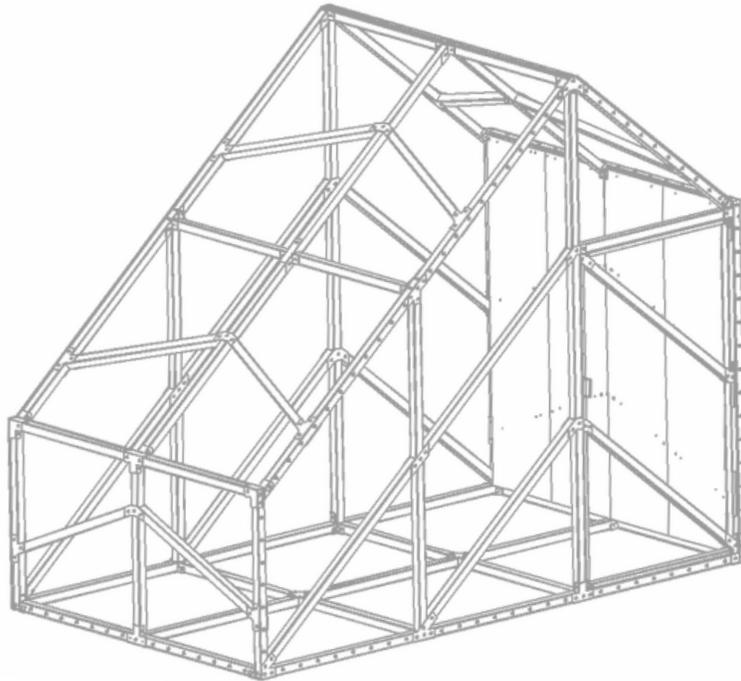




Chaire Fayolle-Magil Construction
en architecture, bâtiment et durabilité

LIVRABLE DU PROCESSUS

V-ALENVERT



YIMING CAI
CAMILLE DAIGNEAULT

DIN3012-A-A24 - ÉCOCONCEPTION

MANDAT

Le mandat du cours est la conception de serres modulaires et écologiques pour des environnements périurbains. Nous devons nous placer en équipes pour développer des solutions innovantes visant à répondre aux besoins croissants en souveraineté alimentaire, tout en considérant des critères écologiques et techniques.

L'objectif principal est de concevoir des systèmes de serres modulaires en bois et aluminium, permettant une installation et un démontage simples dans des espaces autour de maisons ou sur des terrains publics vacants. Nous avons comme critère de conception : utilisation locale de bois et d'aluminium comme matériaux principaux, la modularité et transportabilité, la nécessité d'un minimum d'outils pour l'assemblage, la réduction des déchets de construction, l'intégration d'une approche basée sur le cycle de vie (de la fabrication à la fin de vie).

Résultat attendu : Une installation fonctionnelle et efficace pour la production locale de denrées alimentaires végétales.

OBJECTIFS

Technique

Low-tech
optimisation
modulaire

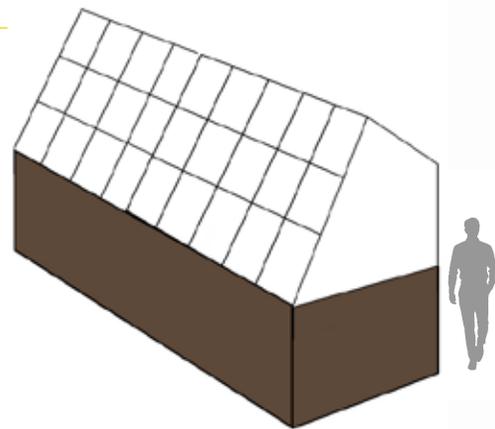
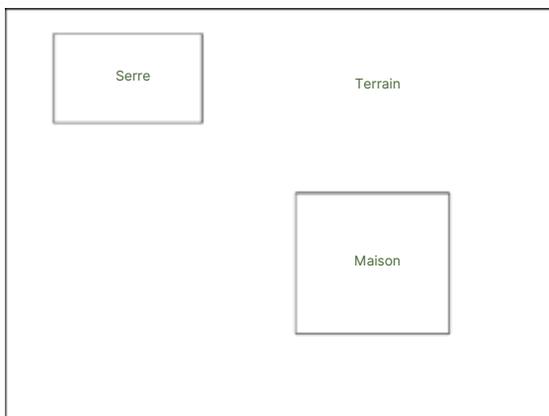
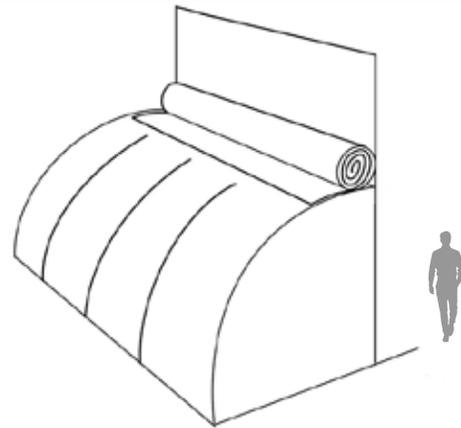
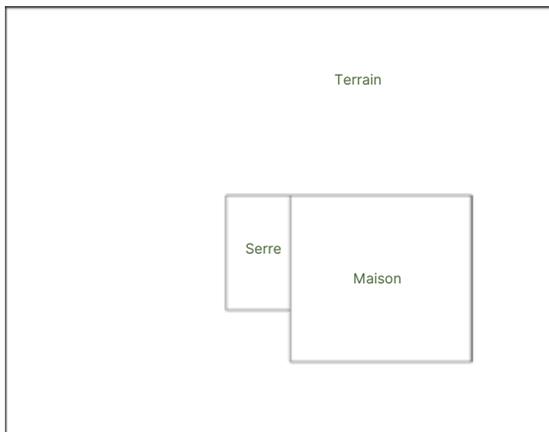
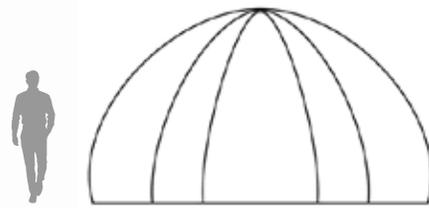
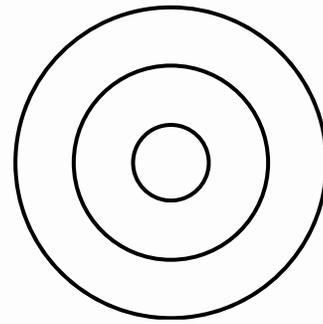
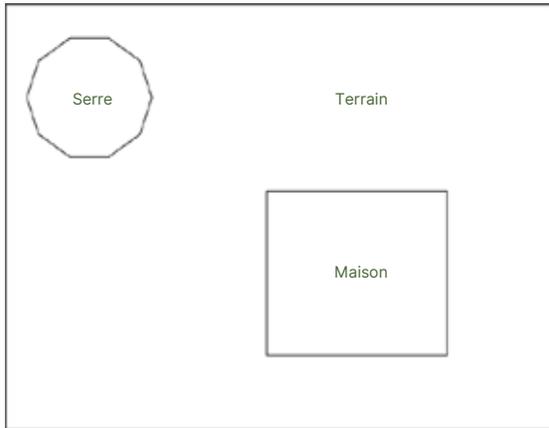
Humain

Autonomie alimentaire
Expérience d'usagers
H-Économie

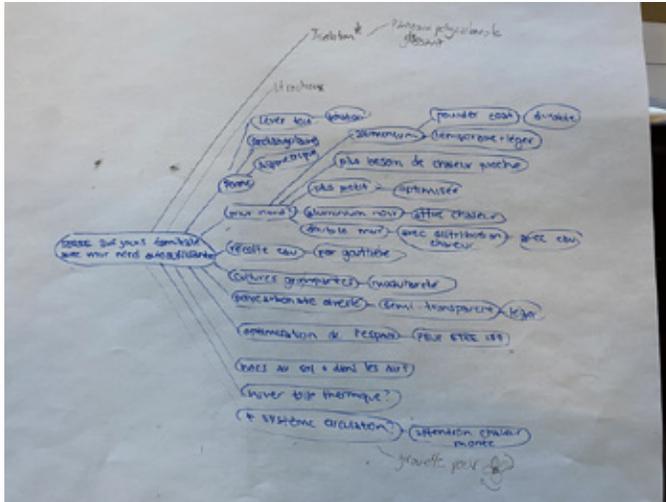
Contexte

Hivernal
C-Économie
Accueillant

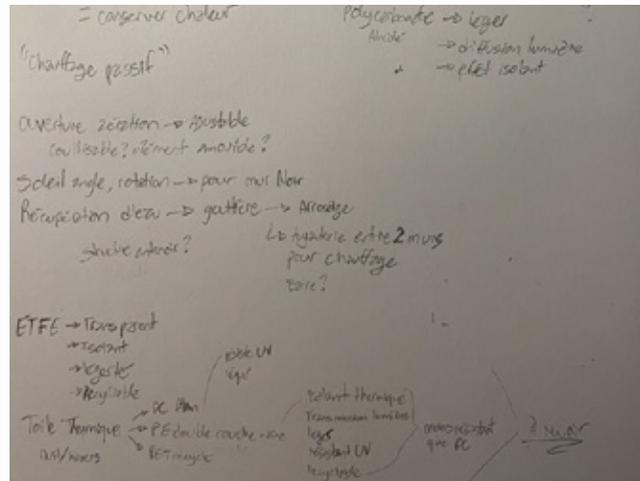
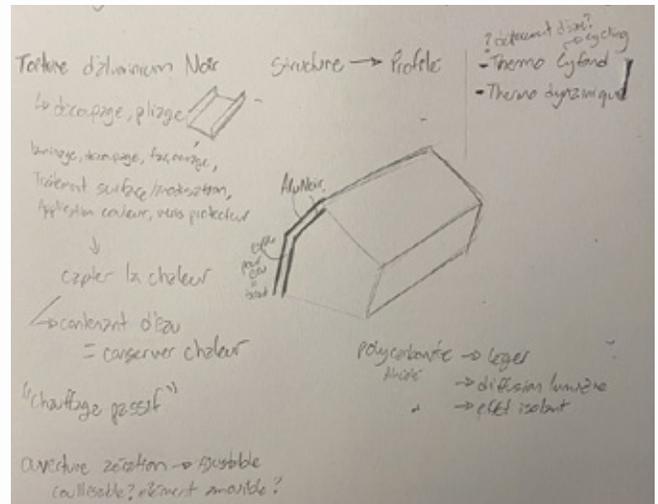
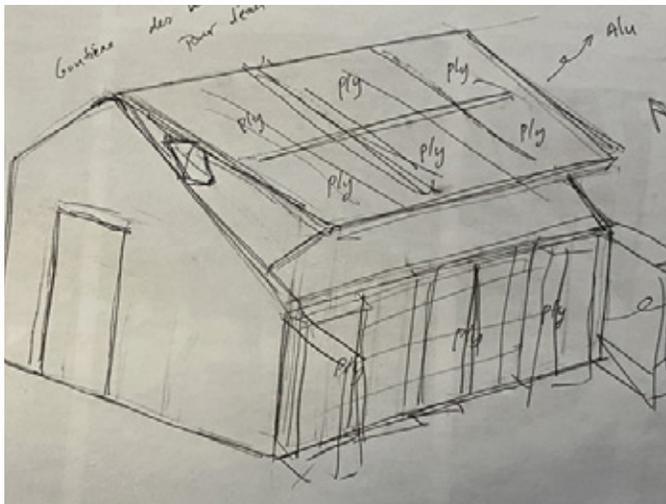
LES TROIS PREMIERS IDÉATION



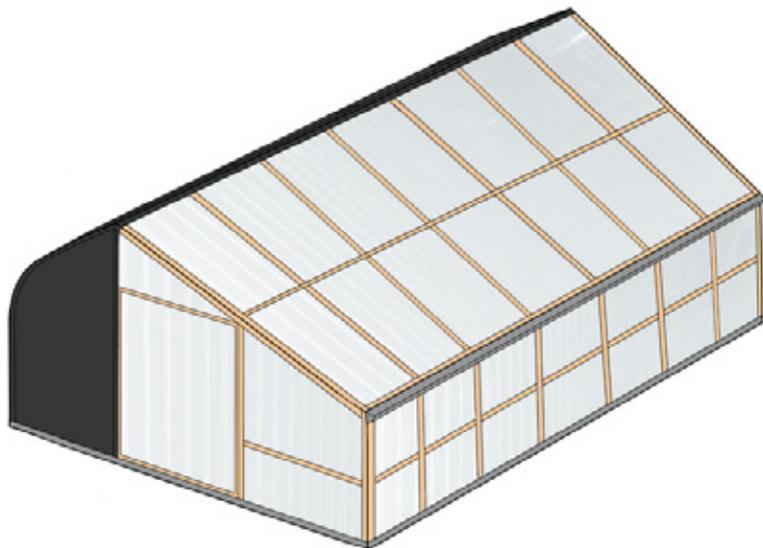
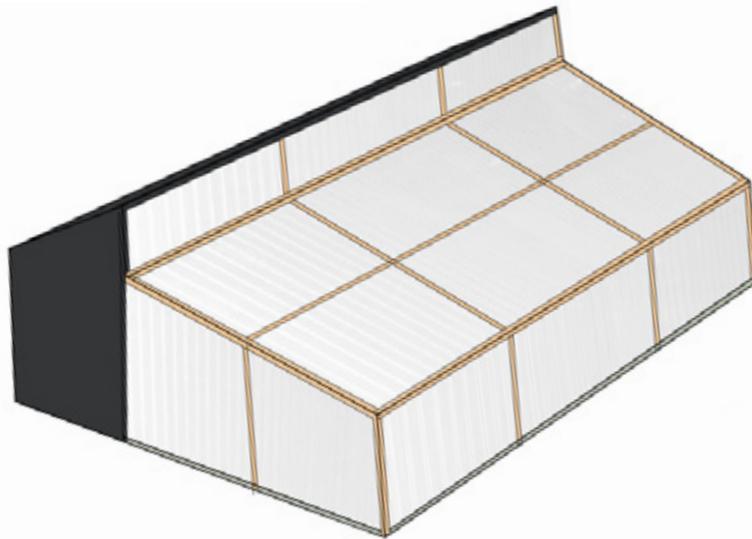
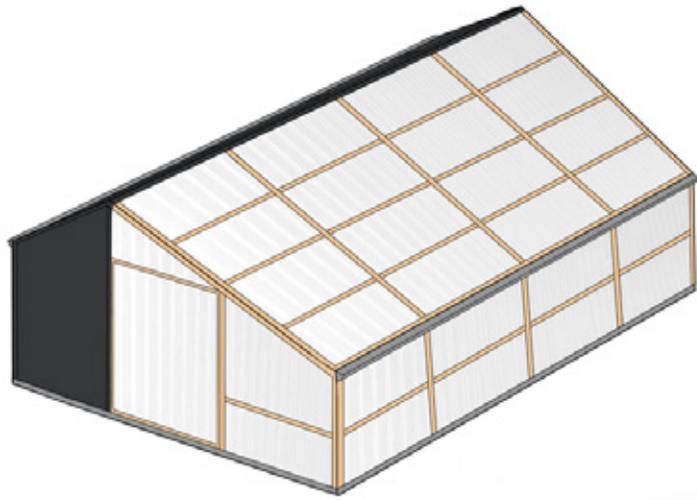
ÉTUDES



