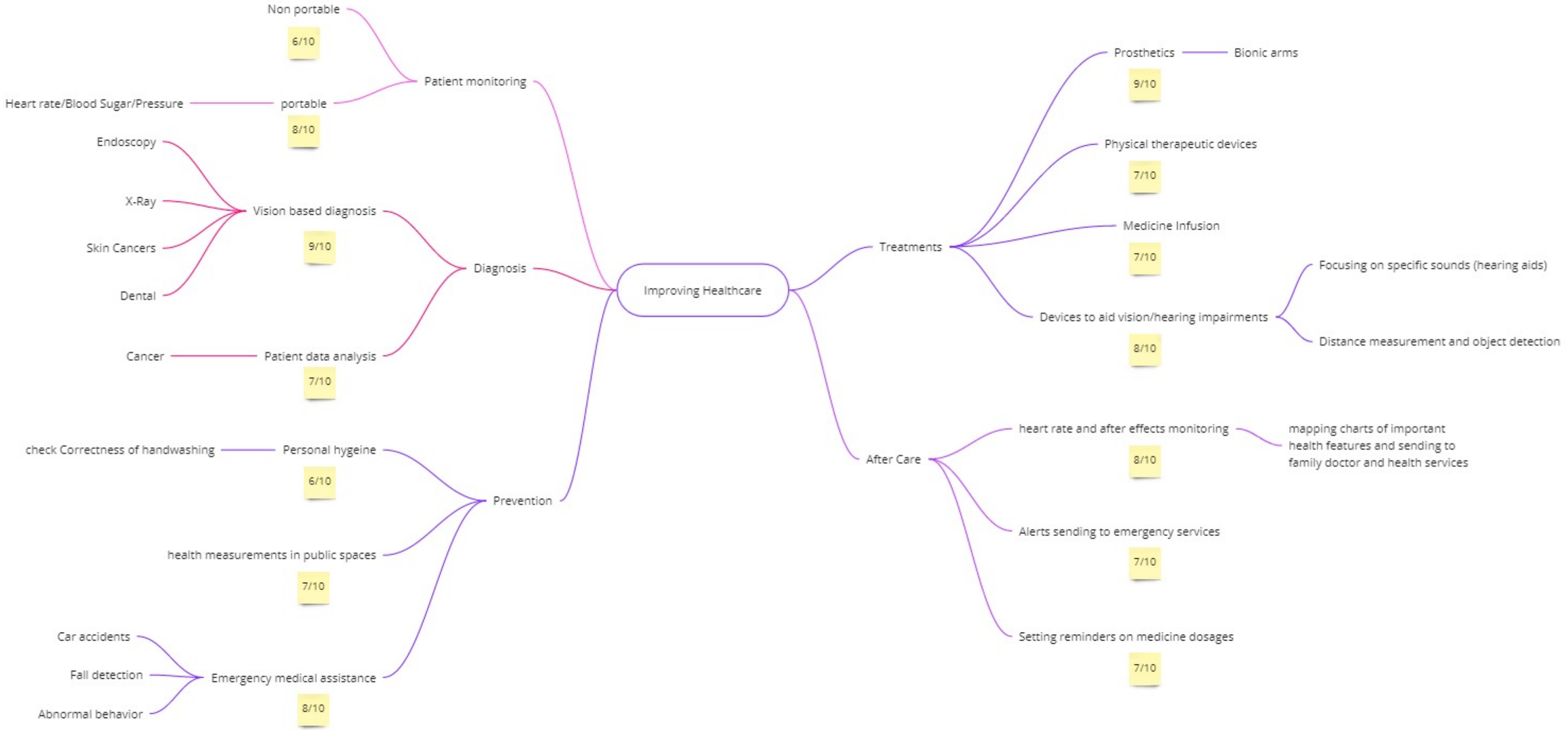
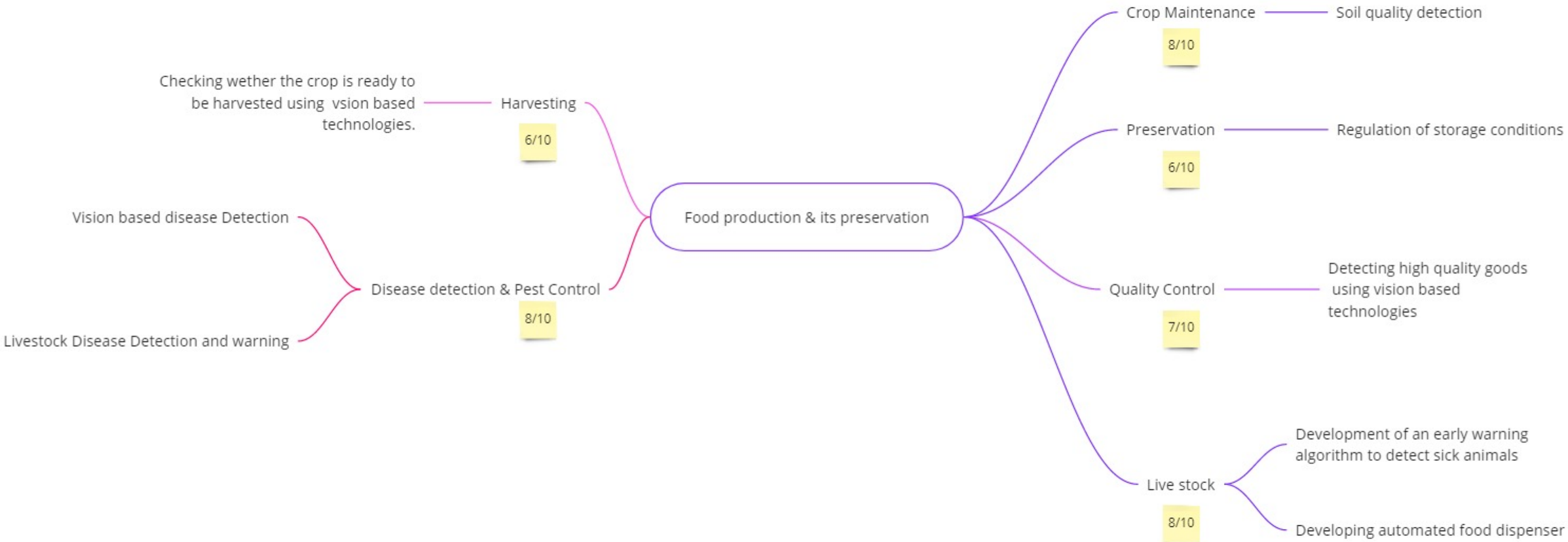
