



Ai District

# Smart Contract Audit Report

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## Disclaimer

## About Us

# AUDITED DETAILS

## Audited Project

Project name	Token ticker	Blockchain
Ai District	AID	Binance Smart Chain

## Addresses

Contract address	0x7e37B487a46d4DFbA47fDd7e4A0723f5Ea7D33C2
Contract deployer address	0x59ce9e317407dF204bD423f0A221d359E7b305ae

## Project Website

<https://www.aidistrict.xyz/>

## Codebase

<https://bscscan.com/address/0x7e37B487a46d4DFbA47fDd7e4A0723f5Ea7D33C2#code>

# SUMMARY

Ai District is the DAO for AI innovation, community-driven exploration and investment in the future of AI. We guide generations X, Y and Z through AI and learn it together.

## Contract Summary

### Documentation Quality

Ai District provides a very good documentation with standard of solidity base code.

- The technical description is provided clearly and structured and also dont have any high risk issue.

### Code Quality

The Overall quality of the basecode is standard.

- Standard solidity basecode and rules are already followed by Ai District with the discovery of several low issues.

### Test Coverage

Test coverage of the project is 100% ( Through Codebase )

## Audit Findings Summary

- SWC-101 | It is recommended to use vetted safe math libraries for arithmetic operations consistently on lines 206, 227, 253, 279, 282, 407, 407, 408, 408, 409, 409, 412, 412, 446, 446, 480, 489, 501, 520, 527, 531, 545, 554, 554, 562, 562, 572, 572, 579, 582, 582, 601, 602, 602, 604, 609, 610, 610, 613, 619, 619, 624, 624, 676, 676, 683, 683, 692, 692, 723, 736, 742, 742, 745, 745, 745 and 746.
- SWC-103 | Pragma statements can be allowed to float when a contract is intended on lines 16.
- SWC-110 SWC-123 | It is recommended to use of revert(), assert(), and require() in Solidity, and the new REVERT opcode in the EVM on lines 636, 638 and 736.
- SWC-120 | It is recommended to use external sources of randomness via oracles on lines 545 and 705.

## CONCLUSION

We have audited the Ai District project released on February 2023 to discover issues and identify potential security vulnerabilities in Ai District Project. This process is used to find technical issues and security loopholes which might be found in the smart contract.

The security audit report provides a satisfactory result with some low-risk issues.

The issues found in the Ai District smart contract code do not pose a considerable risk. The writing of the contract is close to the standard of writing contracts in general. The low-risk issues found are some arithmetic operation issues, a floating pragma is set, weak sources of randomness and out of bounds array access which the index access expression can cause an exception in case of the use of an invalid array index value.

# AUDIT RESULT

Article	Category	Description	Result
Default Visibility	SWC-100 SWC-108	Functions and state variables visibility should be set explicitly. Visibility levels should be specified consciously.	PASS
Integer Overflow and Underflow	SWC-101	If unchecked math is used, all math operations should be safe from overflows and underflows.	ISSUE FOUND
Outdated Compiler Version	SWC-102	It is recommended to use a recent version of the Solidity compiler.	PASS
Floating Pragma	SWC-103	Contracts should be deployed with the same compiler version and flags that they have been tested thoroughly.	ISSUE FOUND
Unchecked Call Return Value	SWC-104	The return value of a message call should be checked.	PASS
Unprotected Ether Withdrawal	SWC-105	Due to missing or insufficient access controls, malicious parties can withdraw from the contract.	PASS
SELFDESTRUCT Instruction	SWC-106	The contract should not be self-destructible while it has funds belonging to users.	PASS
Reentrancy	SWC-107	Check effect interaction pattern should be followed if the code performs recursive call.	PASS
Uninitialized Storage Pointer	SWC-109	Uninitialized local storage variables can point to unexpected storage locations in the contract.	PASS
Assert Violation	SWC-110 SWC-123	Properly functioning code should never reach a failing assert statement.	ISSUE FOUND
Deprecated Solidity Functions	SWC-111	Deprecated built-in functions should never be used.	PASS
Delegate call to Untrusted Callee	SWC-112	Delegatecalls should only be allowed to trusted addresses.	PASS

DoS (Denial of Service)	SWC-113 SWC-128	Execution of the code should never be blocked by a specific contract state unless required.	PASS
Race Conditions	SWC-114	Race Conditions and Transactions Order Dependency should not be possible.	PASS
Authorization through tx.origin	SWC-115	tx.origin should not be used for authorization.	PASS
Block values as a proxy for time	SWC-116	Block numbers should not be used for time calculations.	PASS
Signature Unique ID	SWC-117 SWC-121 SWC-122	Signed messages should always have a unique id. A transaction hash should not be used as a unique id.	PASS
Incorrect Constructor Name	SWC-118	Constructors are special functions that are called only once during the contract creation.	PASS
Shadowing State Variable	SWC-119	State variables should not be shadowed.	PASS
Weak Sources of Randomness	SWC-120	Random values should never be generated from Chain Attributes or be predictable.	ISSUE FOUND
Write to Arbitrary Storage Location	SWC-124	The contract is responsible for ensuring that only authorized user or contract accounts may write to sensitive storage locations.	PASS
Incorrect Inheritance Order	SWC-125	When inheriting multiple contracts, especially if they have identical functions, a developer should carefully specify inheritance in the correct order. The rule of thumb is to inherit contracts from more /general/ to more /specific/.	PASS
Insufficient Gas Griefing	SWC-126	Insufficient gas griefing attacks can be performed on contracts which accept data and use it in a sub-call on another contract.	PASS
Arbitrary Jump Function	SWC-127	As Solidity doesnt support pointer arithmetics, it is impossible to change such variable to an arbitrary value.	PASS