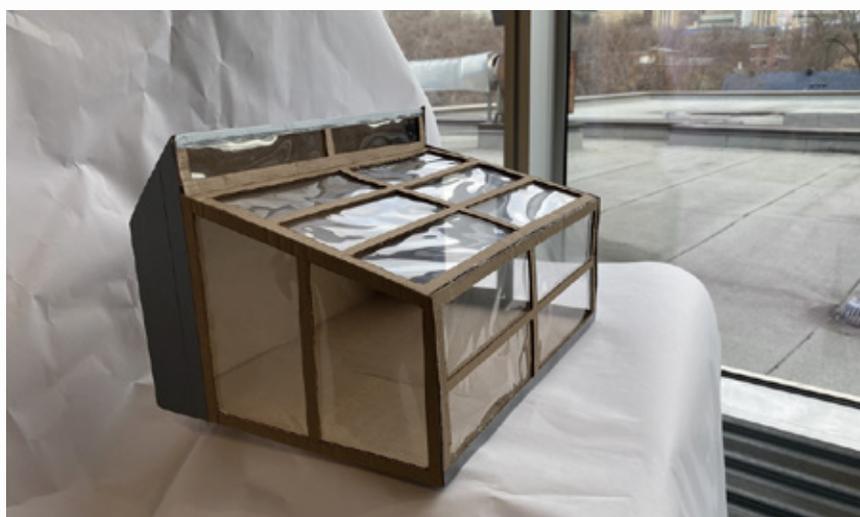
Pourquoi	Avantages	Contraintes
Amovibilité	Optimisation	type motifs
Région de press	robustesse	facile d'accès + maintenance
température de	ce qui dégage	- limite des paramètres (pression, température)
Ne pas pour chaudière	chauffage possible	- sans source
Pole thermique en PC (acier inox)	léger + isolant	- limite à dériver - vite?
Alu/inox/bois	isolant	Plaque de chaleur dans pièce
toit thermique	à la géométrie + air	plaque de chaleur dans pièce
Boitier léger	isolant, léger on chauffe T° intérieure	avec source chaude, grand vent?
Sécher les	moins pertes chaleur	éviter pluie (éviter appauvrissement)
35 Spans	Toujours des légères	chauffer avec vent le fond le + haut



LES TROIS CONCEPTS - 1

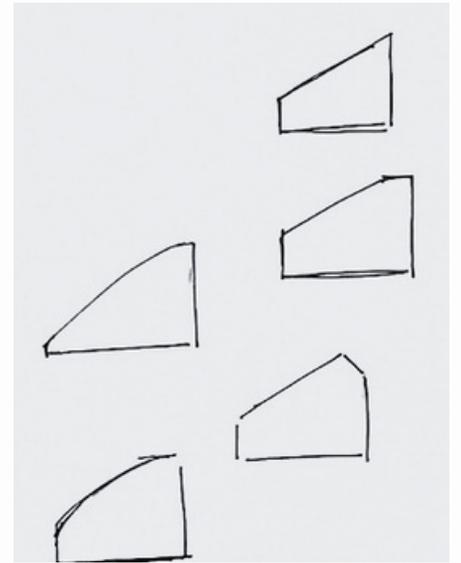
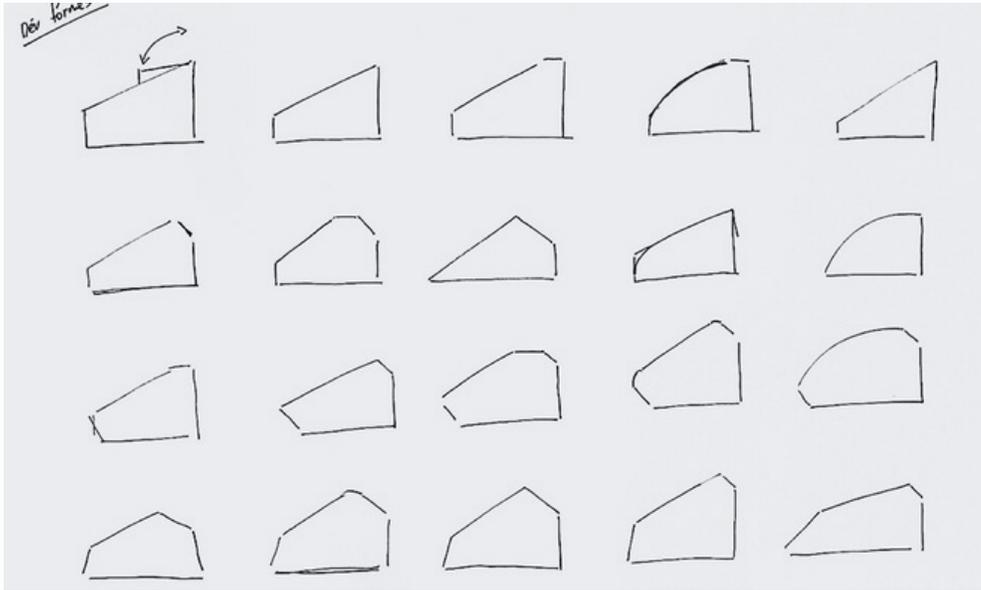


MAQUETTES DE VOLUMES

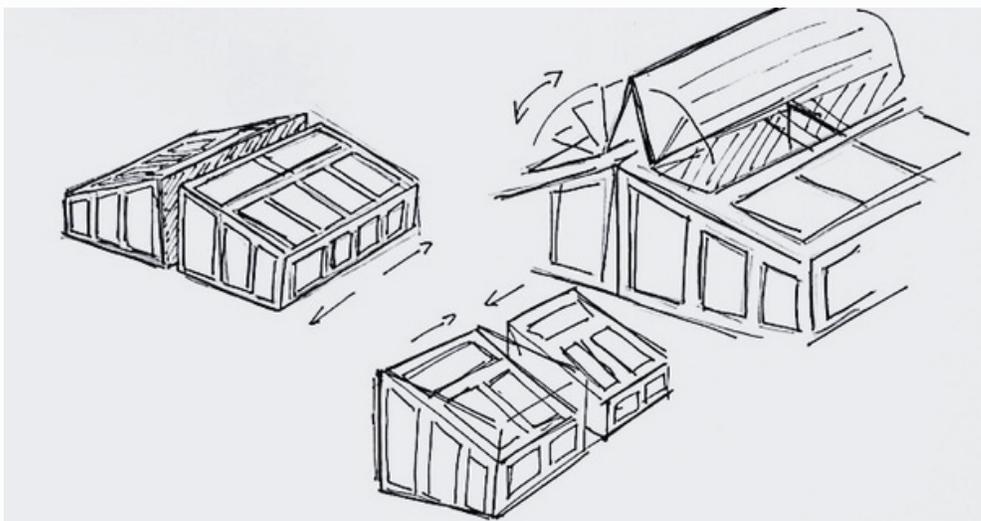
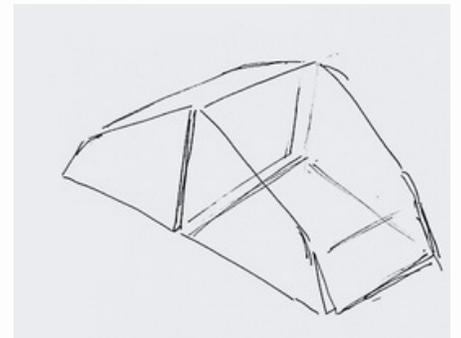
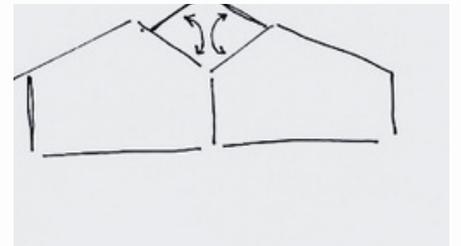
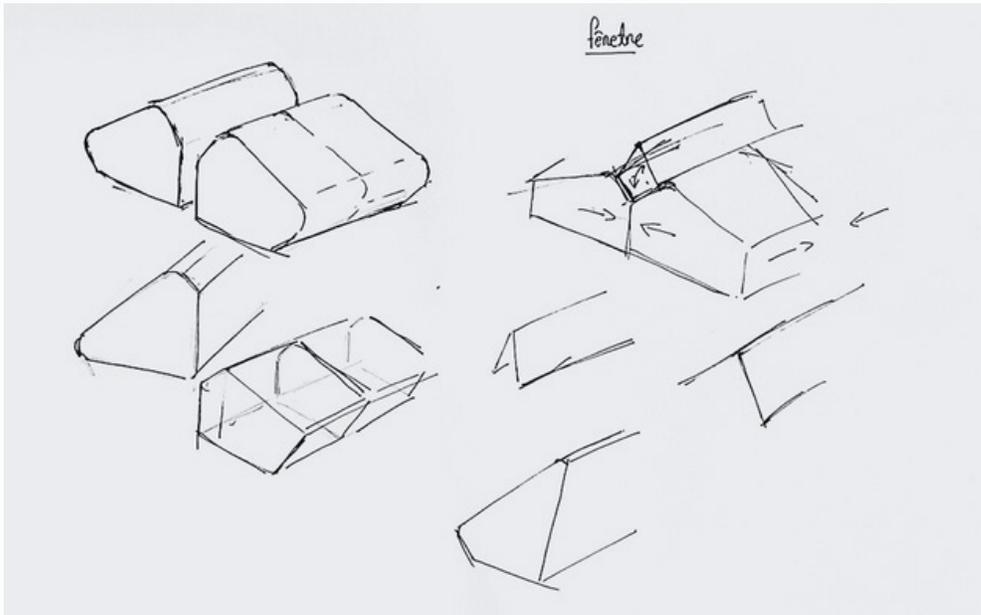


