

# Garden Gem Final Project

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05 May 2019



# Agenda

- Problem & Work Context : <2min
- Objectives : ~1min
- Results : ~3min
- Conclusions & Further Work : ~2min



# Problem & Work Context

Urban agriculture is performed under specific conditions that require technologies different to those used in the rural context. Such specific conditions include among others:

- 1) Limited availability of space and the high price of urban land, proximity to large numbers of people (and thus a need for safe production methods),
- 2) use of urban resources (organic waste and wastewater), and
- 3) possibilities for direct producer-consumer contacts.



Food policies require training citizens about new lifestyles

# Objectives

Help urban gardeners in order to assist them in the correct development and maintenance of their urban gardens.

Economical goal: For the average citizen, growing vegetables locally saves money and selling the produce (fresh or processed) brings in resources.

Social goal: Urban agriculture play an important role for poverty alleviation and social integration.



Environmental goal: Urban agriculture enhances the diversity and distribution of food products through processes that reuse resources

# Results

## Development of the mobile application

The app is able record data about growing plants in order to monitor the growing conditions and make the plants grow better, and identify potential issues during the growing process.


Concentrating in the three pillars of sustainability



# Results (continued)

**Past actions**

23 Jan  
81/22f



**Watered** 15h ago (-0d)  
23/01/2019 18:25  
In pH: 5.6  
PPM: 731  
Additives:

- Canna a - 3ml/l
- Canna b - 3ml/l
- Rhizotonic - 0.5ml/l
- Canna zym - 2.5ml/l
- Canna boost - 3ml/l
- Topmax - 2ml/l
- Pk 13/14 - 1.5ml/l

**Feeding Amnesia X OG**

**Water details**

<b>Water PH</b>	<b>PPM</b>	<b>Runoff</b>
5.6	731	6.4

<b>Amount (l)</b>	<b>Temp (°C)</b>
10	15.6

**Date and time**

<b>Date</b>	<b>NOW</b>
23/01/2019 18:25	

09:28

All

**Afghan Kush x Black Domina**  
World Of Seeds - Harvested

**White Widow**  
White Widow - Planted 116 days ago / 17c  
Last watered: 3w ago  
**5.4 PH**  
+ 15.0ml additives

**Amnesia X OG**  
Royal Queen Amnesia X OG - Planted 81 days ago / 23f  
Last watered: 15h ago  
**5.6 PH**  
+ 15.5ml additives

**Super Skunk**  
Nirvana - Planted 25 days ago / 14v  
Last watered: 14h ago  
**5.6 PH**  
+ 10.5ml additives

**Bubblelicious 2**  
Nirvana - Planted 25 days ago / 14v  
Last watered: 14h ago  
**5.6 PH**  
+ 10.5ml additives

+



# Conclusions & Further Work

A growing number of cities are designing policies and programmes on urban agriculture

- Urban agriculture has the potential to become a dynamic economic sector that quickly adapts to changing urban conditions and demands
- The sustainability of urban agriculture is closely related to its contributions to the development of a sustainable and resilient city that is socially inclusive, food-secure, productive and environmentally-healthy.
- Another related project that represents an important ally is OpenAg Initiative of the MIT with a Personal Food Computer (PFC)
- Legal advice and permits will be required for public gardens







# References

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