Typographical Error	SWC-129	A typographical error can occur for example when the intent of a defined operation is to sum a number to a variable.	PASS
Override control character	SWC-130	Malicious actors can use the Right-To-Left-Override unicode character to force RTL text rendering and confuse users as to the real intent of a contract.	PASS
Unused variables	SWC-131 SWC-135	Unused variables are allowed in Solidity and they do not pose a direct security issue.	PASS
Unexpected Ether balance	SWC-132	Contracts can behave erroneously when they strictly assume a specific Ether balance.	PASS
Hash Collisions Variable	SWC-133	Using <code>abi.encodePacked()</code> with multiple variable length arguments can, in certain situations, lead to a hash collision.	PASS
Hardcoded gas amount	SWC-134	The <code>transfer()</code> and <code>send()</code> functions forward a fixed amount of 2300 gas.	PASS
Unencrypted Private Data	SWC-136	It is a common misconception that private type variables cannot be read.	PASS





SWC-101	ARITHMETIC OPERATION "**" DISCOVERED	low	acknowledged
SWC-101	ARITHMETIC OPERATION "-" DISCOVERED	low	acknowledged
SWC-101	ARITHMETIC OPERATION "+" DISCOVERED	low	acknowledged
SWC-101	ARITHMETIC OPERATION "-" DISCOVERED	low	acknowledged
SWC-101	ARITHMETIC OPERATION "+" DISCOVERED	low	acknowledged
SWC-101	ARITHMETIC OPERATION "+" DISCOVERED	low	acknowledged
SWC-101	ARITHMETIC OPERATION "-" DISCOVERED	low	acknowledged
SWC-101	ARITHMETIC OPERATION "+" DISCOVERED	low	acknowledged
SWC-101	ARITHMETIC OPERATION "+" DISCOVERED	low	acknowledged
SWC-101	ARITHMETIC OPERATION "-" DISCOVERED	low	acknowledged
SWC-101	ARITHMETIC OPERATION "+" DISCOVERED	low	acknowledged
SWC-101	ARITHMETIC OPERATION "+" DISCOVERED	low	acknowledged
SWC-101	ARITHMETIC OPERATION "+" DISCOVERED	low	acknowledged
SWC-101	ARITHMETIC OPERATION "+" DISCOVERED	low	acknowledged
SWC-101	ARITHMETIC OPERATION "/" DISCOVERED	low	acknowledged
SWC-101	ARITHMETIC OPERATION "*" DISCOVERED	low	acknowledged
SWC-101	ARITHMETIC OPERATION "-" DISCOVERED	low	acknowledged
SWC-101	ARITHMETIC OPERATION "/" DISCOVERED	low	acknowledged
SWC-101	ARITHMETIC OPERATION "*" DISCOVERED	low	acknowledged

SWC-101	ARITHMETIC OPERATION "*" DISCOVERED	low	acknowledged
SWC-101	ARITHMETIC OPERATION "/" DISCOVERED	low	acknowledged
SWC-101	ARITHMETIC OPERATION "*" DISCOVERED	low	acknowledged
SWC-101	ARITHMETIC OPERATION "-" DISCOVERED	low	acknowledged
SWC-101	ARITHMETIC OPERATION "-" DISCOVERED	low	acknowledged
SWC-101	ARITHMETIC OPERATION "/" DISCOVERED	low	acknowledged
SWC-101	ARITHMETIC OPERATION "-" DISCOVERED	low	acknowledged
SWC-101	ARITHMETIC OPERATION "*" DISCOVERED	low	acknowledged
SWC-101	ARITHMETIC OPERATION "*" DISCOVERED	low	acknowledged
SWC-101	ARITHMETIC OPERATION "*" DISCOVERED	low	acknowledged
SWC-101	ARITHMETIC OPERATION "*" DISCOVERED	low	acknowledged
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SWC-101	ARITHMETIC OPERATION "**" DISCOVERED	low	acknowledged
SWC-101	ARITHMETIC OPERATION "+" DISCOVERED	low	acknowledged
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SWC-101	ARITHMETIC OPERATION "+" DISCOVERED	low	acknowledged
SWC-101	ARITHMETIC OPERATION "+" DISCOVERED	low	acknowledged
SWC-101	ARITHMETIC OPERATION "*" DISCOVERED	low	acknowledged
SWC-101	ARITHMETIC OPERATION "++" DISCOVERED	low	acknowledged
SWC-101	ARITHMETIC OPERATION "*" DISCOVERED	low	acknowledged
SWC-101	ARITHMETIC OPERATION "**" DISCOVERED	low	acknowledged
SWC-101	ARITHMETIC OPERATION "*" DISCOVERED	low	acknowledged
SWC-101	ARITHMETIC OPERATION "**" DISCOVERED	low	acknowledged
SWC-101	ARITHMETIC OPERATION "*" DISCOVERED	low	acknowledged
SWC-101	ARITHMETIC OPERATION "**" DISCOVERED	low	acknowledged
SWC-103	A FLOATING PRAGMA IS SET.	low	acknowledged
SWC-110	OUT OF BOUNDS ARRAY ACCESS	low	acknowledged
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SWC-120	POTENTIAL USE OF "BLOCK.NUMBER" AS SOURCE OF RANDOMNESS.	low	acknowledged
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# SWC-101 | ARITHMETIC OPERATION "-" DISCOVERED