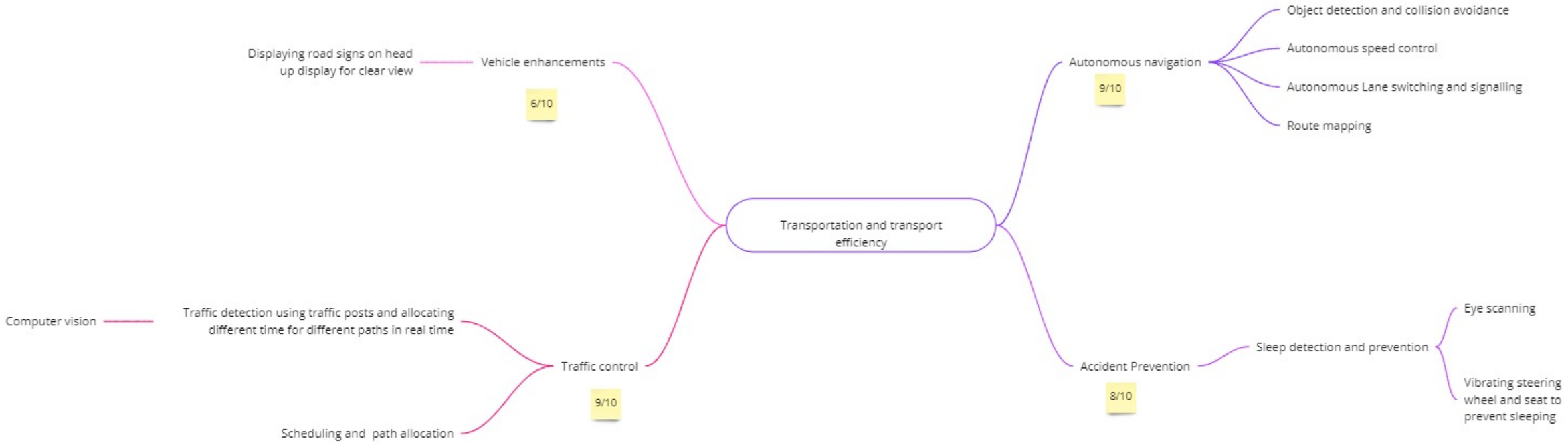

