Initial Backlog

Initial backlog is created based on the project proposal as a starting point for the initial design.

From the technical part of process section

Computing `inverse kinematics` is done analytically using the Jacobian method. This involves `inverting the Jacobian` to map the position space to joint space [3]. The planned component functionality is to receive a `target position for the end-effector` in 3D cartesian coordinates and output `joint angles trajectory` for the arm to achieve desired motion to reach the target coordinate. The user provides configuration the configuration of arm such as `DH parameters` and `joint limits` that are necessary for computing inverse kinematics. Resulting joint angles from inverse kinematics solver are fed back into a `forward kinematics` solver to verify the end-effector reaches the input coordinate. Algorithms from the Eigen library will be used for calculating the inverse of jacobian, matrix multiplication to obtain transformation matrix for forward kinematics.

Backlog	Description
Inverse Kinematics	A class that contains methods for computing inverse kinematics
Inverting the Jacobian	A method in IK class that uses this technique to compute
Target position	Input for the IK compute method
Joint angles trajectory	Output from the IK compute method
Arm description	A class that stores arm configuration provided by the user
DH Parameters	A user input that describes the arm configuration
Joint limits	A user input that describes arm joint limits
Forward Kinematics	A class that contains methods for computing forward kinematics