Programmeertheorie Project - Design Document

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The name of our group is 'Stadplanning AMS' and we will study the case 'Amstelhaege'.

1.
A list of classes and functions/methods (and their return types and/or arguments).

Classes and their associated methods we would like to implement:

class: house		**Notes:**
methods:		
	def __init__	**Arguments:** area type value bonus
	def getHousePosition	Returns position of house (center of house).
	def setHousePosition	Sets a house on a location in the area.
	def updatePosition	→ check if location is available → set house at position

class: low (subclass of house)
class: medium (subclass of house)
class: big (subclass of house) **Notes:**

methods:

def __init__

def getVrijstand

Returns available vrijstand of house?

class: position **Notes:**

methods:

def __init__ **Arguments:**
xPosition
yPosition

def getX

Returns x position.

def getY

Returns y position.

def getNewPosition

Returns a new position.

class: land **Notes:**

methods:

def __init__ **Arguments:**
width
depth

→ save house position in list with tuple
tuple is in format (positionX,positionY,houseType)

def markLandAtPosition

Marks location as occupied.

def checkPosition

Checks whether position is available.

def getTotalVrijstand

Returns total vrijstand.

def getRandomPosition

Returns a random new position.

def isPositionInLand

Checks whether position is in area.

Moreover a visualization (def visualization) function has to be implemented to visualize the area with the location of houses in this area. Finally a simulation function has to be build in which we implement the optimization algorithm.

2.
Your choice of representations.

Classes and functions.

3.
What functionality you want to implement. For instance, you might want to write results to a text file, or maybe even build some kind of (graphical) user interface.

For now, we only implement a simple GUI to visualize the location of houses in the area. Results do not have to be written to a text file.