

actually no realization but duck typing

Whitelist
+isWhitelisted(_account:address): bool const

WhitelistInterface
+isWhitelisted(_account:address): bool const

Ownable
+owner: address
<<event>> OwnershipTransferred(owner: address, newOwner: address)
<<modifier>> onlyOwner()
+disable()
+transferOwnership(newOwner: address) onlyOwner

SafeMath
+mul(a:uint,b:uint): uint const
+div(a:uint,b:uint): uint const
+sub(a:uint,b:uint): uint const
+add(a:uint,b:uint): uint const

ERC20Basic
<<event>> Transfer(from:address,to:address,value:uint)
+totalSupply(): uint const
+balanceOf(who:address): uint const
+transfer(to:address,value:uint): bool

Pausable
+paused: bool = false
<<event>> Pause()
<<event>> Unpause()
<<modifier>> whenNotPaused()
+pause() onlyOwner
+unpause() whenNotPaused

Crowdsale
+token: ERC28
+wallet: address
+paused: uint
<<event>> TokenPurchase(purchaser:address, beneficiary:address, value:uint,amount:uint)
+crowdsale(_rate:uint,_wallet:address,_token:ERC20) payable
+buyTokens(_beneficiary:address) payable
+preValidatePurchase(_beneficiary:address, _preValidatePurchase(_beneficiary:address, _weiAmount:uint) res, #_postValidatePurchase(_beneficiary:address, _weiAmount:uint) res, #_deliverTokens(_beneficiary:address, _tokenAmount:uint) #_processPurchase(_beneficiary:address, _tokenAmount:uint) #_updatePurchasingState(_beneficiary:address, #_getTokenAmount(_weiAmount): uint const #_forwardFunds()

BasicToken
+balances: {address->uint}
+totalSupply(): uint
+totalSupply(): uint const
+balanceOf(_owner:address): uint const

ERC20
<<event>> Approval(owner:address,spender:address,value:uint)
+allowance(owner:address,spender:address): uint const
+transferFrom(from:address,to:address,value:uint): bool
+approve(spender:address,value:uint): bool

StandardToken
+allowed: {address->uint}
+transferFrom(from:address,to:address,value:uint): bool
+approve(_spender:address,_value:uint): bool
+allowance(_owner:address,_spender:address): uint const
+increaseApproval(_spender:address,_addedValue:uint): bool
+decreaseApproval(_spender:address,_subtractedValue:uint): bool

BurnableToken
<<event>> Burn(burner:address,value:uint)
+burn(_value:uint)
+burn(_who:address,_value:uint)

MintedCrowdsale
#_deliverTokens(_beneficiary:address,_tokenAmount:uint)

TimedCrowdsale
+openingTime: uint
+closingTime: uint
<<modifier>> onlyWhileOpen()
+TimedCrowdsale(_openingTime:uint,_closingTime:uint)
+finalize(_beneficiary:address,_weiAmount:uint) #_preValidatePurchase(_beneficiary:address, _weiAmount:uint) onlyWhileOpen

MintableToken
+mintFinished: bool = false
<<event>> Mint(to:address,amount:uint)
<<event>> MintFinished()
<<modifier>> canMint()
+mint(to:address,_amount:uint): bool
+finishMinting(): bool
onlyOwner
canMint

PausableToken
+transfer(_to:address,_value:uint): bool
+transferFrom(_from:address,_to:address,_value:uint): bool
+approve(_spender:address,_value:uint): bool
+increaseApproval(_spender:address,_addedValue:uint): bool
+decreaseApproval(_spender:address,_subtractedValue:uint): bool
whenNotPaused

StandardBurnableToken
+burnFrom(_from:address,_value:uint)

CappedToken
+cap: uint
+CappedToken(_cap:uint)
+mint(_to:address,_amount:uint): bool
onlyOwner
canMint

FinalizableCrowdsale
+isFinalized: bool = false
<<event>> Finalized()
+finalize() onlyOwner
+finalize()

VreoTokenPresale
+TOKEN_CAP: uint = 450000000e18
+TOKEN_CAP: uint = 450000000e18
+TEAM_TOKEN_SHARE: uint = 85000000e18
+ADVISORS_TOKEN_SHARE: uint = 50000000e18
+LEGAL_TOKEN_SHARE: uint = 57000000e18
+INVESTORS_TOKEN_SHARE: uint = 50000000e18
+Bounty: VreoTokenBounty
+Investors: (address->Investor)
<<event>> RateChanged(newRate:uint)
<<event>> InvestorValidated(Investor:address)
<<event>> InvestorInvalidated(Investor:address)

VreoTokenSale
+TOTAL_TOKEN_CAP: uint = 450000000e18
+TOTAL_TOKEN_CAP: uint = 450000000e18
+TEAM_TOKEN_SHARE: uint = 85000000e18
+ADVISORS_TOKEN_SHARE: uint = 50000000e18
+LEGAL_TOKEN_SHARE: uint = 57000000e18
+INVESTORS_TOKEN_SHARE: uint = 50000000e18
+Bounty: VreoTokenBounty
+Investors: (address->Investor)
<<event>> RateChanged(newRate:uint)
<<event>> InvestorValidated(Investor:address)
<<event>> InvestorInvalidated(Investor:address)

VreoTokenBounty
+token: VreoToken
<<event>> TokensDistributed(recipient:address, amount:uint)
+constructor(_token:VreoToken)
+distributeTokens(_recipients:address[], _amounts:uint[])
onlyOwner

VreoToken
+name: string = "Vreo MTC"
+symbol: string = "MTC"
+decimals: uint8 = 18
+minters: (address->bool)
<<event>> MinterAdded(minter:address)
<<event>> MinterRemoved(minter:address)
+constructor()
+addMinter(_minter:address)
+removeMinter(_minter:address)
+mint(_to:address,_amount:uint): bool
onlyMinter
canMint