LINE 206

## low SEVERITY

This plugin produces issues to support false positive discovery within mythril.

## Source File

- AiDistrict.sol

## Locations

```
205  /**
206  * @dev Atomically increases the allowance granted to `spender` by the caller.
207  *
208  * This is an alternative to {approve} that can be used as a mitigation for
209  * problems described in {IBEP20-approve}.
210
```

# SWC-101 | ARITHMETIC OPERATION "+" DISCOVERED

LINE 227

## low SEVERITY

This plugin produces issues to support false positive discovery within mythril.

## Source File

- AiDistrict.sol

## Locations

```
226  /**
227  * @dev Atomically decreases the allowance granted to `spender` by the caller.
228  *
229  * This is an alternative to {approve} that can be used as a mitigation for
230  * problems described in {IBEP20-approve}.
231
```

# SWC-101 | ARITHMETIC OPERATION "-" DISCOVERED

LINE 253

## low SEVERITY

This plugin produces issues to support false positive discovery within mythril.

## Source File

- AiDistrict.sol

## Locations

```
252  /**
253  * @dev Moves tokens `amount` from `sender` to `recipient`.
254  *
255  * This is internal function is equivalent to {transfer}, and can be used to
256  * e.g. implement automatic token fees, slashing mechanisms, etc.
257
```

# SWC-101 | ARITHMETIC OPERATION "-" DISCOVERED

LINE 279

## low SEVERITY

This plugin produces issues to support false positive discovery within mythril.

## Source File

- AiDistrict.sol

## Locations

```
278
279     emit Transfer(sender, recipient, amount);
280     }
281
282     /** This function will be used to generate the total supply
283
```



## SWC-101 | ARITHMETIC OPERATION "+=" DISCOVERED

LINE 282

### low SEVERITY

This plugin produces issues to support false positive discovery within mythril.

### Source File

- AiDistrict.sol

### Locations

```
281
282  /** This function will be used to generate the total supply
283   * while deploying the contract
284   *
285   * This function can never be called again after deploying contract
286
```

# SWC-101 | ARITHMETIC OPERATION "\*" DISCOVERED

LINE 407

## low SEVERITY

This plugin produces issues to support false positive discovery within mythril.

## Source File

- AiDistrict.sol

## Locations

```
406 uint256 public tokenLiquidityThreshold = 1e6 * 10**18; // 0.1% of total supply
407 uint256 public maxBuyLimit = 1e8 * 10**18; // 1% of total supply
408 uint256 public maxSellLimit = 1e8 * 10**18; // 1% of total supply
409 uint256 public maxWalletLimit = 1e8 * 10**18; // 1% of total supply
410
411
```

# SWC-101 | ARITHMETIC OPERATION "\*\*" DISCOVERED

LINE 407

## low SEVERITY

This plugin produces issues to support false positive discovery within mythril.

## Source File

- AiDistrict.sol

## Locations

```
406 uint256 public tokenLiquidityThreshold = 1e6 * 10**18; // 0.1% of total supply
407 uint256 public maxBuyLimit = 1e8 * 10**18; // 1% of total supply
408 uint256 public maxSellLimit = 1e8 * 10**18; // 1% of total supply
409 uint256 public maxWalletLimit = 1e8 * 10**18; // 1% of total supply
410
411
```

# SWC-101 | ARITHMETIC OPERATION "\*" DISCOVERED

LINE 408

## low SEVERITY

This plugin produces issues to support false positive discovery within mythril.

## Source File

- AiDistrict.sol

## Locations

```
407 uint256 public maxBuyLimit = 1e8 * 10**18; // 1% of total supply
408 uint256 public maxSellLimit = 1e8 * 10**18; // 1% of total supply
409 uint256 public maxWalletLimit = 1e8 * 10**18; // 1% of total supply
410
411 uint256 public genesis_block;
412
```

# SWC-101 | ARITHMETIC OPERATION "\*\*" DISCOVERED

LINE 408

## low SEVERITY

This plugin produces issues to support false positive discovery within mythril.