RE-ÉTUDE DE LA FORME

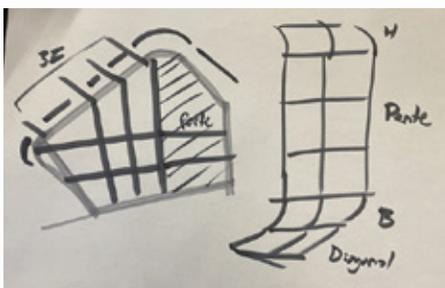
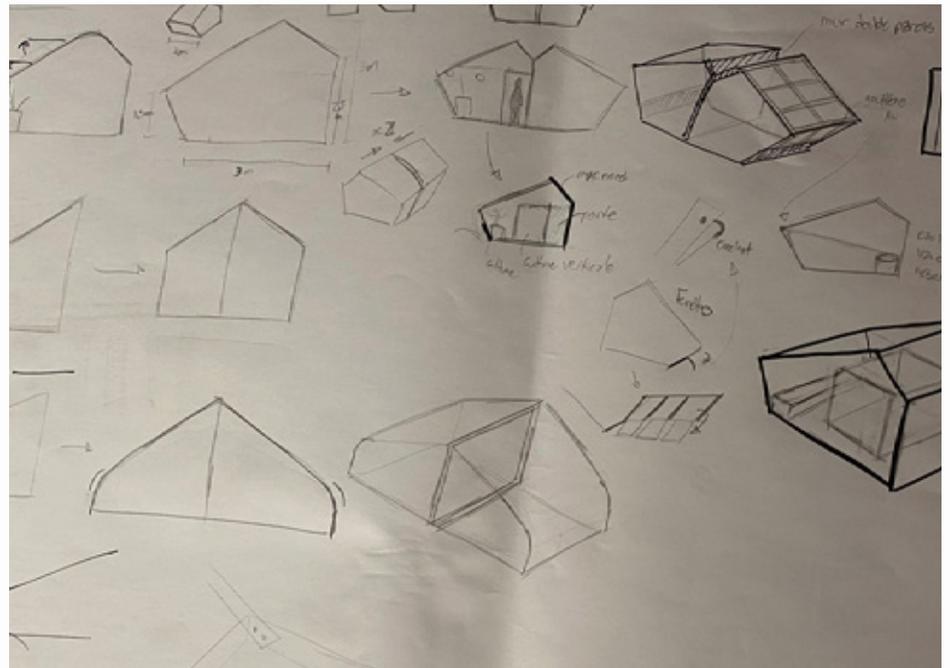
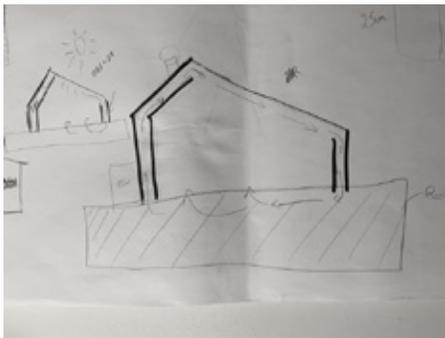
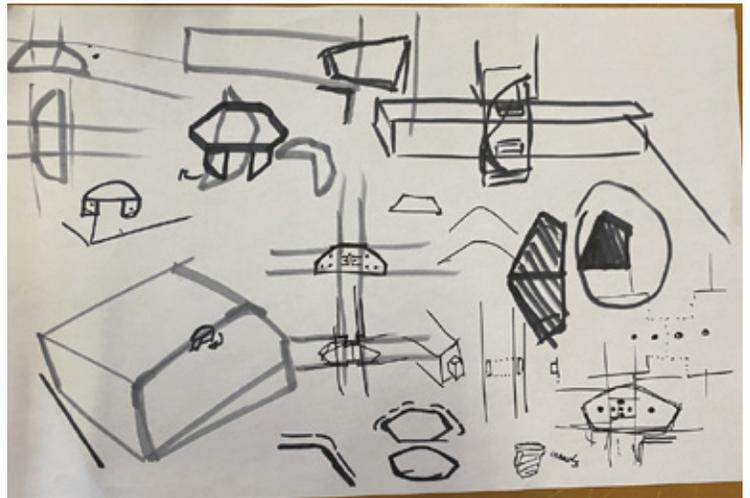
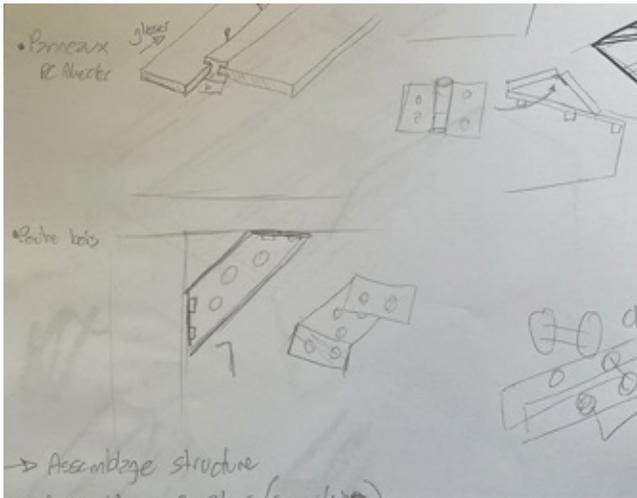
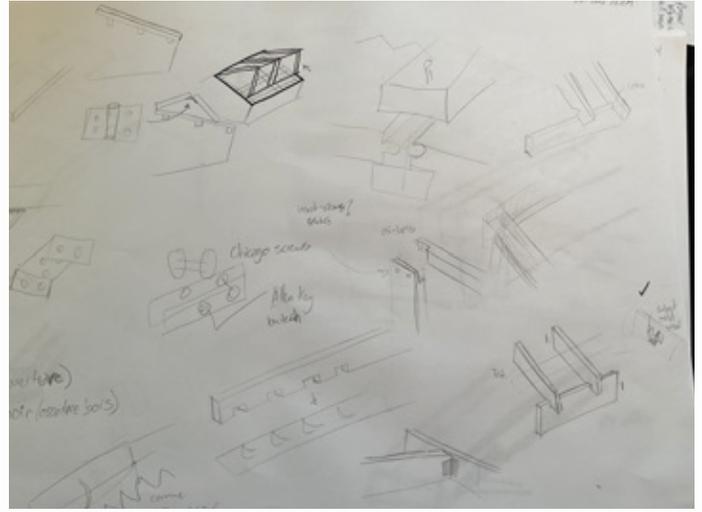
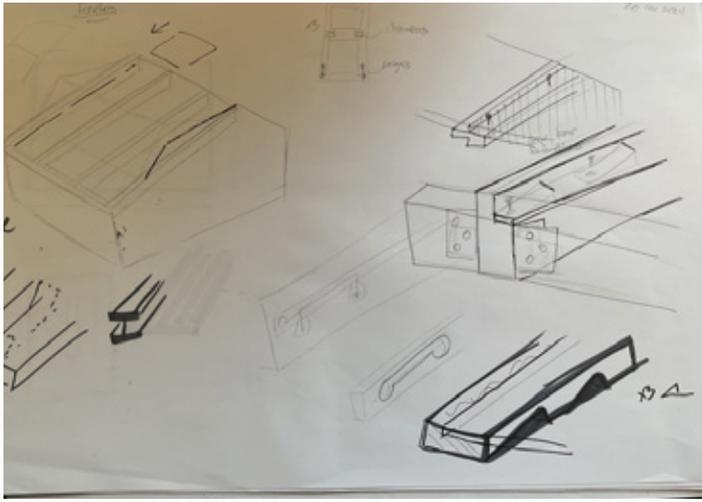
Des formes



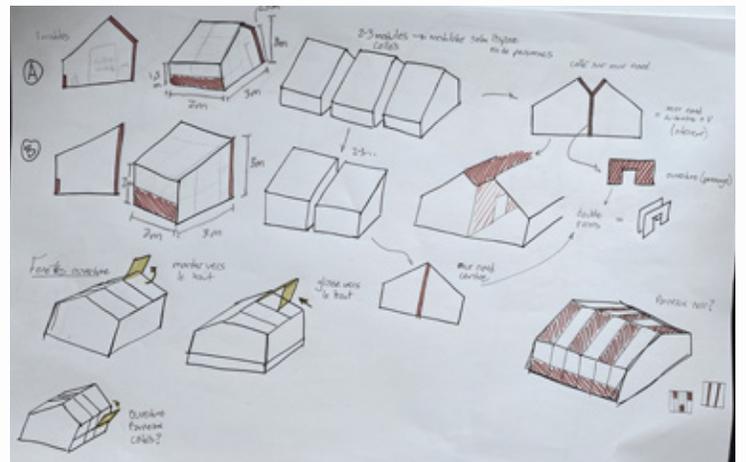
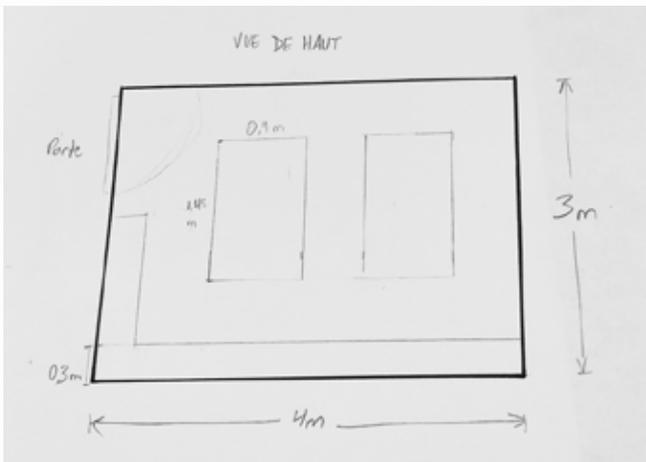
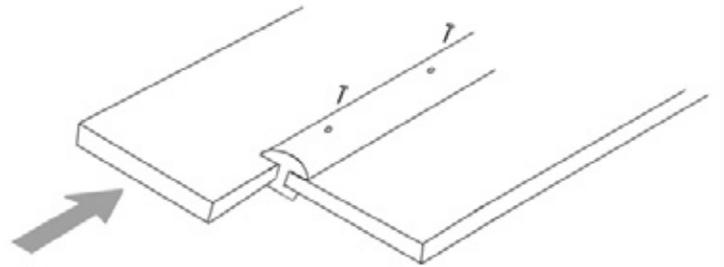
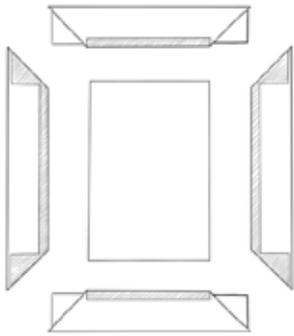
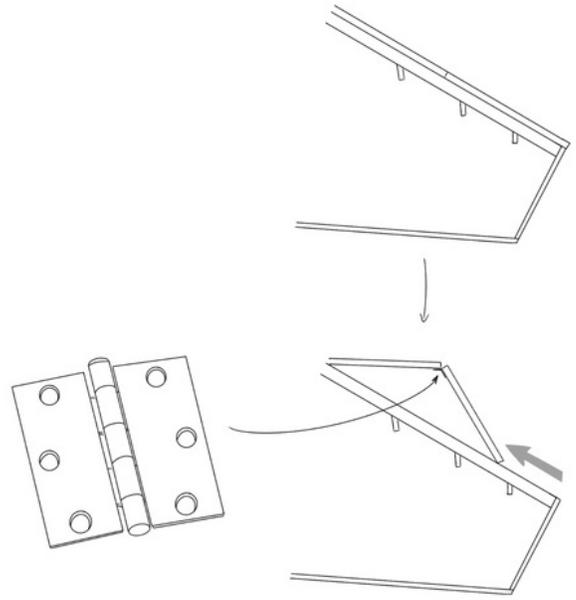
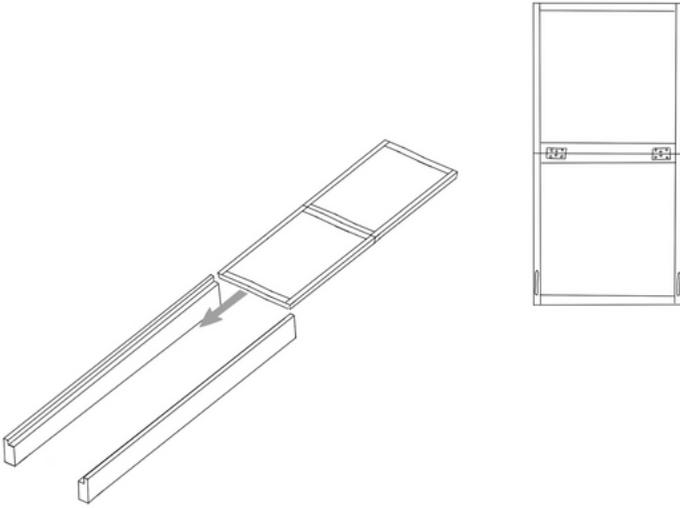
fenêtre



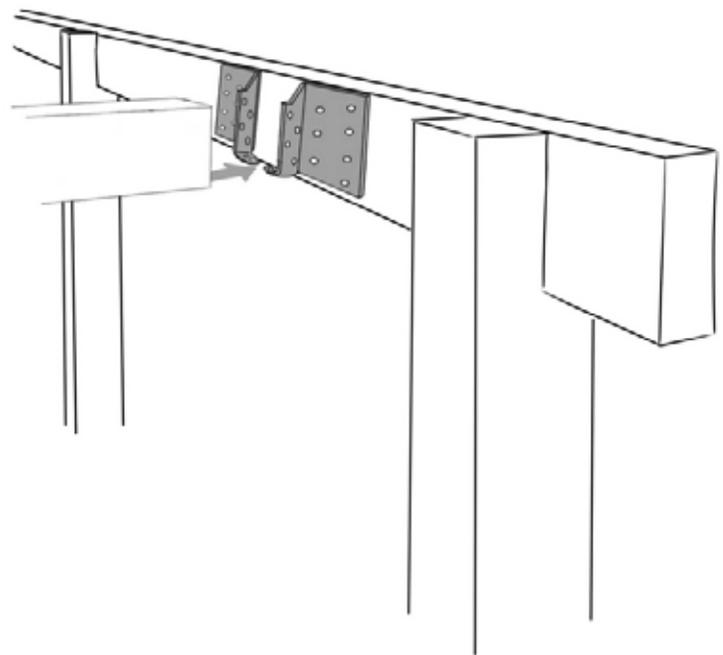
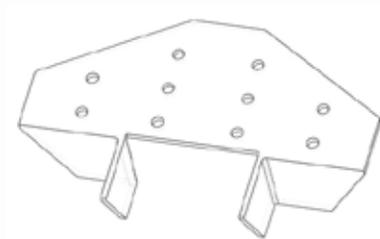
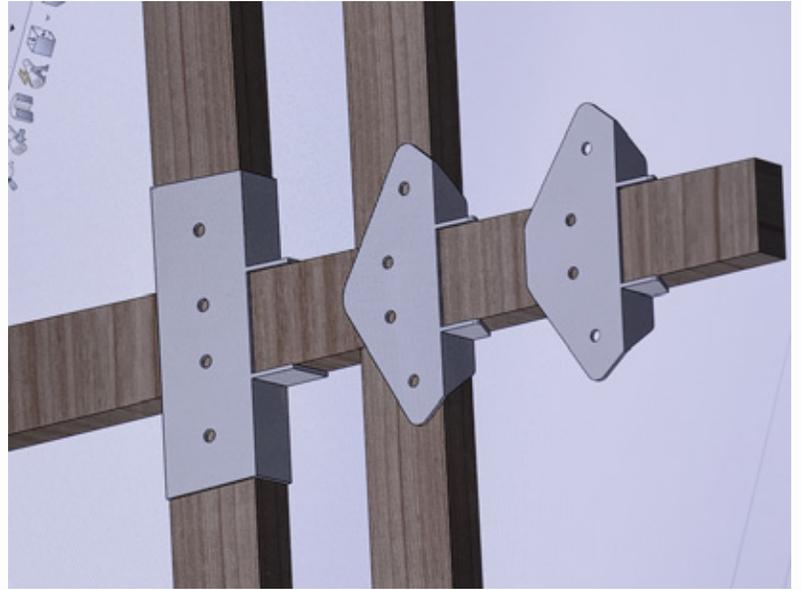
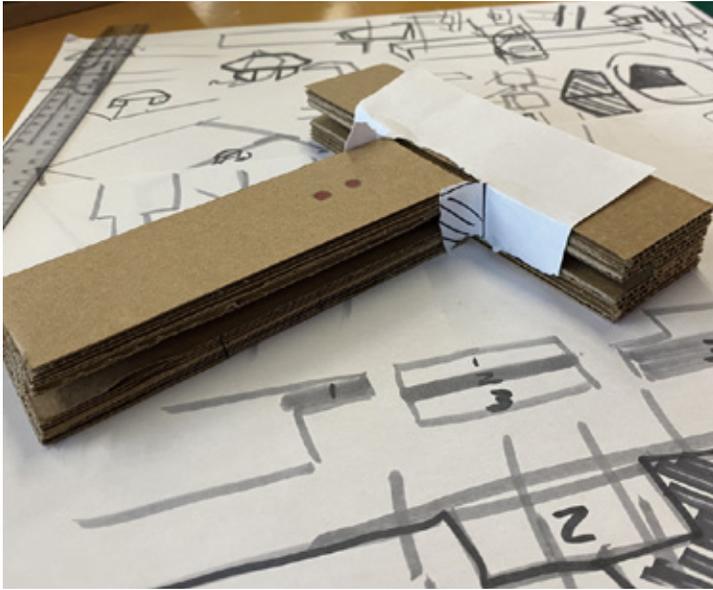
RE-ÉTUDE SUR LES DÉTAILS



