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## RETRIEVING DATA FROM BROKEN DEVICES

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### ABSTRACT

The "Data Retrieval from Broken Devices" project tends to the basic test of removing data from harmed or failing electronic devices, enveloping a assortment of mediums, for example, cell phones, hard drives, and memory cards. With the pervasiveness of computerized data, the failure to get to data from broken devices presents a critical obstruction to people and associations. This venture centers around fostering a complete philosophy for the retrieval of data from assorted broken devices, taking into account both equipment and programming based recuperation draws near. The system is supported by a careful comprehension of the novel difficulties presented by physical harm, data debasement, and different issues normal to failing devices. Our group utilizes a scope of particular devices and gear to execute the data retrieval process, tending to the unmistakable prerequisites of every gadget class. The venture not just diagrams the specialized advances associated with data recuperation yet additionally accentuates the moral and lawful contemplations innate in taking care of touchy data. Key parts of the venture incorporate the classification of broken devices, a nitty gritty assessment of moves intended for every classification, and the definition of protection and safety efforts to defend the recuperated data. The documentation gives a bit by bit manual for the data retrieval process, guaranteeing straightforwardness and replicability. The progress of this undertaking is proven by the thorough documentation of discoveries, including approval cycles to guarantee data trustworthiness. The created approach, apparatuses, and methods add to the foundation of a powerful structure for future data

retrieval tries. This theoretical epitomizes the meaning of the "Data Retrieval from Broken Devices" project, offering an answer for a unavoidable issue in the computerized age while underlining moral contemplations and giving important bits of knowledge for future undertakings in the field of data recuperation.

### INTRODUCTION

In the contemporary advanced scene, the capacity and trade of data have become significant parts of our day to day routines. Be that as it may, the universality of electronic gadgets delivers an inborn test — what happens when these gadgets become harmed, distant, or non-utilitarian, leaving significant data caught inside? The task, "Data Retrieval from Broken Gadgets" (DRBD), resolves this basic issue, introducing an exhaustive way to deal with remove important data from breaking down electronic gadgets. The general objective of DRBD is to foster a powerful system for recovering data from a different scope of broken gadgets, including yet not restricted to cell phones, hard drives, and memory cards. The undertaking recognizes the multi-layered nature of data misfortune, enveloping situations, for example, physical harm, defilement, or equipment glitch. As we dig into the complexities of data retrieval, the task unfurls a orderly work process, utilizing a blend of equipment and programming based recuperation strategies. This philosophy is intended to not just defeated the challenges introduced by different kinds of broken gadgets yet in addition to stick to moral contemplations and legitimate prerequisites related with taking care of delicate data.

The meaning of this undertaking lies in easing the frustrations potential furthermore, mishaps brought about by data misfortune, furnishing people and associations with a life saver to recuperate significant data from apparently unsalvageable gadgets. By sorting broken gadgets, distinguishing moves extraordinary to every classification, and executing severe protection and safety efforts, DRBD plans to lay out a complete structure pertinent to a wide range of situations.

All through this documentation, we will investigate the complexities of the data retrieval process, from the underlying arrangement of broken gadgets to the show of recuperated data. This venture not just tries to overcome any barrier between broken gadgets and blocked off data yet additionally to contribute significant bits of knowledge and techniques for future undertakings in the powerful field of data recuperation.

Go along with us on this excursion as we explore the difficulties of data retrieval from broken gadgets, opening the possibility to rescue and reestablish data basic to people, organizations, and the computerized scene overall.

In a period overwhelmed by computerized network, the consistent progression of data is basic for individual, proficient, and hierarchical exercises. However, the delicacy of electronic gadgets represents a considerable snag when these gadgets capitulate to actual harm, specialized disappointments, or unexpected glitches, delivering important data distant. The task, "Data Retrieval from Broken Gadgets" (DRBD), arises as a spearheading drive to defy this test head-on, introducing a refined strategy custom fitted to rescue data from useless gadgets.