## Source File

- AiDistrict.sol

## Locations

```
407 uint256 public maxBuyLimit = 1e8 * 10**18; // 1% of total supply
408 uint256 public maxSellLimit = 1e8 * 10**18; // 1% of total supply
409 uint256 public maxWalletLimit = 1e8 * 10**18; // 1% of total supply
410
411 uint256 public genesis_block;
412
```

# SWC-101 | ARITHMETIC OPERATION "\*" DISCOVERED

LINE 409

## low SEVERITY

This plugin produces issues to support false positive discovery within mythril.

## Source File

- AiDistrict.sol

## Locations

```
408 uint256 public maxSellLimit = 1e8 * 10**18; // 1% of total supply
409 uint256 public maxWalletLimit = 1e8 * 10**18; // 1% of total supply
410
411 uint256 public genesis_block;
412 uint256 private deadline = 3;
413
```

# SWC-101 | ARITHMETIC OPERATION "\*\*" DISCOVERED

LINE 409

## low SEVERITY

This plugin produces issues to support false positive discovery within mythril.

## Source File

- AiDistrict.sol

## Locations

```
408 uint256 public maxSellLimit = 1e8 * 10**18; // 1% of total supply
409 uint256 public maxWalletLimit = 1e8 * 10**18; // 1% of total supply
410
411 uint256 public genesis_block;
412 uint256 private deadline = 3;
413
```

# SWC-101 | ARITHMETIC OPERATION "\*" DISCOVERED

LINE 412

## low SEVERITY

This plugin produces issues to support false positive discovery within mythril.

## Source File

- AiDistrict.sol

## Locations

```
411 uint256 public genesis_block;  
412 uint256 private deadline = 3;  
413 uint256 private launchtax = 99;  
414  
415 address public marketingWallet = 0x178ae733d0539D4946B6A5c52b61646E4464830D;  
416
```



# SWC-101 | ARITHMETIC OPERATION "\*\*" DISCOVERED

LINE 412

## low SEVERITY

This plugin produces issues to support false positive discovery within mythril.

## Source File

- AiDistrict.sol

## Locations

```
411 uint256 public genesis_block;  
412 uint256 private deadline = 3;  
413 uint256 private launchtax = 99;  
414  
415 address public marketingWallet = 0x178ae733d0539D4946B6A5c52b61646E4464830D;  
416
```

# SWC-101 | ARITHMETIC OPERATION "\*" DISCOVERED

LINE 446

## low SEVERITY

This plugin produces issues to support false positive discovery within mythril.

## Source File

- AiDistrict.sol

## Locations

```
445
446   IRouter _router = IRouter(0x10ED43C718714eb63d5aA57B78B54704E256024E);
447   // Create a pancake pair for this new token
448   address _pair = IFactory(_router.factory()).createPair(address(this),
   _router.WETH());
449
450
```

# SWC-101 | ARITHMETIC OPERATION "\*\*" DISCOVERED

LINE 446

## low SEVERITY

This plugin produces issues to support false positive discovery within mythril.

## Source File

- AiDistrict.sol

## Locations

```
445
446   IRouter _router = IRouter(0x10ED43C718714eb63d5aA57B78B54704E256024E);
447   // Create a pancake pair for this new token
448   address _pair = IFactory(_router.factory()).createPair(address(this),
   _router.WETH());
449
450
```

# SWC-101 | ARITHMETIC OPERATION "-" DISCOVERED

LINE 480

## low SEVERITY

This plugin produces issues to support false positive discovery within mythril.

## Source File

- AiDistrict.sol

## Locations

```
479
480 function increaseAllowance(address spender, uint256 addedValue)
481 public
482 override
483 returns (bool)
484
```

## SWC-101 | ARITHMETIC OPERATION "+" DISCOVERED

LINE 489

### low SEVERITY

This plugin produces issues to support false positive discovery within mythril.

### Source File

- AiDistrict.sol

### Locations

```
488
489 function decreaseAllowance(address spender, uint256 subtractedValue)
490 public
491 override
492 returns (bool)
493
```

# SWC-101 | ARITHMETIC OPERATION "-" DISCOVERED

LINE 501

## low SEVERITY

This plugin produces issues to support false positive discovery within mythril.

## Source File

- AiDistrict.sol

## Locations

```
500
501 function transfer(address recipient, uint256 amount) public override returns (bool)
502 {
503     _transfer(msg.sender, recipient, amount);
504     return true;
505 }
```

# SWC-101 | ARITHMETIC OPERATION "+" DISCOVERED

LINE 520

## low SEVERITY

This plugin produces issues to support false positive discovery within mythril.

## Source File

- AiDistrict.sol

## Locations

```
519     require(balanceOf(recipient) + amount <= maxWalletLimit, "You are exceeding
maxWalletLimit");
520   }
521
522   if (sender != pair && !exemptFee[recipient] && !exemptFee[sender] && !_interlock) {
523     require(amount <= maxSellLimit, "You are exceeding maxSellLimit");
524   }
```

# SWC-101 | ARITHMETIC OPERATION "+" DISCOVERED

LINE 527

## low SEVERITY

This plugin produces issues to support false positive discovery within mythril.