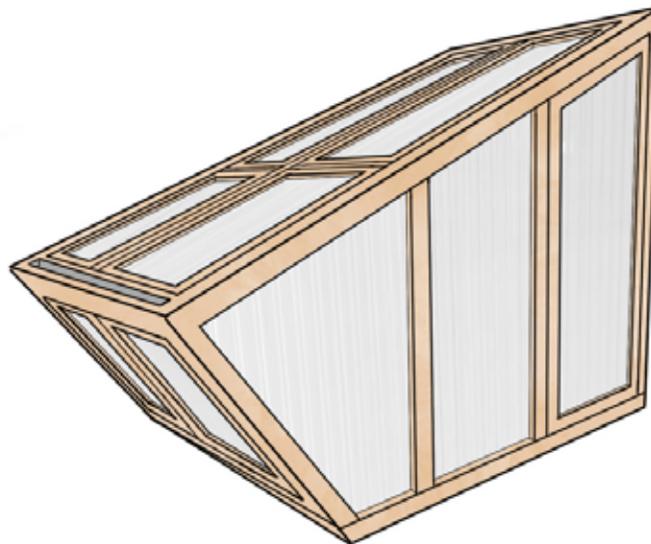
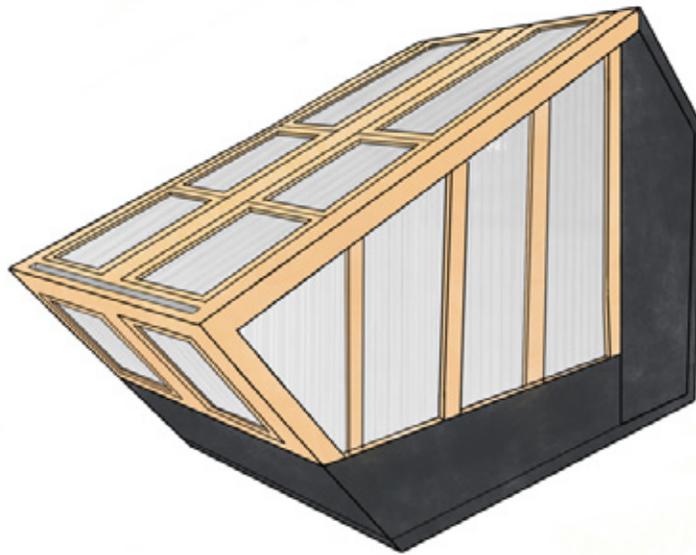
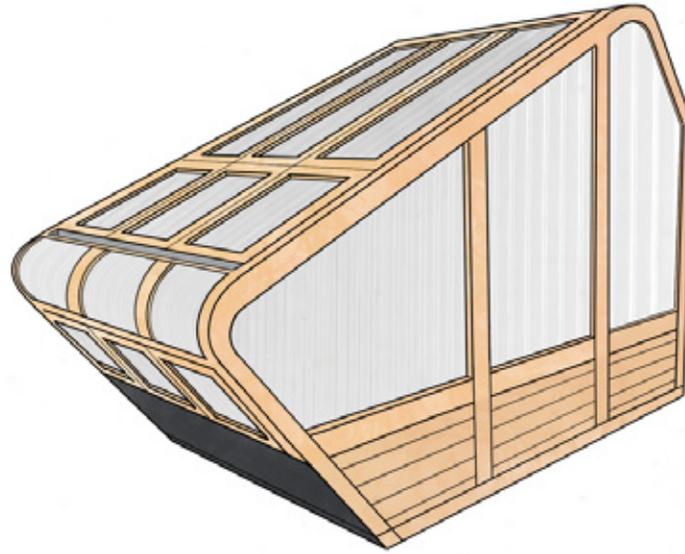
ÉTUDE PLUS DÉVELOPPÉ



ÉTUDE PLUS DÉVELOPPÉE



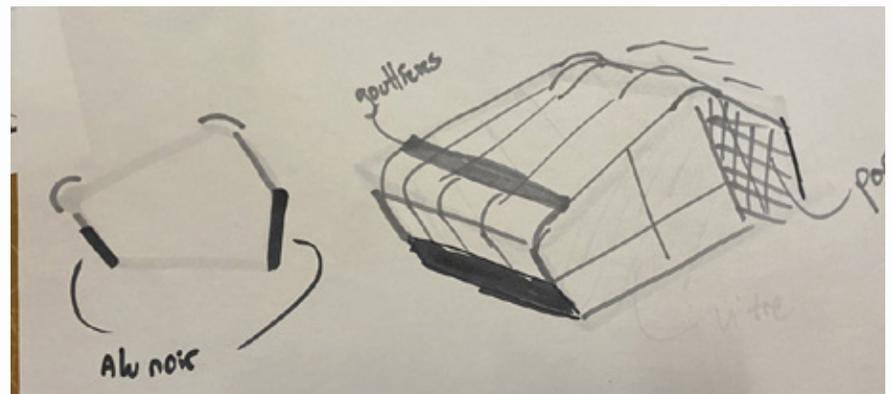
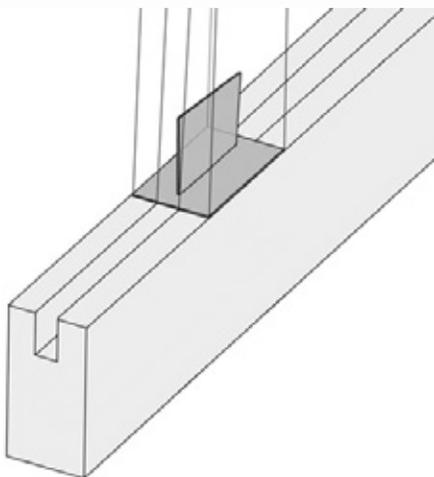
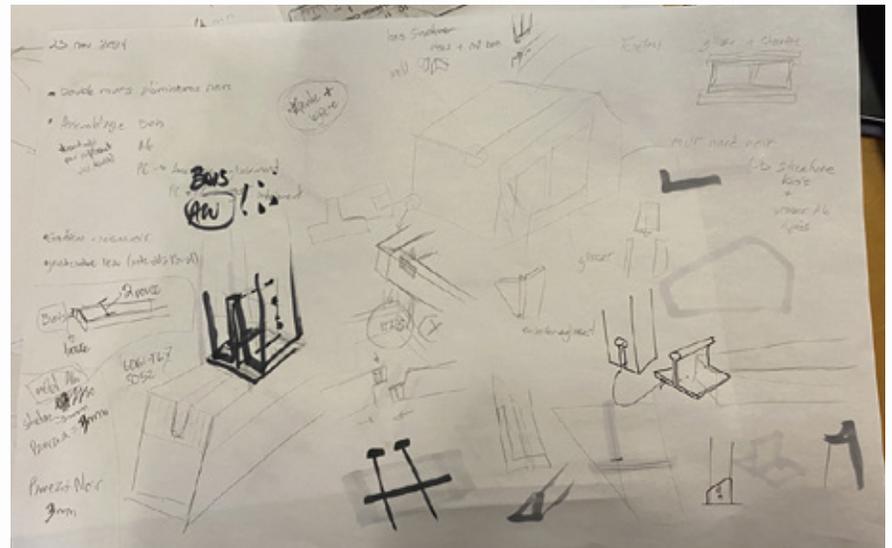
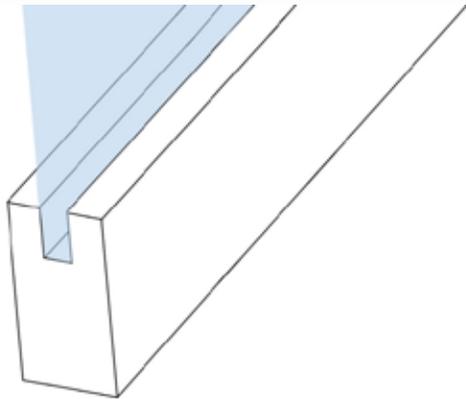
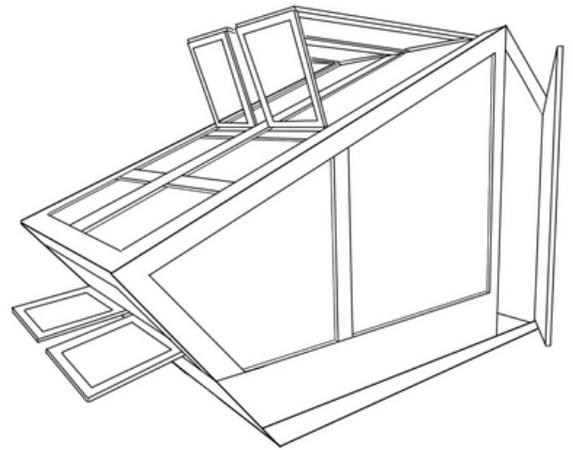
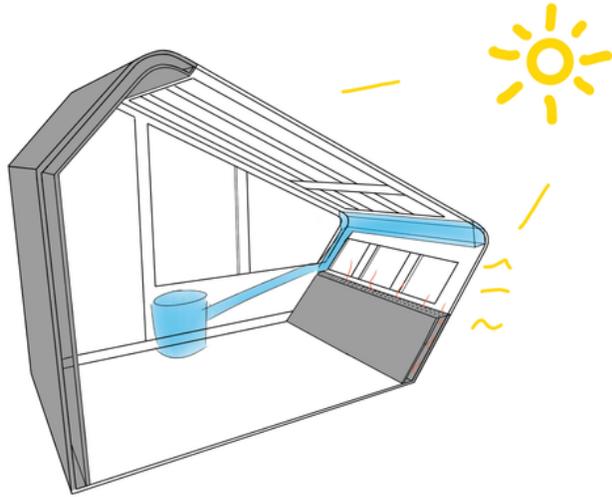
LES TROIS CONCEPTS - 2



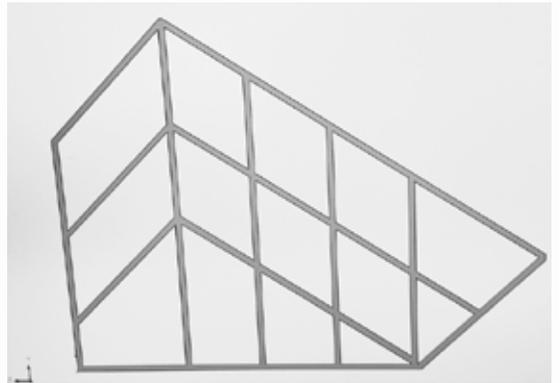
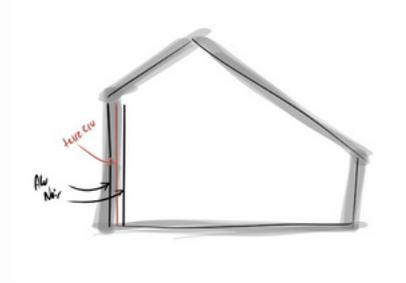
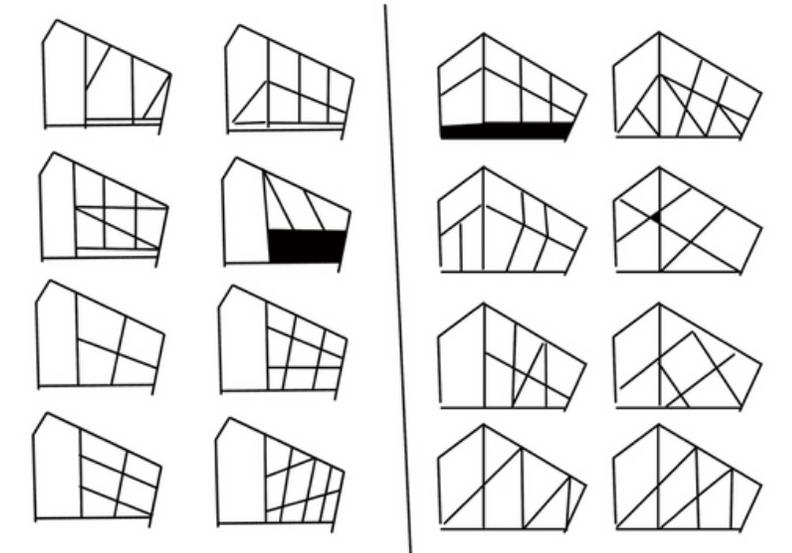
MAQUETTES DE VOLUMES