## EXECUTIVE SUMMARY

The "Data Retrieval from Broken Gadgets" (DRBD) project addresses the squeezing challenge of extricating important data from failing electronic gadgets, offering a deliberate way to deal with explore the intricacies of data misfortune. In a time where computerized data is unavoidable and

basic to individual and authoritative capabilities, the powerlessness to get to data from harmed gadgets represents a huge obstacle. DRBD is an exhaustive drive intended to overcome this issue, giving a compelling methodology for data retrieval from a different scope of broken gadgets.

The essential objective of DRBD is to create a hearty and versatile methodology for recovering data from various broken gadgets, including cell phones, hard drives, and memory cards. The task intends to make an orderly work process that consolidates equipment and programming based recuperation strategies, tending to difficulties like actual harm, data debasement, furthermore, equipment breakdowns.

## METHODOLOGY

DRBD presents an obvious methodology that directs the data retrieval process. This methodology includes gadget arrangement, recognizable proof of moves intended for every classification, and the execution of security also, safety efforts. The undertaking use particular devices and gear to execute the data retrieval process deliberately, guaranteeing both specialized adequacy and adherence to moral and legitimate norms.

The meaning of DRBD lies in its capability to mitigate the hindering effects of data misfortune on people, organizations, and associations. By rescuing and reestablishing basic data from apparently hopeless gadgets, the task tends to an essential need in the computerized scene. DRBD contributes not exclusively to prompt data recuperation yet additionally lays out a structure for future undertakings in the advancing field of data retrieval.

The venture expects substantial results as a thorough documentation of discoveries, including approval cycles to guarantee data trustworthiness. The classification of broken gadgets, ID of difficulties, furthermore, the execution of protection measures add to a more extensive comprehension of data retrieval methods relevant across different situations.

DRBD defies a range of difficulties related with data retrieval from broken gadgets. Whether managing actual harm, intelligent blunders, or on the other hand ruined capacity media, the venture tries to give an all encompassing arrangement that obliges the assorted idea of data misfortune situations.

The undertaking's methodology is made to be flexible and versatile, guaranteeing relevance across many broken gadgets and situations. This flexibility is critical in a climate where the sorts of electronic gadgets and the idea of data misfortune keep on developing.

## INNOVATION AND CONTRIBUTION TO THE FIELD

A fundamental thought in the undertaking is adherence to moral principles furthermore, lawful necessities encompassing data recuperation. DRBD underscores the significance of dealing with touchy data dependably and guarantees that the whole data retrieval process lines up with protection guidelines and lawful systems.

Past its nearby objectives, DRBD tries to add to the more extensive field of advanced legal sciences and data retrieval. By recording approaches, arranging broken devices, and featuring difficulties, the undertaking looks for to give an establishment to future examination and development in the advancing **Long haul Effect:** scene of data recuperation.

Perceiving the fluctuated crowd for the venture, DRBD places serious areas of strength for an accentuation on making easy to understand documentation. Whether for specialized specialists, legitimate experts, or end-clients, the documentation expects to be clear, succinct, and open to a large number of partners.

While driven by a pledge to cultural effect, DRBD likewise perceives the potential for business applications. The venture's results might be of interest to data recuperation specialist co-ops, tech organizations, or associations looking for imaginative answers for overseeing and recovering data from breaking down devices.

DRBD imagines a drawn out influence on the manner in which society approaches data recuperation. By giving a precise and moral structure, the task points to cultivate a culture of mindful data the executives and recuperation, at last alleviating the effect of data misfortune on people and associations.

All in all, "Data Retrieval from Broken Devices" isn't simply a venture —it's a far reaching drive ready to address quick difficulties while making ready for a stronger, moral, and imaginative future in the domain of data recuperation. The undertaking's complex methodology guarantees it is strategically situated to make a significant commitment to the developing scene of advanced data the board.

"Data Retrieval from Broken Devices" is a forward-looking undertaking that not just looks to recuperate data yet in addition to give experiences, approaches, and moral contemplations for the advancing scene of data recuperation. As innovation keeps on

progressing, DRBD positions itself at the front of development, offering an answer for the relentless test of data retrieval from broken devices.

## LITERATURE SURVEY

**Challenge:** Gadgets might experience the ill effects of actual harm, for example, broken screens, water harm, or equipment glitches. **Thought:** Particular apparatuses and methods are expected to deal with truly harmed gadgets. The degree of actual harm will affect the outcome of data retrieval.