## Source File

- AiDistrict.sol

## Locations

```
526   require(balanceOf(recipient) + amount <= maxWalletLimit, "You are exceeding
maxWalletLimit");
527   }
528
529   if (coolDownEnabled) {
530     uint256 timePassed = block.timestamp - _lastSell[sender];
531
```



# SWC-101 | ARITHMETIC OPERATION "-" DISCOVERED

LINE 531

## low SEVERITY

This plugin produces issues to support false positive discovery within mythril.

## Source File

- AiDistrict.sol

## Locations

```
530     uint256 timePassed = block.timestamp - _lastSell[sender];
531     require(timePassed >= coolDownTime, "Cooldown enabled");
532     _lastSell[sender] = block.timestamp;
533 }
534 }
535
```

# SWC-101 | ARITHMETIC OPERATION "+" DISCOVERED

LINE 545

## low SEVERITY

This plugin produces issues to support false positive discovery within mythril.

## Source File

- AiDistrict.sol

## Locations

```
544
545 //set fee to zero if fees in contract are handled or exempted
546 if (_interlock || exemptFee[sender] || exemptFee[recipient])
547     fee = 0;
548
549
```

## SWC-101 | ARITHMETIC OPERATION "+" DISCOVERED

LINE 554

### low SEVERITY

This plugin produces issues to support false positive discovery within mythril.

### Source File

- AiDistrict.sol

### Locations

```
553   sellTaxes.marketing +  
554   sellTaxes.treasury;  
555   feesum = feeswap;  
556   currentTaxes = sellTaxes;  
557   } else if (!useLaunchFee) {  
558
```

## SWC-101 | ARITHMETIC OPERATION "+" DISCOVERED

LINE 554

### low SEVERITY

This plugin produces issues to support false positive discovery within mythril.

### Source File

- AiDistrict.sol

### Locations

```
553   sellTaxes.marketing +  
554   sellTaxes.treasury;  
555   feesum = feeswap;  
556   currentTaxes = sellTaxes;  
557   } else if (!useLaunchFee) {  
558
```

# SWC-101 | ARITHMETIC OPERATION "+" DISCOVERED

LINE 562

## low SEVERITY

This plugin produces issues to support false positive discovery within mythril.

## Source File

- AiDistrict.sol

## Locations

```
561 taxes.treasury;  
562 feesum = feeswap;  
563 currentTaxes = taxes;  
564 } else if (useLaunchFee) {  
565 feeswap = launchtax;  
566
```

# SWC-101 | ARITHMETIC OPERATION "+" DISCOVERED

LINE 562

## low SEVERITY

This plugin produces issues to support false positive discovery within mythril.

## Source File

- AiDistrict.sol

## Locations

```
561 taxes.treasury;  
562 feesum = feeswap;  
563 currentTaxes = taxes;  
564 } else if (useLaunchFee) {  
565 feeswap = launchtax;  
566
```

## SWC-101 | ARITHMETIC OPERATION "/" DISCOVERED

LINE 572

### low SEVERITY

This plugin produces issues to support false positive discovery within mythril.

### Source File

- AiDistrict.sol

### Locations

```
571 //send fees if threshold has been reached
572 //don't do this on buys, breaks swap
573 if (providingLiquidity && sender != pair) Liquify(feeswap, currentTaxes);
574
575 //rest to recipient
576
```

# SWC-101 | ARITHMETIC OPERATION "\*" DISCOVERED

LINE 572

## low SEVERITY

This plugin produces issues to support false positive discovery within mythril.

## Source File

- AiDistrict.sol

## Locations

```
571 //send fees if threshold has been reached
572 //don't do this on buys, breaks swap
573 if (providingLiquidity && sender != pair) Liquify(feeswap, currentTaxes);
574
575 //rest to recipient
576
```



## SWC-101 | ARITHMETIC OPERATION "-" DISCOVERED

LINE 579

### low SEVERITY

This plugin produces issues to support false positive discovery within mythril.

### Source File

- AiDistrict.sol

### Locations

```
578 //send the fee to the contract
579 if (feeswap > 0) {
580     uint256 feeAmount = (amount * feeswap) / 100;
581     super._transfer(sender, address(this), feeAmount);
582 }
583
```

# SWC-101 | ARITHMETIC OPERATION "/" DISCOVERED

LINE 582

## low SEVERITY

This plugin produces issues to support false positive discovery within mythril.

## Source File

- AiDistrict.sol

## Locations

```
581     super._transfer(sender, address(this), feeAmount);  
582     }  
583  
584     }  
585     }  
586
```

# SWC-101 | ARITHMETIC OPERATION "\*" DISCOVERED

LINE 582

## low SEVERITY

This plugin produces issues to support false positive discovery within mythril.

## Source File

- AiDistrict.sol

## Locations

```
581     super._transfer(sender, address(this), feeAmount);  
582     }  
583  
584     }  
585     }  
586
```

# SWC-101 | ARITHMETIC OPERATION "\*" DISCOVERED

LINE 601

## low SEVERITY

This plugin produces issues to support false positive discovery within mythril.