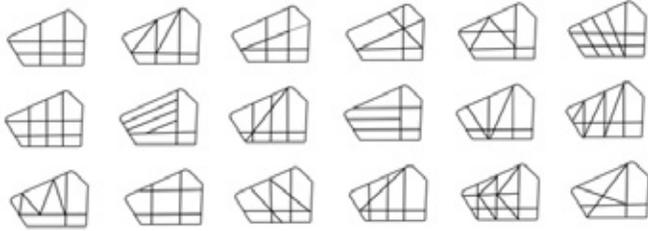
ÉTUDE PLUS DÉVELOPPÉE



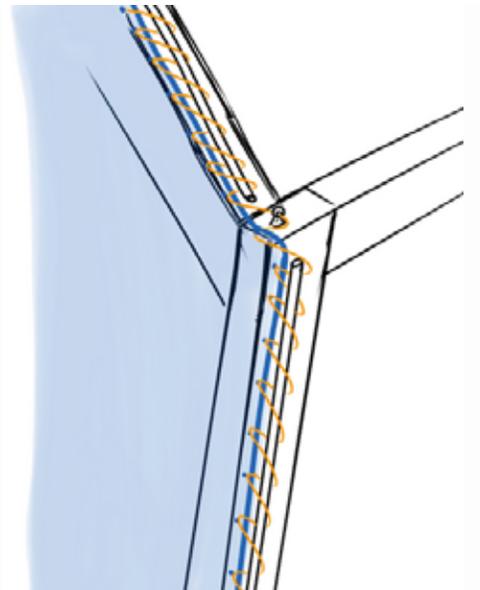
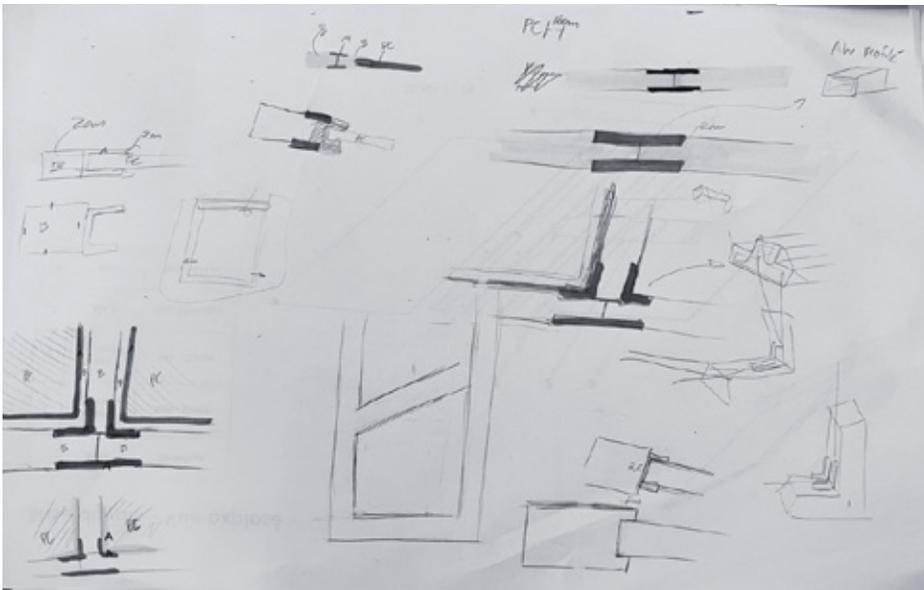
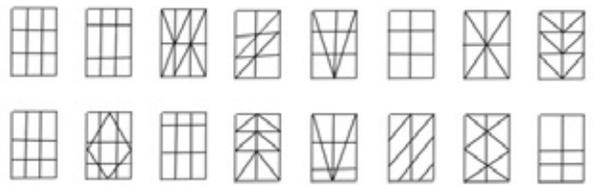
ÉTUDE PLUS DÉVELOPPÉE



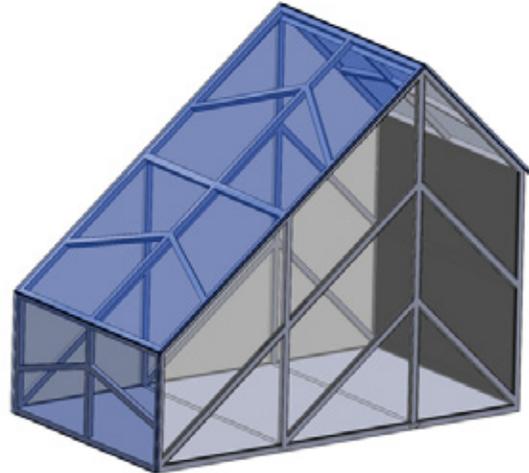
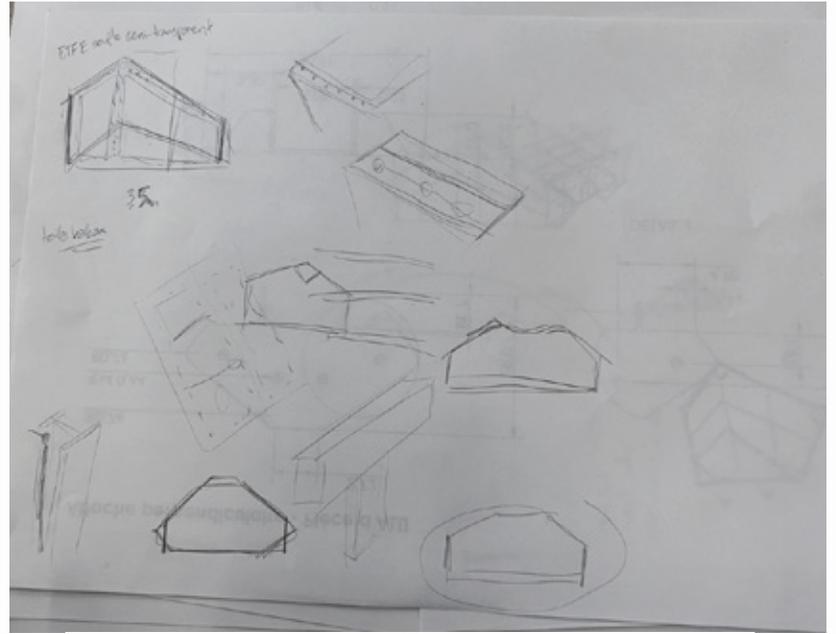
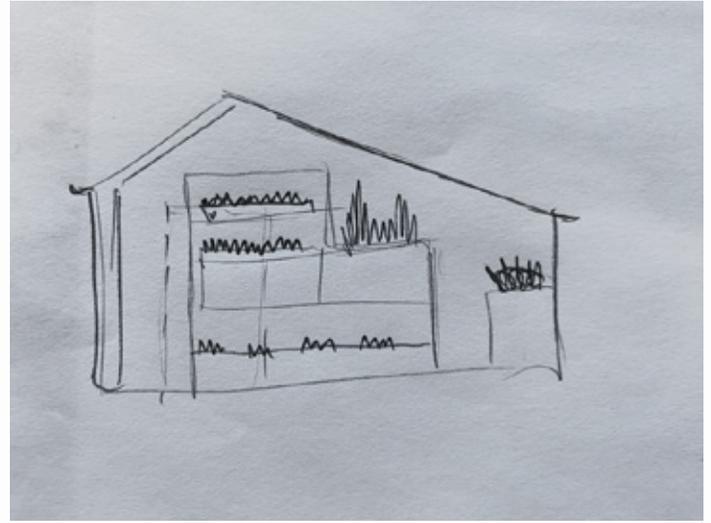
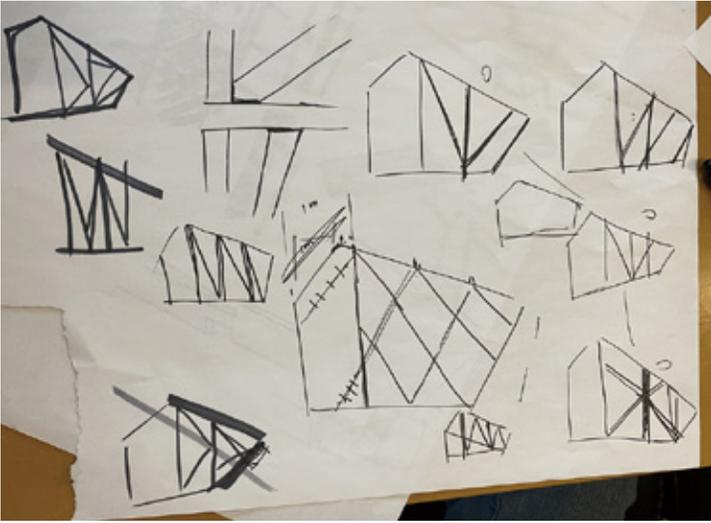
colle



