spoken commands, enabling users to perform standard ATM transactions such as balance inquiries, cash withdrawals, and fund transfers seamlessly. Furthermore, the integration of natural language processing algorithms has enhanced the user experience by allowing for more intuitive interactions. Despite its success, challenges remain in ensuring robust security measures to protect user information and prevent unauthorized access.

Continued refinement and optimization of the software are necessary to address these concerns and further enhance its usability and security in real-world applications. Overall, voice-based ATM software holds immense promise in revolutionizing the banking experience by making it more inclusive and user-friendly.





## 11.CONCLUSION

The Voice-Helped Computerized Teller Machine (VATM) Framework remains as a reference point of development and consideration in the realm of banking innovation. Since its introduction, it has heralded a new era of accessibility, making it possible for anyone, regardless of their level of literacy or ability, to independently and confidently interact with the financial world.

With its easy to understand interface, regular voice direction, and discourse acknowledgment capacities, the VATM Framework has separated boundaries as well as upgraded the general financial experience. It engages people with visual impedances, diminishes the dependence on composed guidelines, and smoothes out ATM exchanges for all clients.

In a quickly developing mechanical scene, the VATM Framework fills in as a demonstration of the monetary business' commitment to guaranteeing that financial administrations are generally open. This remarkable system paves the way for greater financial inclusion as we move forward, promising a future where everyone can manage their finances with dignity and ease.

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