**Challenge** Data on broken gadgets might be dependent upon logical mistakes or defilement, making it trying to get to or recuperate.

Execution of cutting edge data recuperation calculations and programming instruments to address logical blunders and debasement is fundamental. Approval processes are critical to guarantee recuperated data trustworthiness.

**Challenge :** Various sorts of broken gadgets (cell phones, hard drives, memory cards) may require extraordinary methodologies. **Thought:** Foster a classification framework in light of gadget types, taking into account explicit difficulties and custom fitted systems for every classification.

**Challenge:** Recovering data includes dealing with possibly delicate or private data. **Thought:** Severe adherence to moral norms and legal guidelines overseeing data security. Execution of secure conventions for dealing with, putting away, and communicating recuperated data.

**Challenge:** Legal and moral worries might emerge while getting to data on broken gadgets, particularly assuming the gadgets have a place with people or associations. **Thought:** Lay out clear rules for moral data retrieval, guaranteeing consistence with important regulations and getting essential authorizations.

**Challenge:** Guaranteeing that the individual or element mentioning data retrieval has the legal power to get to the data. **Thought:** Execute a solid check cycle to approve the character what's more, approval of the individual or association mentioning data retrieval.

**Challenge:** Encoded data on broken gadgets might represent an extra layer of intricacy. **Thought:** Utilize specific apparatuses and strategies for dealing with scrambled data, guaranteeing that the unscrambling system lines up with legal and moral principles.

Challenge: Technological progressions might bring about new difficulties or intricacies during the data retrieval process. Thought: Keep up with attention to arising advances, remain refreshed on the most recent apparatuses and strategies, and be ready to adjust the methodology as needs be.

Challenge: Guaranteeing that the data retrieval process is legitimate and replicable. Thought: Make nitty gritty documentation of the methodology, instruments utilized, also, results to work with straightforwardness and replication by others in the field.

## HARDWARE CONSIDERATIONS

Challenge : Certain equipment restrictions might forestall full recuperation of data from a few broken devices. Thought: Obviously impart limits to partners and make due assumptions about the degree of data recuperation conceivable. Addressing these difficulties and contemplations will add to the outcome of your "Data Retrieval from Broken Devices" project, guaranteeing a careful and moral way to deal with recuperating data from failing electronic devices.

Cell phones:

Depiction: Devices, for example, cell phones or tablets with broken screens, harmed interior parts, or breaking down equipment. Challenges: Actual harm to screens, interior parts, and potential issues with data encryption.

Hard Drives:

Depiction: Conventional hard circle drives (HDDs) or strong state drives (SSDs) with actual harm, awful areas, or coherent mistakes. Challenges: Mechanical disappointments, undermined record frameworks, and possible data encryption.

Memory Cards:

Portrayal: Removable capacity media like SD cards or microSD cards utilized in cameras, cell phones, or different devices.

Challenges: Actual harm, document debasement, and issues connected with similarity with various document frameworks.

PCs/PCs:

Depiction: Standard size or smaller PCs with broken parts, failing hard drives, or adulterated working frameworks. Challenges: A blend of equipment and programming issues, potential for full circle encryption.

Outer Hard Drives:

Depiction: Versatile capacity devices associated remotely to PCs or different devices. Challenges: Like inner hard drives, with extra contemplations for outer associations and fenced in areas.

USB Streak Drives:

Depiction: Smaller, versatile capacity devices frequently utilized for moving data between devices. Challenges: Actual harm, data debasement, and issues with streak memory capacity.

Advanced Cameras:

Portrayal: Devices with worked away or removable memory cards utilized for catching photographs and recordings. Challenges: Record defilement, harmed capacity media, and similarity with different record designs.

Tablets:

Depiction: Versatile figuring devices with touchscreens, like cell phones however with bigger screens. Challenges: Actual harm to screens, inward parts, and potential data encryption.

Network Connected Capacity (NAS) Devices:

Depiction: Devices utilized for putting away and getting to data over an organization. Challenges: Equipment disappointments, defiled data, and expected issues with network availability.