## Source File

- AiDistrict.sol

## Locations

```
600  uint256 denominator = feeswap * 3;
601  uint256 tokensToAddLiquidityWith = (contractBalance * swapTaxes.liquidity) /
denominator;
602  uint256 toSwap = contractBalance - tokensToAddLiquidityWith;
603
604  uint256 initialBalance = address(this).balance;
605
```

# SWC-101 | ARITHMETIC OPERATION "/" DISCOVERED

LINE 602

## low SEVERITY

This plugin produces issues to support false positive discovery within mythril.

## Source File

- AIDistrict.sol

## Locations

```
601  uint256 tokensToAddLiquidityWith = (contractBalance * swapTaxes.liquidity) /
denominator;
602  uint256 toSwap = contractBalance - tokensToAddLiquidityWith;
603
604  uint256 initialBalance = address(this).balance;
605
606
```

# SWC-101 | ARITHMETIC OPERATION "\*" DISCOVERED

LINE 602

## low SEVERITY

This plugin produces issues to support false positive discovery within mythril.

## Source File

- AIDistrict.sol

## Locations

```
601  uint256 tokensToAddLiquidityWith = (contractBalance * swapTaxes.liquidity) /
denominator;
602  uint256 toSwap = contractBalance - tokensToAddLiquidityWith;
603
604  uint256 initialBalance = address(this).balance;
605
606
```

# SWC-101 | ARITHMETIC OPERATION "-" DISCOVERED

LINE 604

## low SEVERITY

This plugin produces issues to support false positive discovery within mythril.

## Source File

- AiDistrict.sol

## Locations

```
603
604   uint256 initialBalance = address(this).balance;
605
606   swapTokensForETH(toSwap);
607
608
```

# SWC-101 | ARITHMETIC OPERATION "-" DISCOVERED

LINE 609

## low SEVERITY

This plugin produces issues to support false positive discovery within mythril.

## Source File

- AiDistrict.sol

## Locations

```
608 uint256 deltaBalance = address(this).balance - initialBalance;
609 uint256 unitBalance = deltaBalance / (denominator - swapTaxes.liquidity);
610 uint256 ethToAddLiquidityWith = unitBalance * swapTaxes.liquidity;
611
612 if (ethToAddLiquidityWith > 0) {
613
```



# SWC-101 | ARITHMETIC OPERATION "/" DISCOVERED

LINE 610

## low SEVERITY

This plugin produces issues to support false positive discovery within mythril.

## Source File

- AiDistrict.sol

## Locations

```
609 uint256 unitBalance = deltaBalance / (denominator - swapTaxes.liquidity);
610 uint256 ethToAddLiquidityWith = unitBalance * swapTaxes.liquidity;
611
612 if (ethToAddLiquidityWith > 0) {
613     // Add liquidity to pancake
614 }
```

# SWC-101 | ARITHMETIC OPERATION "-" DISCOVERED

LINE 610

## low SEVERITY

This plugin produces issues to support false positive discovery within mythril.

## Source File

- AiDistrict.sol

## Locations

```
609 uint256 unitBalance = deltaBalance / (denominator - swapTaxes.liquidity);
610 uint256 ethToAddLiquidityWith = unitBalance * swapTaxes.liquidity;
611
612 if (ethToAddLiquidityWith > 0) {
613     // Add liquidity to pancake
614 }
```

# SWC-101 | ARITHMETIC OPERATION "\*" DISCOVERED

LINE 613

## low SEVERITY

This plugin produces issues to support false positive discovery within mythril.

## Source File

- AiDistrict.sol

## Locations

```
612  if (ethToAddLiquidityWith > 0) {  
613  // Add liquidity to pancake  
614  addLiquidity(tokensToAddLiquidityWith, ethToAddLiquidityWith);  
615  }  
616  
617
```

# SWC-101 | ARITHMETIC OPERATION "\*" DISCOVERED

LINE 619

## low SEVERITY

This plugin produces issues to support false positive discovery within mythril.

## Source File

- AiDistrict.sol

## Locations

```
618     if (marketingAmt > 0) {  
619         payable(marketingWallet).sendValue(marketingAmt);  
620     }  
621  
622     uint256 treasuryAmt = unitBalance * 3 * swapTaxes.treasury;  
623
```

# SWC-101 | ARITHMETIC OPERATION "\*" DISCOVERED

LINE 619

## low SEVERITY

This plugin produces issues to support false positive discovery within mythril.

## Source File

- AiDistrict.sol

## Locations

```
618     if (marketingAmt > 0) {  
619         payable(marketingWallet).sendValue(marketingAmt);  
620     }  
621  
622     uint256 treasuryAmt = unitBalance * 3 * swapTaxes.treasury;  
623
```

## SWC-101 | ARITHMETIC OPERATION "\*" DISCOVERED

LINE 624

### low SEVERITY

This plugin produces issues to support false positive discovery within mythril.