Improving Healthcare
Patient monitoring
Non portable
6/10
portable
8/10
Heart rate/Blood Sugar/Pressure
Diagnosis
Vision based diagnosis
9/10
Endoscopy
X-Ray
Skin Cancers
Dental
Patient data analysis
7/10
Cancer
Prevention
Personal hygeine
6/10
check Correctness of handwashing
health measurements in public spaces
7/10
Emergency medical assistance
8/10
Car accidents
Fall detection
Abnormal behavior
Treatments
Prosthetics
9/10
Bionic arms
Physical therapeutic devices
7/10
Medicine Infusion
7/10
Devices to aid vision/hearing impairments
8/10
Focusing on specific sounds (hearing aids)
Distance measurement and object detection
After Care
heart rate and after effects monitoring
8/10
mapping charts of important health features and sending to family doctor and health services
Alerts sending to emergency services
7/10
Setting reminders on medicine dosages
7/10


Food production & its preservation
Harvesting
6/10
Checking wether the crop is ready to be harvested using vsion based technologies.
Disease detection & Pest Control
8/10
Vision based disease Detection
Livestock Disease Detection and warning
Crop Maintenance
8/10
Soil quality detection
Preservation
6/10
Regulation of storage conditions
Quality Control
7/10
Detecting high quality goods using vision based technologies
Live stock
8/10
Development of an early warning algorithm to detect sick animals
Developing automated food dispenser


Transportation and transport efficiency
Vehicle enhancements
6/10
Displaying road signs on head up display for clear view
Traffic control
9/10
Traffic detection using traffic posts and allocating different time for different paths in real time
Computer vision
Scheduling and path allocation
Autonomous navigation
9/10
Object detection and collision avoidance
Autonomous speed control
Autonomous Lane switching and signalling
Route mapping
Accident Prevention
8/10
Sleep detection and prevention
Eye scanning
Vibrating steering wheel and seat to prevent sleeping

Vision based diagnosis
Traditionally diagnostic techniques involve a patient coming into the hospital and consulting a doctor who would then recommend a certain diagnostic test. With vision based diagnosis the intention is to save the time of doctors and to make diagnosis possible without the presence of a doctor as well as to aid in early detection of certain diseases.

From our investigation we found that studies have been done into the use of deep learning techniques in detecting skin cancers such as Melanoma as well as in endoscopies.

Disease detection and pest control
Automatically identify diseases in plants and animals in order to improve food production. Current solution use computer vision and deep leaning in order to identify diseases. Early warnings of outbreaks can help to control its spread.

Portable Patient Monitoring
Some patients might require constant monitoring of certain medical parameters such as heart rate, blood pressure and blood sugar levels and a portable system that continously monitors one or more of these factors would greatly assist the quality of care of such patients. Currently existing solutions are expensive and a low cost effective alternative could have a large impact

Devices to aid vision/hearing impairments
Current devices that exist in the market are very costly and may be difficult to acquire for most people. Our goal is to create a low cost solution that is good in quality.

Traffic Control
Congestion is a major problem especially in urban areas and it is more pronounced at junctions with traffic lights.

By using vision based techniques to analyze traffic density and using that information to control traffic lights could assist in reducing the scale of this problem considerably.