Wearable Devices:

Portrayal: Devices like smartwatches or wellness trackers with worked in capacity for data logging. Challenges: Restricted actual space, potential for harm because of wear and tear.

It's critical to take note of that each kind of broken gadget might require a customized move toward in the data retrieval process. The difficulties related with physical harm, legitimate blunders, and encryption might fluctuate, and figuring out the particular qualities of every gadget type is pivotal for a fruitful data recuperation philosophy.

## SYSTEM REQUIREMENTS

Framework Prerequisites

The software prerequisites for running Autopsy include:

Working Framework: Windows (7, 8, 10), Linux (Ubuntu, Debian, CentOS), or macOS (operating

system X 10.11 or higher).Java: Autopsy expects Java to be introduced on your framework. It is prescribed to utilize the most recent variant of Java viable with your working framework. Autopsy Establishment :You want to download and introduce the Autopsy software bundle from the authority site or archive relating to your working framework. Web Association (Discretionary): A web association might expected for download extra modules or updates for Autopsy. Modules and Modules (Discretionary): Contingent upon your particular prerequisites, you might have to introduce extra modules or modules for Autopsy to upgrade its usefulness. Equipment Prerequisites: The equipment prerequisites for running Autopsy can change in view of the size and intricacy of the data you intend to examine.

Here are the general equipment prerequisites:

Computer processor:

Slam: A multi-center processor with a speed of something like 2 GHz is

suggested. Somewhere around 4 GB of Smash is suggested for fundamental use. Nonetheless, for examining huge plate pictures or datasets, you may require more Slam (e.g., 8 GB or higher) for ideal execution.

Capacity: Adequate circle space for putting away the plate pictures you'll be examining, as well as space for the Autopsy application and any extra modules or modules. SSDs are suggested for quicker execution.

Designs: A fundamental illustrations card with help for OpenGL is suggested. This is definitely not a severe prerequisite, yet having a illustrations card can work on the presentation of certain highlights in Autopsy, for example, picture cutting. Network: An organization association isn't needed for fundamental utilization of Autopsy. Notwithstanding, assuming you intend to utilize network-based scientific elements or access distant data sources, a stable network association might be important.

## ASSESSMENT

Stage 1: Appraisal Recognize the Issue: Decide the reason for data misfortune. Is it because of coincidenta cancellation, intelligent defilement, or actual harm? Assess Gadget Condition: Evaluate the state of the stockpiling gadget. Is it perceived by the PC? Does it make any strange clamors? Are there any apparent indications of actual harm? Data Prioritization: Recognize basic data and focus on recuperation endeavors likewise. This helps center assets around recovering the most significant

documents first. Arrangement: Select Recuperation Apparatuses: Pick suitable instruments in view of the idea of the data misfortune and the state of the stockpiling gadget. For consistent issues, data recuperation programming might get the job done, while actual harm might require equipment fix instruments. Get ready Workplace: Set up a perfect and sans static work area to limit the gamble of additional harm to the capacity gadget duringrecuperation endeavors.

Stage 3: Consistent Data Recuperation: Interface the Gadget: Assuming that the capacity gadget is outside (e.g., USB drive), interface it to a PC utilizing the suitable point of interaction (USB, SATA, and so forth.). Run Data Recuperation Programming: Send off data recuperation programming and start a sweep of the stockpiling gadget. Pick a sweep mode that matches the sort of data misfortune (e.g., fast sweep for as of late erased records, profound output for more exhaustive recuperation). Review and Recupereate: When the sweep is finished, see the recuperated records to confirm their trustworthiness. Select the ideal records for recuperation and save them to an alternate drive or outside stockpiling.

Stage 4: Actual Data Recuperation: For Actual Harm: Evaluate Harm: Review the capacity gadget for actual harm, for example, a breaking down engine, harmed read/compose heads, or scratched platters. Observe any noticeable indications of harm. Segregate the Issue: Decide the particular part causing the issue. For instance, on the off chance that the drive is making clicking clamors, it might demonstrate aissue with the read/compose head Equipment Fix: Utilize specific devices and procedures to address the actual issues. This might include supplanting harmed parts (e.g., peruse/compose heads, PCB) or fixing mechanical disappointments. Data Extraction: In the wake of resolving the actual issues, endeavor data extraction utilizing circle imaging instruments or direct read tasks. Be mindful to keep away from additional harm to the gadget during this interaction. Recuperation Confirmation: Check the respectability of the recuperated data by checking for any indications of debasement or missing records. Guarantee that the recuperated data is open and usable.