### Source File

- AiDistrict.sol

### Locations

```
623     if (treasuryAmt > 0) {
624         payable(treasuryWallet).sendValue(treasuryAmt);
625     }
626
627 }
628
```

## SWC-101 | ARITHMETIC OPERATION "\*" DISCOVERED

LINE 624

### low SEVERITY

This plugin produces issues to support false positive discovery within mythril.

### Source File

- AiDistrict.sol

### Locations

```
623     if (treasuryAmt > 0) {  
624         payable(treasuryWallet).sendValue(treasuryAmt);  
625     }  
626  
627 }  
628
```

## SWC-101 | ARITHMETIC OPERATION "\*" DISCOVERED

LINE 676

### low SEVERITY

This plugin produces issues to support false positive discovery within mythril.

### Source File

- AiDistrict.sol

### Locations

```
675     uint256 _marketing,  
676     uint256 _treasury,  
677     uint256 _liquidity  
678     ) external onlyOwner {  
679     taxes = Taxes(_marketing, _treasury, _liquidity);  
680
```



## SWC-101 | ARITHMETIC OPERATION "\*\*" DISCOVERED

LINE 676

### low SEVERITY

This plugin produces issues to support false positive discovery within mythril.

### Source File

- AiDistrict.sol

### Locations

```
675 uint256 _marketing,  
676 uint256 _treasury,  
677 uint256 _liquidity  
678 ) external onlyOwner {  
679 taxes = Taxes(_marketing, _treasury, _liquidity);  
680
```

# SWC-101 | ARITHMETIC OPERATION "+" DISCOVERED

LINE 683

## low SEVERITY

This plugin produces issues to support false positive discovery within mythril.

## Source File

- AiDistrict.sol

## Locations

```
682
683     function SetSellTaxes(
684         uint256 _marketing,
685         uint256 _treasury,
686         uint256 _liquidity
687     )
```

# SWC-101 | ARITHMETIC OPERATION "+" DISCOVERED

LINE 683

## low SEVERITY

This plugin produces issues to support false positive discovery within mythril.

## Source File

- AiDistrict.sol

## Locations

```
682
683  function SetSellTaxes(
684      uint256 _marketing,
685      uint256 _treasury,
686      uint256 _liquidity
687
```

# SWC-101 | ARITHMETIC OPERATION "+" DISCOVERED

LINE 692

## low SEVERITY

This plugin produces issues to support false positive discovery within mythril.

## Source File

- AiDistrict.sol

## Locations

```
691
692 function updateRouterAndPair(address newRouter, address newPair) external onlyOwner
{
693     router = IRouter(newRouter);
694     pair = newPair;
695 }
696
```

## SWC-101 | ARITHMETIC OPERATION "+" DISCOVERED

LINE 692

### low SEVERITY

This plugin produces issues to support false positive discovery within mythril.

### Source File

- AiDistrict.sol

### Locations

```
691
692  function updateRouterAndPair(address newRouter, address newPair) external onlyOwner
    {
693    router = IRouter(newRouter);
694    pair = newPair;
695  }
696
```

# SWC-101 | ARITHMETIC OPERATION "\*" DISCOVERED

LINE 723

## low SEVERITY

This plugin produces issues to support false positive discovery within mythril.

## Source File

- AiDistrict.sol

## Locations

```
722     coolDownEnabled = state;
723     require(time <= 300, "cooldown timer cannot exceed 5 minutes");
724 }
725
726 function updateExemptFee(address _address, bool state) external onlyOwner {
727
```

# SWC-101 | ARITHMETIC OPERATION "++" DISCOVERED

LINE 736

## low SEVERITY

This plugin produces issues to support false positive discovery within mythril.

## Source File

- AiDistrict.sol

## Locations

```
735
736 function updateMaxTxLimit(uint256 maxBuy, uint256 maxSell, uint256 maxWallet)
external onlyOwner {
737     require(maxBuy >= 1e6, "Cannot set max buy amount lower than 0.1%");
738     require(maxSell >= 1e6, "Cannot set max sell amount lower than 0.1%");
739     require(maxWallet >= 1e6, "Cannot set max wallet amount lower than 1%");
740
```

# SWC-101 | ARITHMETIC OPERATION "\*" DISCOVERED

LINE 742

## low SEVERITY

This plugin produces issues to support false positive discovery within mythril.

## Source File

- AiDistrict.sol

## Locations

```
741     maxSellLimit = maxSell * 10**decimals();
742     maxWalletLimit = maxWallet * 10**decimals();
743 }
744
745 function rescueBNB(uint256 weiAmount) external onlyOwner {
746
```



# SWC-101 | ARITHMETIC OPERATION "\*\*" DISCOVERED

LINE 742

## low SEVERITY

This plugin produces issues to support false positive discovery within mythril.

## Source File

- AiDistrict.sol

## Locations

```
741     maxSellLimit = maxSell * 10**decimals();
742     maxWalletLimit = maxWallet * 10**decimals();
743 }
744
745 function rescueBNB(uint256 weiAmount) external onlyOwner {
746
```

# SWC-101 | ARITHMETIC OPERATION "\*" DISCOVERED

LINE 745

## low SEVERITY

This plugin produces issues to support false positive discovery within mythril.