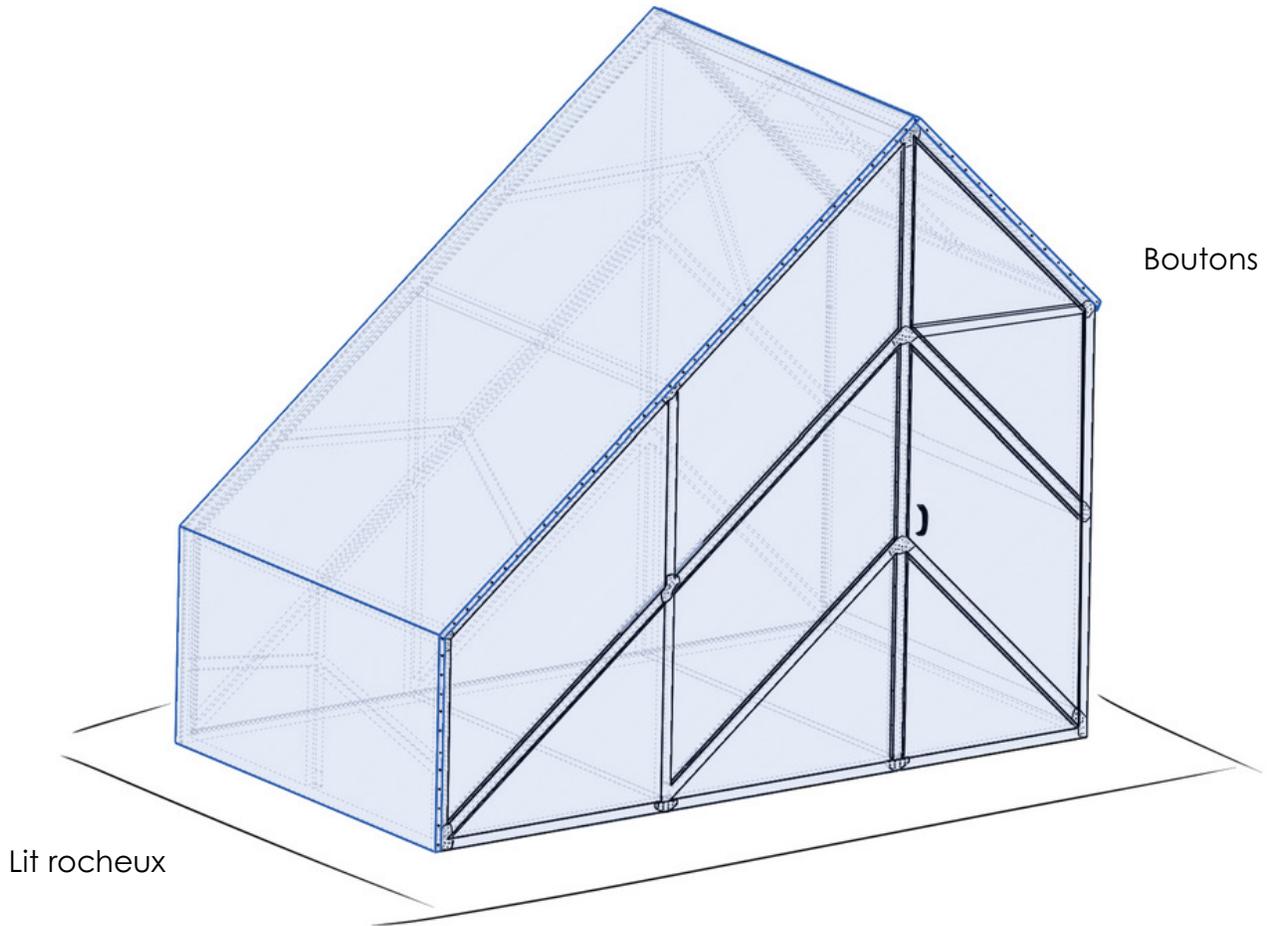
HNT



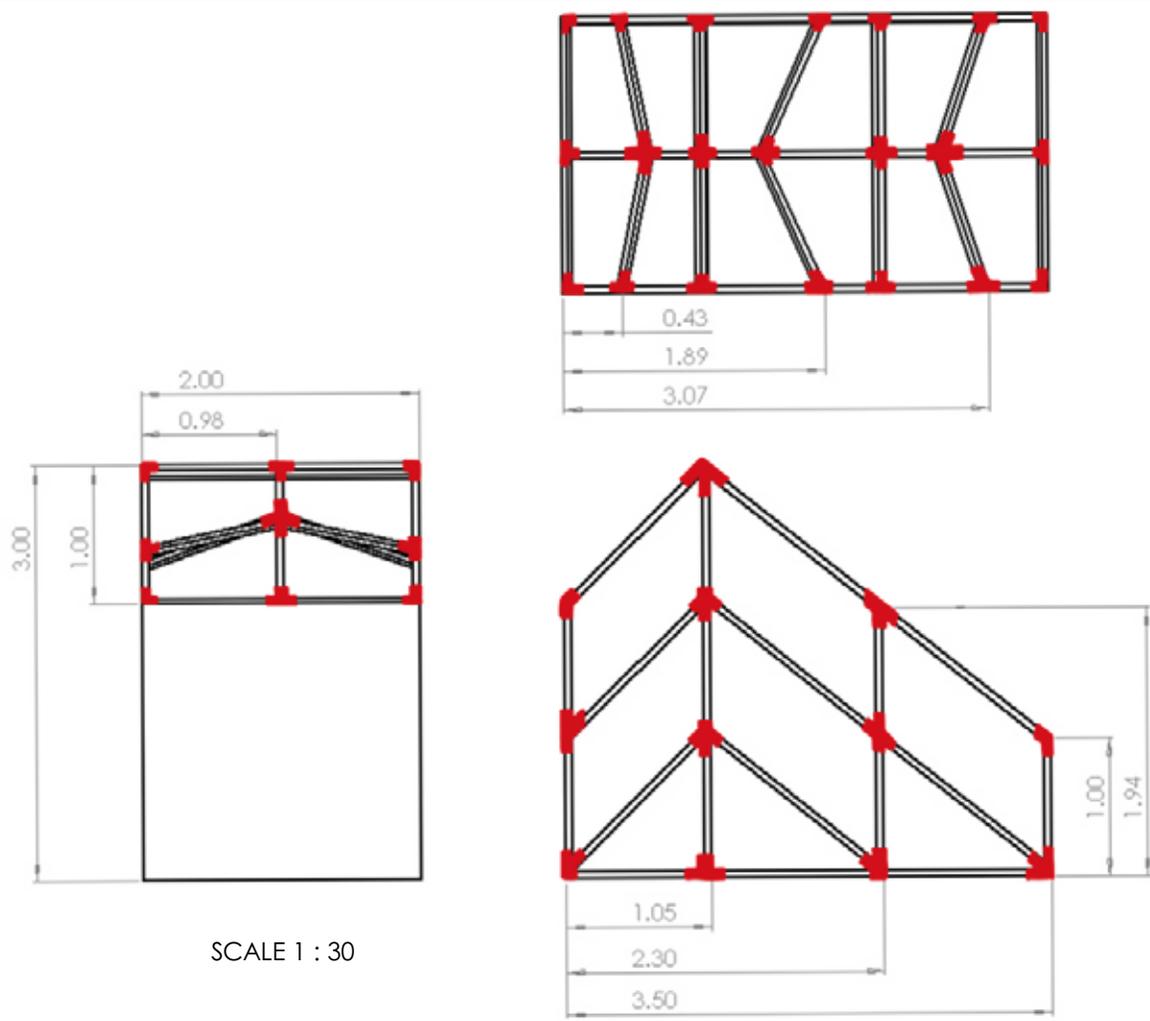
ÉTUDE PLUS DÉVELOPPÉE



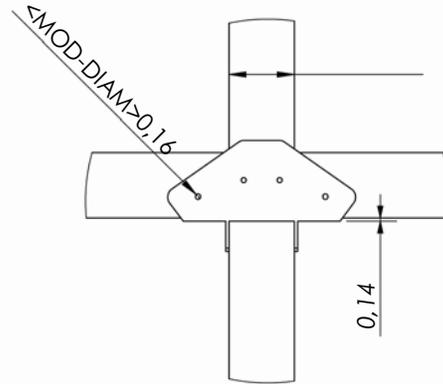
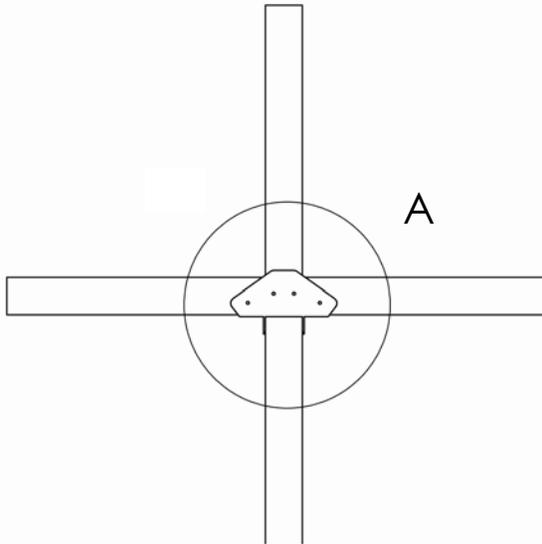
LE CONCEPT PRE-FINAL



LE CONCEPT PRE-FINAL

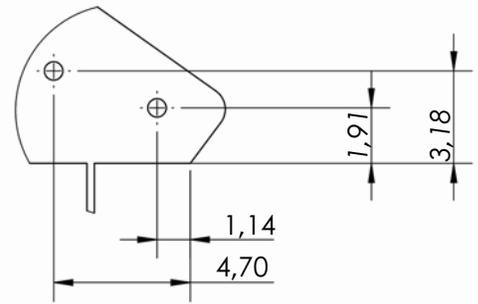
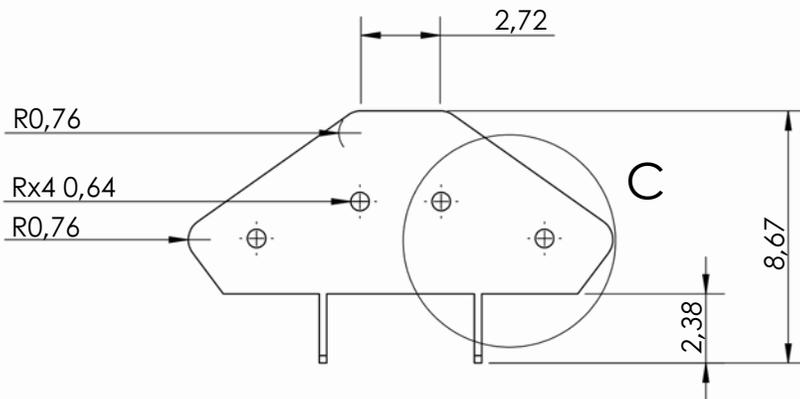


LE CONCEPT PRE-FINAL-ASSEMBLAGE

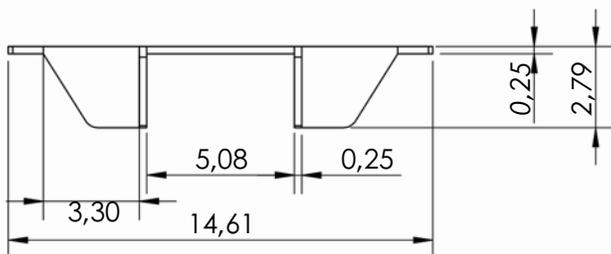


DETAIL A

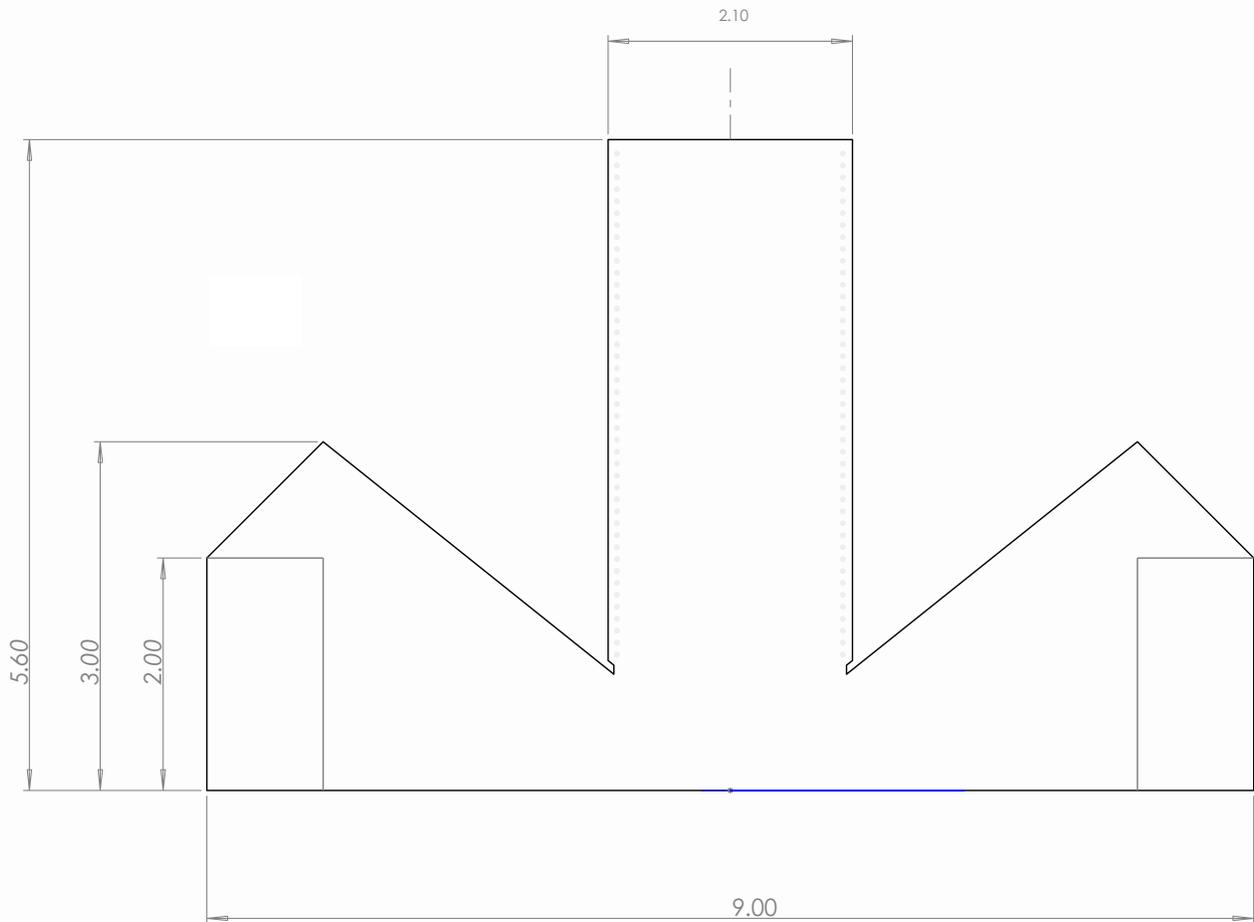
SCALE 1 : 8



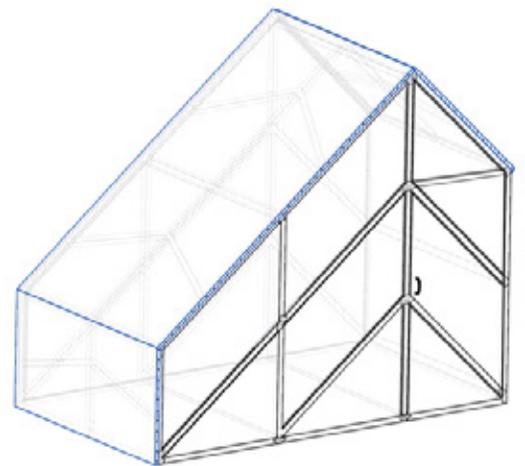
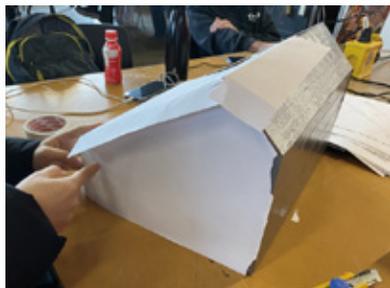
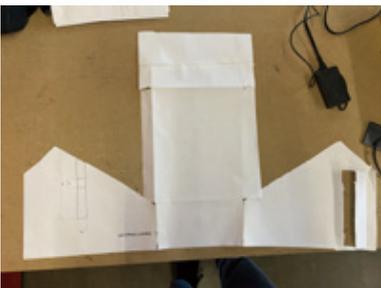
DETAIL C