Stage 5: Data Confirmation and Honesty Checking Checksum Confirmation: Work out checksums for the recuperated records and

contrast them against known checksums with confirm data respectability. Document Trustworthiness Checks: Use record respectability really looking at apparatuses to distinguish any debased or inadequate

documents among the recuperated data. Availability Testing: Endeavor to access and open the recuperated documents utilizing suitable programming to guarantee they are flawless as well as usable.

### PROPOSED METHODOLOGY

Gadget Arrangement: Characterize broken devices into classifications (e.g., cell phones, hard drives, memory cards) to tailor explicit recuperation draws near.

Steps:

Lead an intensive examination of various gadget types. Recognize one of a kind difficulties related with every classification. Foster a classification framework for effective taking care of.

Introductory Appraisal: Objective: Assess the degree of actual harm, legitimate blunders, and generally gadget condition.

Steps: Carry out a definite assessment of the messed up gadget. Recognize actual harms and observe any noticeable issues. Direct indicative tests to evaluate intelligent blunders or debasement.

Protection and Legitimate Consistence: Objective : Guarantee moral and lawful treatment of data all through the retrieval process.

Steps: Acquire unequivocal consent from gadget proprietors or approved substances. Execute secure data dealing with conventions to keep up with protection. Comply with legitimate guidelines overseeing data retrieval and protection.

Device Determination: Objective: Pick fitting devices and gear for data retrieval in view of the sort and state of the messed up gadget.

Steps: Research and select specific apparatuses appropriate for every gadget classification. Guarantee similarity with different document frameworks and encryption strategies.

Actual Fix (if appropriate):

Objective : Address actual harm to empower admittance to the gadget's stockpiling.

Steps: Utilize proper instruments to fix or supplant harmed parts. Guarantee that fixes are directed in a way that doesn't compromise data honesty.

Consistent Recuperation:

Objective: Utilize programming based methods to recuperate data from sensible mistakes or defilement.

Steps:

Use data recuperation programming to check for lost or tainted documents. Carry out calculations to remake harmed record structures. Approve the recuperated data to guarantee exactness.

Data Approval: Objective: Check the trustworthiness of the recuperated data to guarantee its exactness and culmination.

Steps: Contrast recuperated data and realized data sets (if accessible). Lead checksum confirmations to identify data defilement.

Approve the data against the first record framework structure. Documentation: Objective: Make complete documentation of the whole data retrieval process for straightforwardness and future replication.

Steps: Archive each step of the philosophy, including apparatuses utilized and settings. Incorporate approval results and any difficulties experienced. Foster an easy to understand guide for reproducing the interaction.

Revealing: Objective: Present the recuperated data in a configuration that is justifiable and usable by partners.

Steps: Produce a point by point report illustrating the recuperated data. Give a synopsis of the data's condition and culmination. Incorporate any suggestions for additional activities or enhancements.

Persistent Improvement:

Objective: Gain from every data retrieval cycle to upgrade future strategies.

Steps: Lead a post-retrieval investigation to recognize regions for development. Look for input from partners and integrate illustrations learned into future strategies.

This strategy gives an organized way to deal with recovering data from broken devices, taking into account both the specialized parts of data recuperation and the moral what's more, legitimate contemplations related with taking care of delicate data. Adjust furthermore, refine the approach in light of the particular requirements and difficulties of your project.

## APPLICATIONS

The "Data Retrieval from Broken Devices" project has different commonsense applications across various areas and situations. The following are a few applications of your venture:

**Measurable Examinations:** Depiction: Policing and computerized scientific groups can utilize the task to recuperate pivotal proof from harmed devices engaged with criminal examinations.

**Legitimate Revelation:** Depiction: Lawyers and legitimate experts can utilize the undertaking to recover pertinent data from broken devices for use in legal actions, e-revelation, and case support.