## Source File

- AiDistrict.sol

## Locations

```
744
745     function rescueBNB(uint256 weiAmount) external onlyOwner {
746         payable(owner()).transfer(weiAmount);
747     }
748
749
```

# SWC-101 | ARITHMETIC OPERATION "\*\*" DISCOVERED

LINE 745

## low SEVERITY

This plugin produces issues to support false positive discovery within mythril.

## Source File

- AiDistrict.sol

## Locations

```
744
745     function rescueBNB(uint256 weiAmount) external onlyOwner {
746         payable(owner()).transfer(weiAmount);
747     }
748
749
```

# SWC-101 | ARITHMETIC OPERATION "\*" DISCOVERED

LINE 745

## low SEVERITY

This plugin produces issues to support false positive discovery within mythril.

## Source File

- AiDistrict.sol

## Locations

```
744
745 function rescueBNB(uint256 weiAmount) external onlyOwner {
746 payable(owner()).transfer(weiAmount);
747 }
748
749
```

# SWC-101 | ARITHMETIC OPERATION "\*\*" DISCOVERED

LINE 746

## low SEVERITY

This plugin produces issues to support false positive discovery within mythril.

## Source File

- AiDistrict.sol

## Locations

```
745     function rescueBNB(uint256 weiAmount) external onlyOwner {  
746         payable(owner()).transfer(weiAmount);  
747     }  
748  
749     function rescueBSC20(address tokenAdd, uint256 amount) external onlyOwner {  
750
```

## SWC-103 | A FLOATING PRAGMA IS SET.

LINE 16

### low SEVERITY

The current pragma Solidity directive is `""^0.8.18""`. It is recommended to specify a fixed compiler version to ensure that the bytecode produced does not vary between builds. This is especially important if you rely on bytecode-level verification of the code.

### Source File

- AIDistrict.sol

### Locations

```
15  abstract contract Context {
16  function _msgSender() internal view virtual returns (address) {
17  return msg.sender;
18  }
19
20
```

## SWC-110 | OUT OF BOUNDS ARRAY ACCESS

LINE 636

### low SEVERITY

The index access expression can cause an exception in case of use of invalid array index value.

### Source File

- AiDistrict.sol

### Locations

```
635
636   _approve(address(this), address(router), tokenAmount);
637
638   // make the swap
639   router.swapExactTokensForETHSupportingFeeOnTransferTokens(
640
```

## SWC-110 | OUT OF BOUNDS ARRAY ACCESS

LINE 638

### low SEVERITY

The index access expression can cause an exception in case of use of invalid array index value.

### Source File

- AiDistrict.sol

### Locations

```
637
638 // make the swap
639 router.swapExactTokensForETHSupportingFeeOnTransferTokens(
640 tokenAmount,
641 0,
642
```



## SWC-110 | OUT OF BOUNDS ARRAY ACCESS

LINE 736

### low SEVERITY

The index access expression can cause an exception in case of use of invalid array index value.

### Source File

- AiDistrict.sol

### Locations

```
735
736  function updateMaxTxLimit(uint256 maxBuy, uint256 maxSell, uint256 maxWallet)
external onlyOwner {
737  require(maxBuy >= 1e6, "Cannot set max buy amount lower than 0.1%");
738  require(maxSell >= 1e6, "Cannot set max sell amount lower than 0.1%");
739  require(maxWallet >= 1e6, "Cannot set max wallet amount lower than 1%");
740
```

## SWC-120 | POTENTIAL USE OF "BLOCK.NUMBER" AS SOURCE OF RANDOMNESS.

LINE 545

### low SEVERITY

The environment variable "block.number" looks like it might be used as a source of randomness. Note that the values of variables like coinbase, gaslimit, block number and timestamp are predictable and can be manipulated by a malicious miner. Also keep in mind that attackers know hashes of earlier blocks. Don't use any of those environment variables as sources of randomness and be aware that use of these variables introduces a certain level of trust into miners.

### Source File

- AIDistrict.sol

### Locations

```
544
545 //set fee to zero if fees in contract are handled or exempted
546 if (_interlock || exemptFee[sender] || exemptFee[recipient])
547 fee = 0;
548
549
```

## SWC-120 | POTENTIAL USE OF "BLOCK.NUMBER" AS SOURCE OF RANDOMNESS.

LINE 705

### low SEVERITY

The environment variable "block.number" looks like it might be used as a source of randomness. Note that the values of variables like coinbase, gaslimit, block number and timestamp are predictable and can be manipulated by a malicious miner. Also keep in mind that attackers know hashes of earlier blocks. Don't use any of those environment variables as sources of randomness and be aware that use of these variables introduces a certain level of trust into miners.

### Source File

- AIDistrict.sol

### Locations

```
704 function updateddeadline(uint256 _deadline) external onlyOwner {
705     require(!tradingEnabled, "Can't change when trading has started");
706     require(_deadline < 5, "Deadline should be less than 5 Blocks");
707     deadline = _deadline;
708 }
709
```

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