LE CONCEPT PRE-FINAL-ASSEMBLAGE



***Extrémités renforcées**



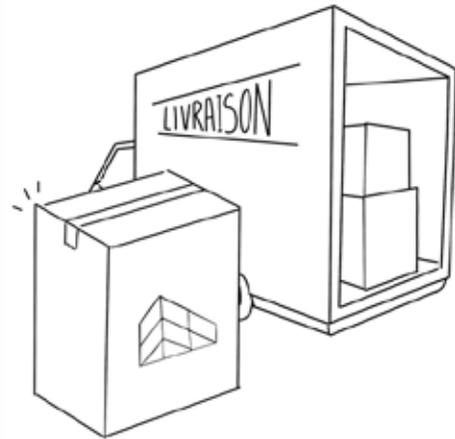
LE CONCEPT FINAL



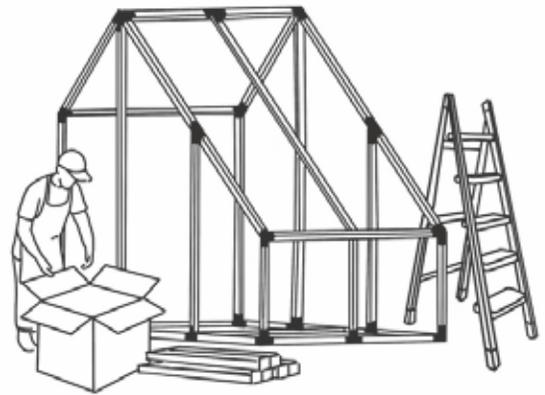
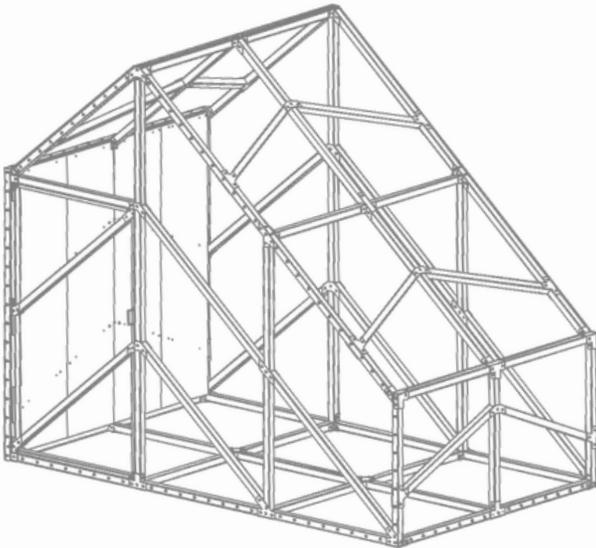
SÉNARIO D'USAGE



1. Achat de la serre en ligne



2. Livraison de la serre



3. Montage de la serre

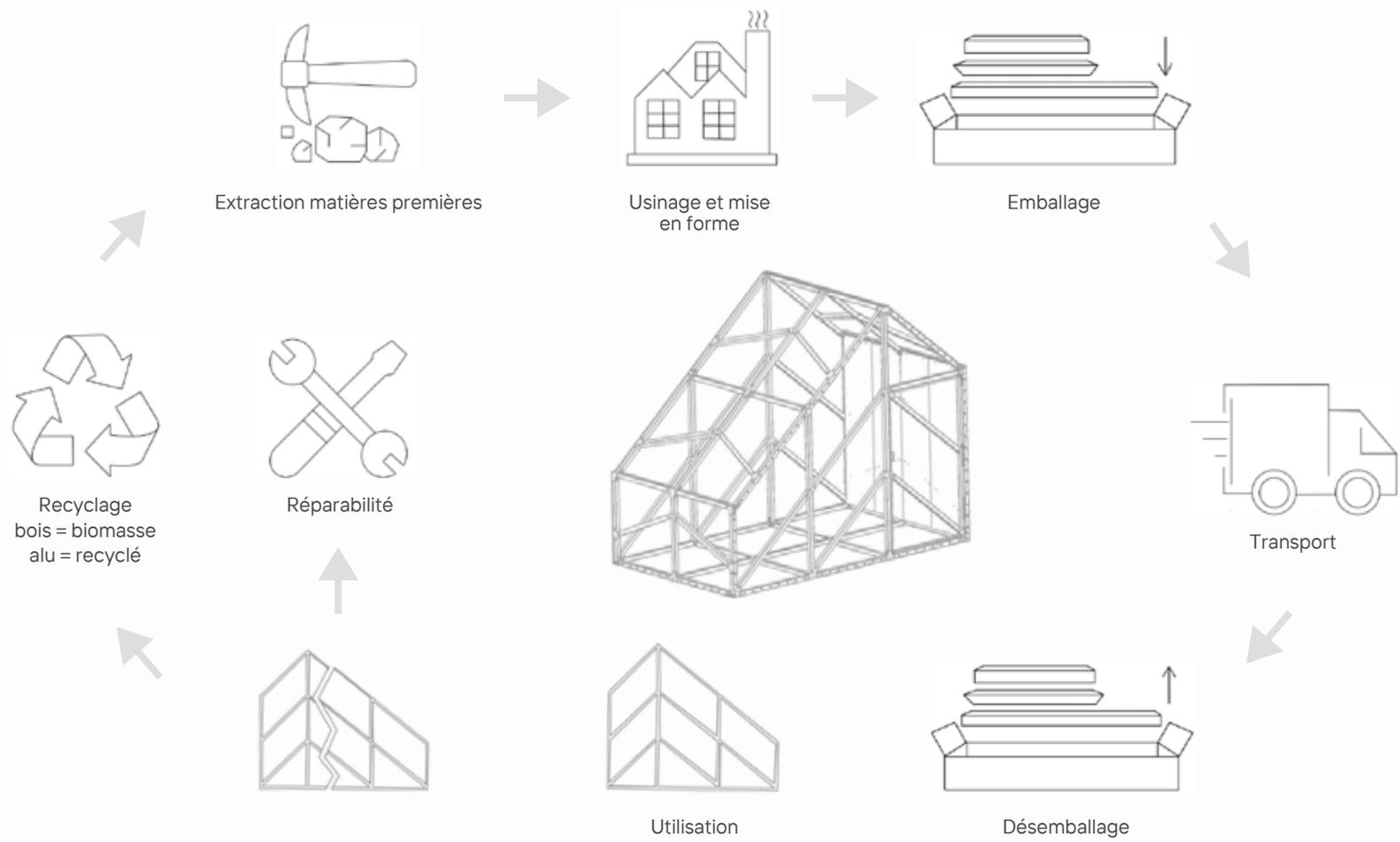


5. Culture

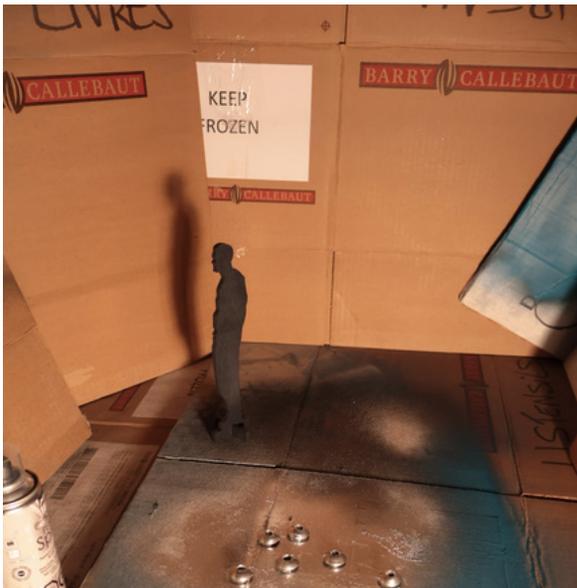


4. Planification des plantations

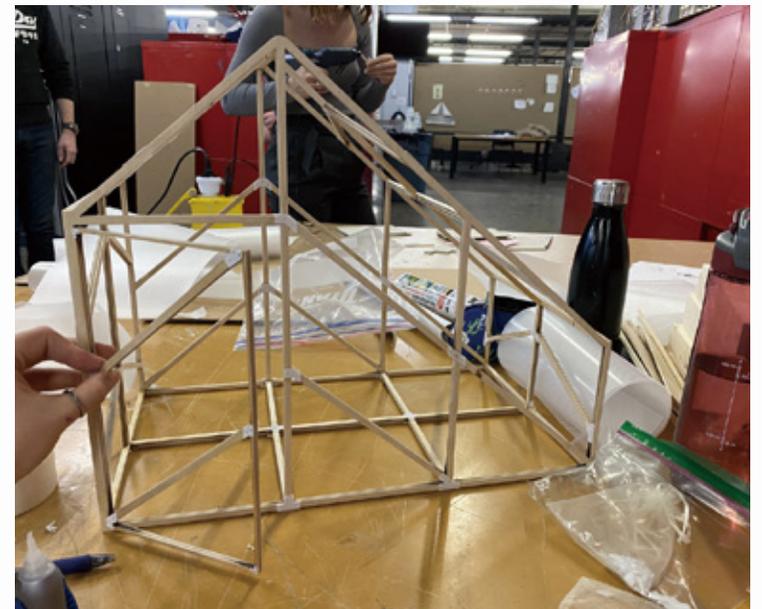
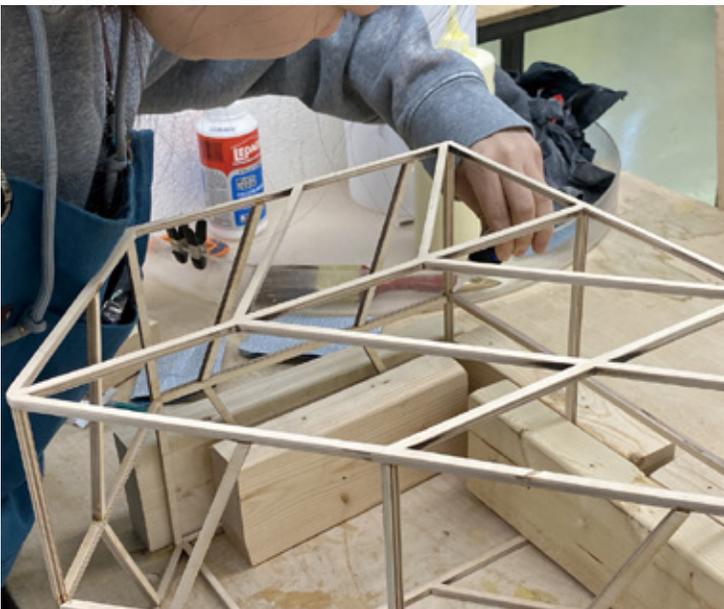
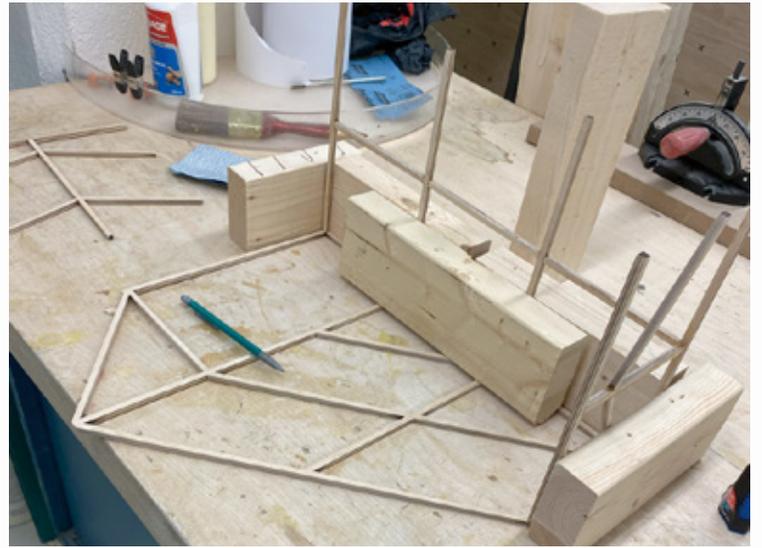
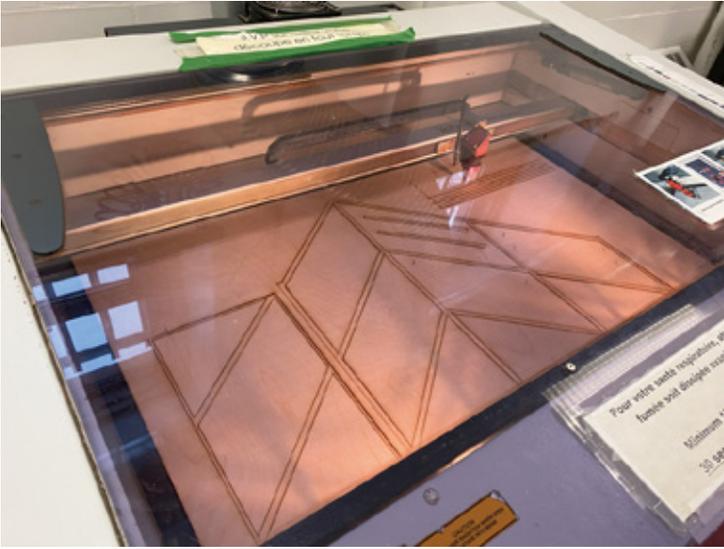
CYCLE DE VIE