**Corporate Data Recuperation:**

Depiction: Associations can use the task to recuperate significant business data from breaking down devices, for example, workstations, outside hard drives, or servers, limiting the effect of data misfortune on business activities.

**Individual Data Retrieval:**

Portrayal: People who have encountered data misfortune because of gadget harm or breakdown can profit from the venture to recuperate individual documents photographs, and other important data.

**IT Backing and Support:**

Depiction: IT support groups can use the undertaking to recuperate basic data from harmed or failing devices inside an association, helping with framework support and data rebuilding.

**Buyer Gadgets Fix:**

Depiction: Buyer gadgets fix administrations can utilize the undertaking to recuperate data from harmed cell phones, tablets, or other electronic devices, offering an extra support to clients.

**Catastrophe Recuperation:**

Portrayal: In the consequence of cataclysmic events or mishaps, where electronic devices might be harmed, the undertaking can help with recuperating essential data for people or associations impacted.

**Authentic Data Reproduction:**

Portrayal: Students of history or analysts might utilize the task to recover data from more established, harmed capacity media, adding to the safeguarding and reproduction of authentic records.

**Instructive Use:**

Depiction: Instructive foundations offering courses in computerized legal sciences or data recuperation can integrate the undertaking into their educational plan, giving understudies with active involvement with recovering data from broken devices.

**Innovation Reusing and Repair:**

Portrayal: Organizations associated with reusing or repairing electronic devices can utilize the venture to recuperate data from devices reserved for removal or resale, guaranteeing secure data expulsion and potential reuse of devices.

**Medical services Data Recuperation:**

Depiction: In medical services settings, the task can help with the recuperation of patient data or clinical records from harmed devices, supporting the progression of patient consideration.

**Media and Media outlet:**

Depiction: Creation organizations and creatives can utilize the task to recuperate advanced resources from harmed capacity media, guaranteeing the safeguarding of innovative works and undertaking records.

**Military and Safeguard:**

Depiction: Military and guard associations might utilize the undertaking for data retrieval from harmed hardware or devices utilized in the field, supporting insight social affair and examination.

These applications feature the flexibility and wide effect of the "Data Retrieval from Broken Devices" project across different areas, offering answers for the normal test of data misfortune from failing electronic devices.

## CONCLUSION

In the quickly developing scene of advanced innovation, the "Data Retrieval from Broken Devices" project remains as an essential commitment to the field of data recuperation. Through a carefully created strategy, the undertaking addresses the unavoidable test of getting to data caught inside failing electronic devices. The meaning of this try becomes apparent in its multi-layered applications, coming to across areas like regulation requirement, official actions, corporate data the board, and person data recuperation. By overcoming any barrier between broken devices and out of reach data, the task offers prompt

arrangements as well as lays out a establishment for versatility, development, and moral data taking care of.

The outcome of the undertaking lies in its specialized ability as well as in its obligation to moral and legitimate contemplations. The fastidious classification of broken devices, careful assessment of moves well defined for each class, and the execution of rigid protection estimates highlight the task's commitment to dependable data recuperation rehearses. These endeavors guarantee that the recuperated data is dealt with extreme attention to detail, sticking to lawful guidelines and moral norms administering protection and security. The flexibility of the task's applications is a demonstration of its versatility what's more, potential for broad effect. Whether supporting legal examinations, helping lawful disclosure processes, or helping people and associations in the midst of data misfortune, the undertaking arises as a significant asset.

Moreover, the task's receptiveness to cooperation and constant improvement positions it at the front of advanced crime scene investigation, empowering information sharing and the development of best practices in the field. As innovation progresses and new difficulties arise, the "Data Retrieval from Broken Devices" project fills in as a reference point of development, offering not simply a answer for a determined issue yet additionally contributing significant bits of knowledge for future tries. By engaging people, associations, and experts with the necessary resources to recuperate and save basic data from harmed devices, the task makes a getting through imprint on the unique scene of data recuperation. All in all, the venture isn't simply a specialized accomplishment yet a demonstration of the versatility and flexibility expected to explore the intricacies of the advanced age.

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