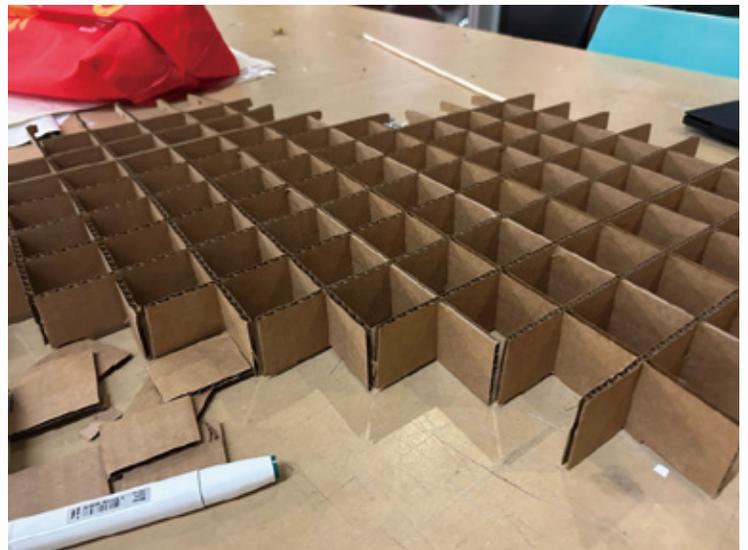
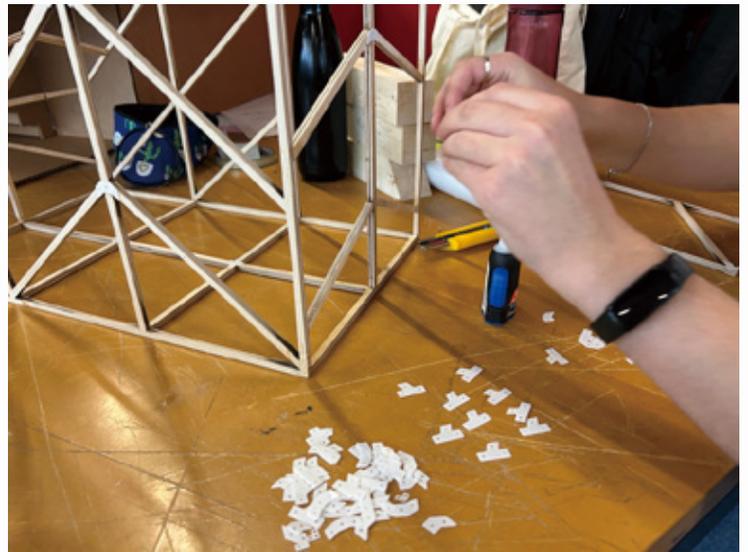
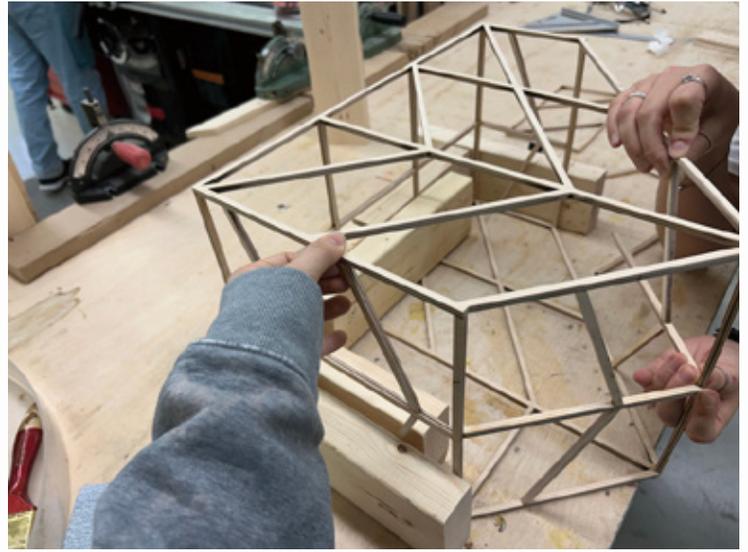
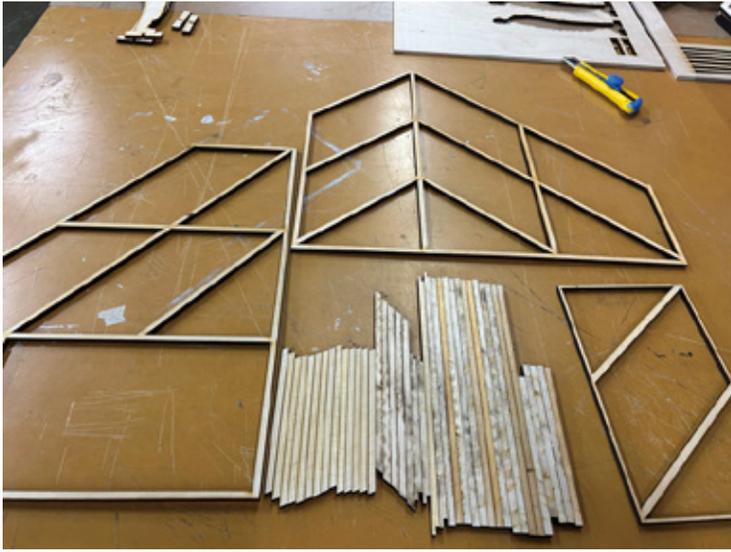
PROCESSUS DU MAQUETTE



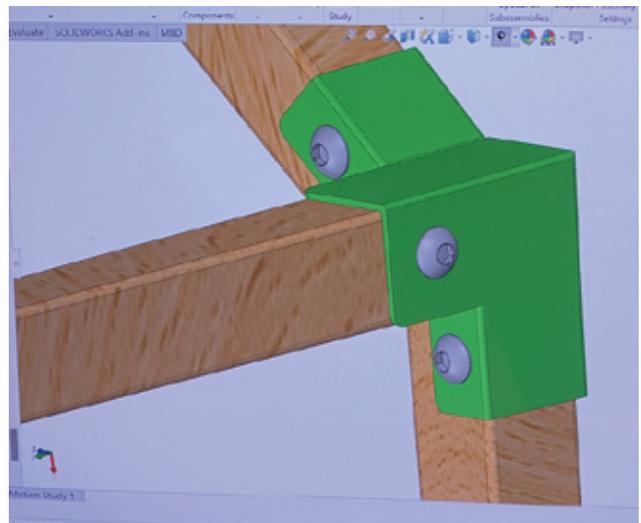
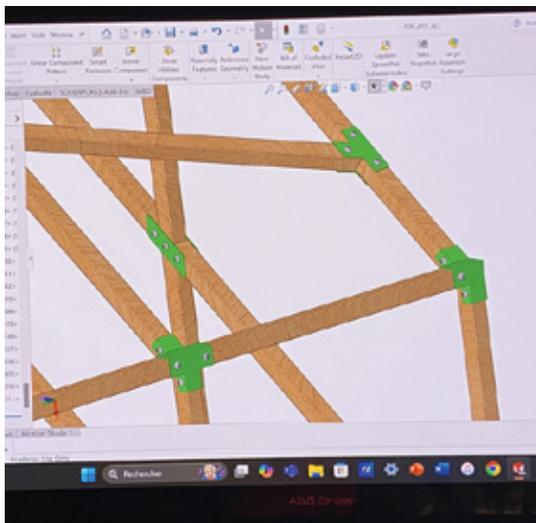
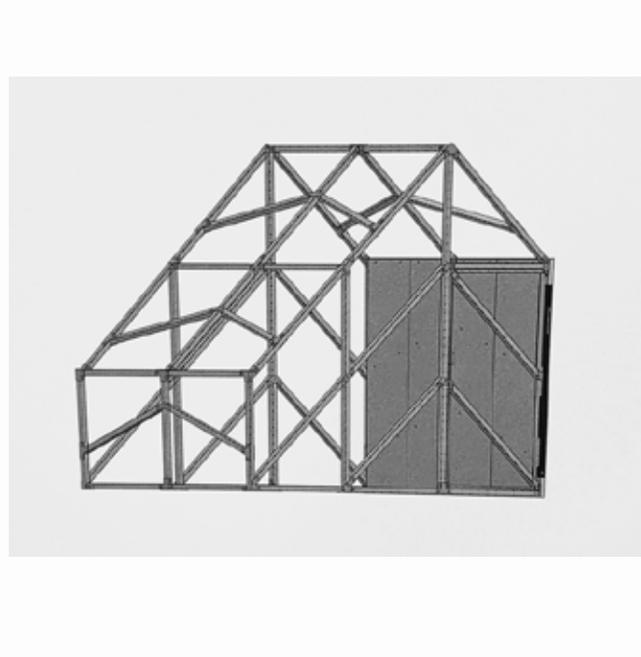
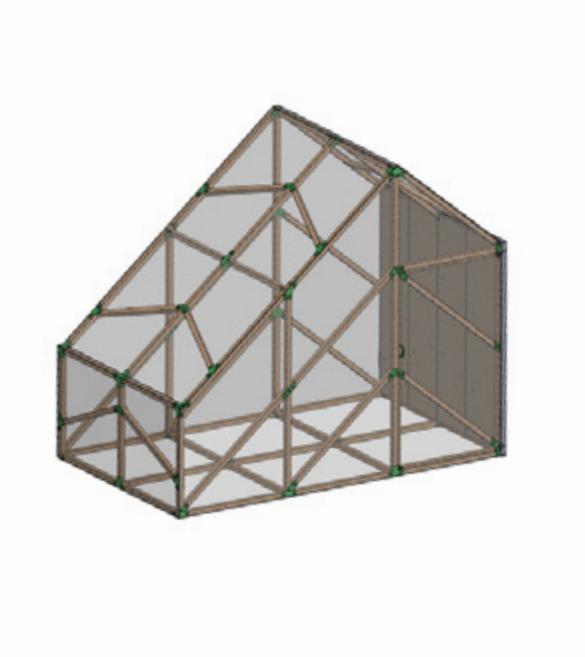
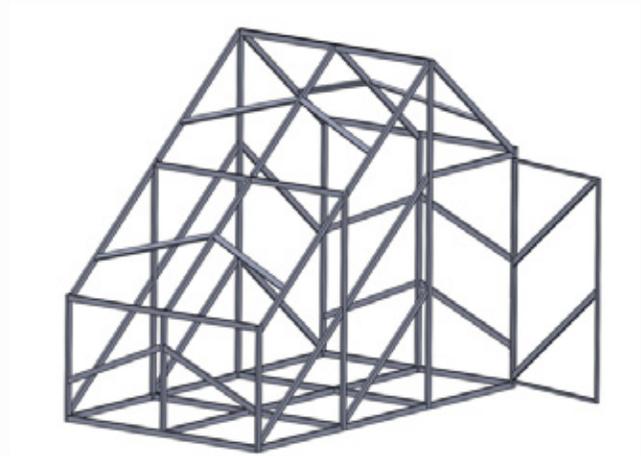
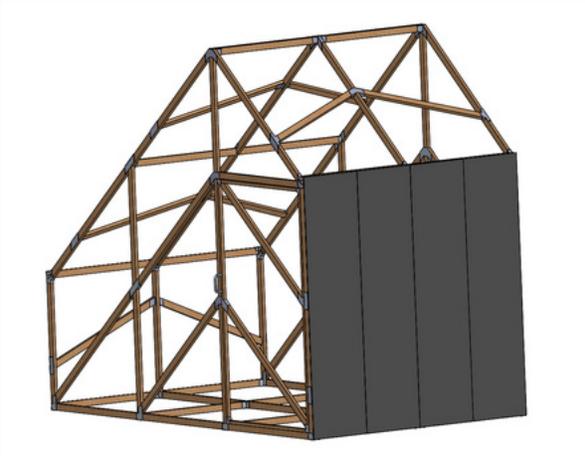
PROCESSUS DU MAQUETTE



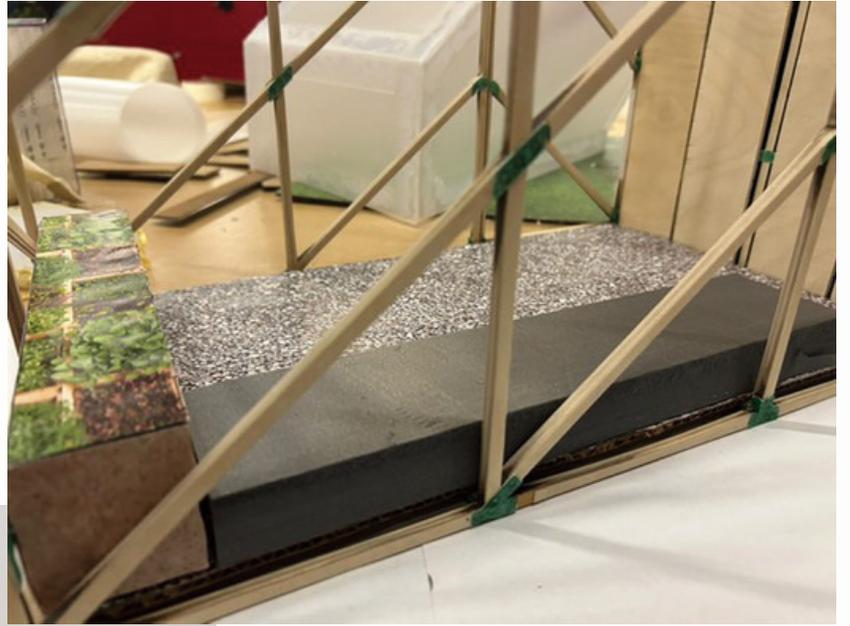
PROCESSUS DU MAQUETTE



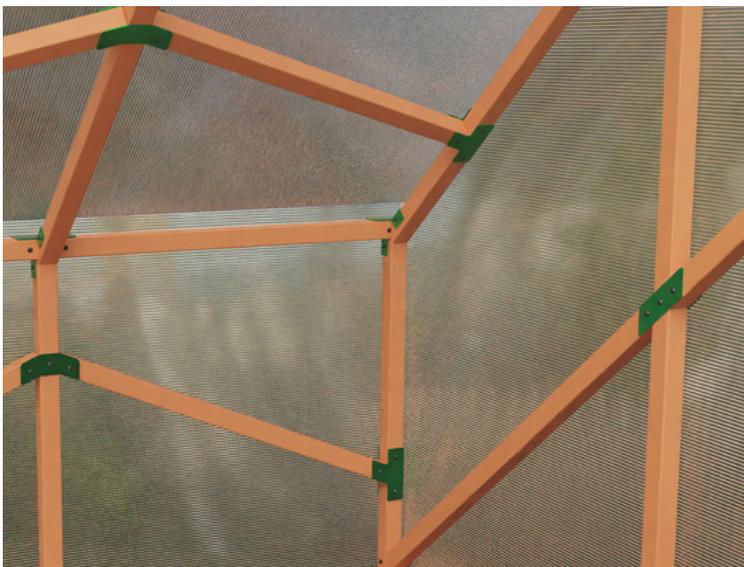
DIFFERENTS ESSAYES



MAQUETTE FINAL



FINAL



FINAL



MAQUETTE FINAL

